JADE LOG BOOK XVII Runs 22502 – 24281

Ein Brunnen-Erzeugnis

JADE LOG BOOK

XVII

31.8.85 → 22/12/86

Runs 22502 → 24281

RUN	DATE	START	STOP	AT RUN START I+	AT RUN START I-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL ×10⁶	TØ REJ ×10⁶	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 E_{LG} > 6GeV	T_2 Bit 17 $2T\text{-}E_\perp \geq 2TR$

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	<L> $10^{30}\,cm^{-2}s^{-1}$	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ EXP. ENERGY	IBM TAPE OUTPUT	At Run Start ID (μA)	TOF (V)	ONLINE REJ. SUM MIPROL T_2-%	NORD-50 T_1 & T_2 %	Σ_{Bhabha}	MH	E_{BEAM}	Mag. Field -1 x Gauss	Remarks

31. August 1985 continuation of H. Mills & D. Haidt's shift

23.45 run 22503 in progress

1.9.85 Hedgecock, Kleinwort

0:00 Gas check done

3:50 JDAS ERR 73 - CAMAC CYCLE FAIL BR 1 CR 7 = VTXC III

4:44 JDAS ERR 33 - MISSING LAM BR 2 CR 3 : TOF 1

5:40 JDAS ERR 46 - MP-16 out of sequence; YY = 1

5:41 " " 51 - Film BLB - Interrupt BR 4 CR 1

6:00 " " 46 - MP-16 out of sequence; YY = 1

6:30 " " " " "

7:07 During start of run 22509 : TIME OUT IN FAMP TRANSFER, SCAVE AND INFO : 1 99
-> FAMP was switched off automatically

0800 Murphy and Magnusson

8'15 Gas check o.K.

9'16 JDAS ERR 45 - MP-16 analysis incomplete YY = 1

9.22 same again

9.27 YSPY - muon digitizers 62 — 71 missing. Muon hit map looks OK. 1956 "mu crate missing" in run 22510.

9.39 Stop run 22511 to reload FAMP. It takes much longer than the "3 minutes" stated in JDAS manual. It takes > 20 minutes!

10:10 muon crate # 6 missing. Can't be resetted. We called J. Chrin. ~~He will come in.~~

10:12 removing boards and stuffing them back in (at the backside) cures the muon crat problem

10:26 JDAS Err 73 - Camac access fail branch 1 crate 7 : Bp. ch.

10:30 YSPY - muon digitizers 62-71 missing. Reset crate 6 to 2° cycle time. Toggle boards in crate 6 again.

10.35 PKR message "turn off high voltage". It was a mistake.

1328 Alarm on beampipe temperature monitor, it stopped by itself after ~2 minutes. The alarm was on #4, but it read only 19.6°C.

14 19 JDAS Err 33 Missing Lam branch 4 crate 1 , ID ring 2

14 21 JDAS Err 46 MP-16 out of sequence YY = 1
MU crate 6 missing frequently. J Chrin will look at it next shift. Meanwhile more status bound to not alert.

16[45] Muon crate 6 attended To. Sc.

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ. $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{LG} > 6$GeV	T_2 Bit 17 $2T \cdot E_4 \cdot \geq 2$TR
22502	31/8/85	22^{47}	23^{34}	6.02	6.05	23.2	2823	8002	4021	734	170	4068	5283	1438	22
22503	"	23^{36}	0^{27}	5.11	5.29	17.8	3035	8001	3864	789	141	4282	5691	1543	22
22504	1/9/85	0^{27}	0^{47}	4.47	4.66	14.7	1183	3101	1437	308	45	1702	2188	607	6
22505	"	3^{44}	359	5.86	5.44	18.6	713	1859	858	185	34	837	1322	277	5
22506	"	4^{30}	5^{20}	6.18	5.93	19.3	2988	8002	3896	777	150	4080	5630	1320	28
22507	"	05^{20}	6^{13}	5.44	5.24	16.4	3117	8002	3878	811	133	4326	5548	1451	26
22508	"	6^{13}	7^{07}	4.81	4.64	13.1	3204	7997	3643	834	109	4497	5547	1434	24
22509	"	7^{08}	7^{55}	4.27	4.11	11.8	2818	6613	2902	733	87	3852	4645	1185	21
22510	"	0846	0938	5.22	5.28	13.4	3092	8002	3812	805	108	4361	5660	1464	15
22511	"	0938	0931	4.60	4.66			36	22	0					
22512	"	1005	1035	4.38	4.46	12.4	2085	5079	2337	543	67	2844	3588	918	14
22513	"	1040	1112	4.01	4.07	11.6	1897	4520	1981	494	57	2607	3117	820	11
22514	"	1157	1240	6.34	6.71	19.6	2583	8002	4036	672	132	3869	5601	1385	30
22515	"	1241	1245	5.62	5.98	18.5	248	753	378	57	10	369	481	121	2
22516	"	1353	1435	6.18	6.85	23.4	2481	8002	4419	645	150	3656	5491	1239	19
22517	"	1435	1514	5.40	6.02	19.0	2653	8002	4154	690	131	4023	5748	1402	27
22518	"	15:20	16:09	4.77	5.33	14.6	2923	8002	3826	760	111	4423	5620	1498	23
22519	"	16:09	16:46	4.18	4.70	12.7	2195	5701	2678	571	72	3264	3893	1115	15
22520	"	17:13	17:58	6.15	6.18	20.4	2600	8002	4198	676	137	3971	5552	1358	22
22521	"	17:58	18:49	5.41	5.38	20.0	2841	8002	4062	739	147	4152	5657	1488	23
22522	"	18:50	19:44	4.69	4.61	16.4	3163	8001	3877	823	135	4524	5379	1552	22
22523	"	19:44	20:39	4.08	4.00	11.8	3269	8002	3600	851	100	4712	5410	1569	21
22524	"	20:39	21:39	3.58	3.50	11.3	3509	7973	3355	913	103	4853	5490	1554	19
22525	"	22:18	23:04	6.32	6.15	16.5	2716	8002	4076	706	116	4115	5446	1324	20
22526	"	23:04	23:34	4.96	5.34	13.7	1747	4841	2308	454	62	2623	3325	895	16
22527	2/9/85	8:14	09:01	6.39	6.30	17.1	2775	8002	4241 2652	722 464	123	4018	5893	1210	30
22528	"	9:01	9:32	5.59	5.54	15.6	1784	5169	~~3469~~	~~2653~~	72	2729	3617	840	24
22529	"	9:36	10^{02}	5.09	5.03	14.9	1566	4362	2287	407	61	2271	3144	717	17
22530	"	10^{33}	11:19	4.38	4.31	12.3	2681	6633	3187	698	86	3783	4719	1196	20
22531	"	11:51	12^{35}	6.37	6.36	21.1	2546	8002	4317	662	140	3894	5549	1260	25
22532	"	12:35	13:20	5.65	5.60	17.9	2662	8002	4193	693	124	4171	5579	1356	21
22533	"	13:20	14^{13}	4.99	4.96	15.6	2949	8002	4097	768	120	4373	6712	1469	28
22534	"	14:13	15:06	4.34	4.30	13.0	3137	8002	3953	816	106	4622	5803	1556	22
~~22535~~	"	~~15:16~~	~~16:17~~												

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	$\langle L \rangle$ 10^{30} cm^{-2} s^{-1}	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ EXP. ENERGY	IBM TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ONLINE REJ. SUM MIPROC T_2 %	ONLINE REJ. NORD-50 T_1 & T_2 %	Σ Bhabha	MH	E_{BEAM}	Mag. Field $-1 \times$ Gauss	Remarks
ON	ON	ON	ON	2.84	9.28	12 786.05	IBM			39	53	105	3	21.800	-4838	Muon crate 6 trouble unblanked
"	"	"	"	2.16	6.89	12792.94	"	1.2	0.7	45	54	78	0	21.802	"	
"	"	"	"	1.73	2.03	12794.97	"	1.1	0.65	47	56	23	0	21.800	"	beam lost
"	"	"	"	0.27	0.18	12795.15	"	1.4	0.8	40	58	2	0	"	4844	no luminosity, beams dumped
"	"	"	"	3.32	8.57	12803.72	"	1.6	0.8	41	54	97	3	"	"	
"	"	"	"	2.71	7.24	12810.96	"	1.2	0.7	44	54	82	1	4	~~4842~~	
"	"	"	ON	2.21	6.80	12817.76	"	1.0	0.6	46	57	77	4	"	"	
"	"	"	OFF	1.87	4.16	12822.62	"	0.9	0.5	49	58	55	1	21.802	-4844	beams dumped
"	"	"	OFF	2.98	8.48	12831.10	"	1.1	0.65	46	55	96	1	21.800	"	
"	"	"	OFF	—	0	12831.10	"	1.0 ~~0.65~~	0.55	~~46~~	~~55~~	~~46~~ 0	~~1~~ 0	"		stop run to load FAMP.
"	"	"	ON	2.16	4.42	12835.52	"	1.0	0.55	46	56	50	3	"	"	
"	"	"	"	1.61	3.62	12839.14	"	0.9	0.5	47	59	41	1	"	"	beams lost
"	"	"	"	3.53	8.57	12847.71	"	1.5	0.8	39	52	97	3	"	"	
"	"	"	"	2.48	0.27	12847.98	"	1.5	0.9	38	54	8	0	"	"	half lost, half dumped
"	"	"	"	4.15	9.63	12857.71	"	1.5	0.9	39	47	109	1	"	4847	
"	"	"	"	3.43	8.92	12866.63	"	1.4	0.8	42	51	101	7	"	"	
"	"	"	"	2.63	7.42	12874.05	"	1.2	0.65	45	55	84	3	"	4847	
"	"	"	"	2.04	4.24	12878.29	"	1.0	0.55	47	56	48	0	"	"	beams dumped
"	"	"	"	3.80	9.98	12888.27	"	1.4	0.8	39	50	113	4	"	"	
"	"	"	"	3.01	9.45	12897.72	"	1.3	0.8	43	52	107	1	21802	"	
"	"	"	"	2.28	8.39	12906.11	"	1.1	0.65	45	54	95	2	21.800	4846	
"	"	"	"	1.80	6.54	12912.65	"	1.0	0.5	47	57	74	1	"	4844	
"	"	"	"	1.39	4.06	12916.71	"	0.8	0.45	50	60	46	2	"	4844	Beams dumped
"	"	"	"	3.99	10.34	12927.05	"	1.4	0.8	40	52	117	1	"	4844	
"	"	"	"	3.26	4.24	12931.29	"	1.2	0.65	43	55	48	1	"	4844	Magnet trip.
"	"	"	"	4.54	10.69	12941.98	"	1.4	0.9	43	50	121	3	"	4841	
"	"	"	"	3.63	4.33	12946.31	"	1.2	0.75	43	51	49	2	"	4844	stop due to IBM transfer error.
"	"	"	OFF	3.06	3.80	12950.11	"	1.1	0.75	44	50	49	1	"	4847	Magnet trip.
"	"	"	ON	2.00	4.24	12954.35	"	1.0	0.6	48	54	48	3	21802	4841	Magnet trip
"	"	"	"	4.13	9.81	12964.16	"	1.4	0.8	39	49	111	1	21800	4847	
"	"	"	"	3.27	8.66	12972.82	"	1.35	0.85	42	50	98	1	"	4847	
"	"	"	"	2.76	6.36	12979.18	"	1.2	0.7	46	51	82	2	21802	4850	
"	"	"	"	2.40	5.83	12985.01	"	0.9	0.7	49	53	66	1	21802	4841	beams dumped.

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{LG} > 6$GeV	T_2 Bit 17 $2T \cdot E_H \geq 2TR$

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	$\langle L \rangle$ 10^{30} cm^{-2}s^{-1}	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ EXP. ENERGY	IBM TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ONLINE REJ. SUM MIPROC T_2-%	ONLINE REJ. NORD-50 T_1 & T_2 %	Σ_{Bhabha}	MH	E_{BEAM}	Mag. Field ~1.6 Gauss	Remarks

16^{00} Dieckmann & Chin on shift.
16^{30} Gas check, O.K.
20^{20} No muon crate missing errors in the last $\times$ 32,000 records!
21^{00} Mark J says Petra has synchrotron problems and will therefore not dump the beams for another half hour or so (at present the currents are I^+ 3,39 I^- 3,31 and the specific luminosity is 1,32 $\times 10^{30}$ nb^{-1}). A short break is likely to follow after beams are dumped.
21^{20} Message appears on TV screen :- New Injection at 21:40. Meanwhile present run continues.
22^{18} New Fill.
23^{40} Magnet trip Durchflup sek. < is on ~~Could~~ Cannot reset. Called someone from MK1

2/9/85
0^{00} Cartwright, Finch and a magnet man on shift. Andreas & Jan still here making a nuisance of themselves (in the latter case anyway).
0^{30} Andreas + Jan still here (such dedication!) - helping the magnet man. But alas - it's time for them to go home!
Gas check done, all OK.

1^{47} New fill ready, but our magnet is not!
2^{10} The beampipe temperature monitor is misbehaving again with two alarms from channel 5, which according to the diagram is not connected to anything. We ignore it. Meanwhile the magnet people arrive in the counting house saying that they have to break the interlock. Since PETRA has a new fill Mark J are unwilling to do this so we will have to wait. Meanwhile Argus phone us asking for the magnet man. We agree to call MMK back when the fill is dumped. The magnet men head off for Argus.
2^{30} Magnet, Inc, return unexpectedly asking for a 10A fuse. We find them one. They disappear again.
3^{30} Beams lost. We are still competing with Argus for the attentions of Magnet Inc.
3^{40} SHORT BREAK. (For the repair of our magnet? Let's hope so.)
4^{40} New fill. Still no magnet.
5^{15} Magnet man says something seems is wrong, they must wait for Herr Pollat — no magnet before 7^{00} at earliest.
7^{55} Magnet announced to be working again! (a relay was broken)

8^{00} Kawagoe, Matsumura on shift
8^{10} Gas Check done. OK.

9^{36} At the start of R22529. FAMP was switched off automatically.
10^{01} Magnet trip. "Durchflub sek <" is on. maybe same as the last night. called the expert. He is coming.
Herr Lassen : tel 3556 magnet expert.
10^{30} Magnet on again. If another Magnet trip occurs, we should immediatly call the expert.
11:18 Magnet trip expert coming
12 40 "VOLT", TAGG MFR 56 CHAN 18 HV = 2.692, should be 2.700
13^{10} UTXC soft trip.
13^{56} ID & UTXC soft trip.
15^{30} The bad ADC channels increased from two to four.
started to repair them.
16^{00} With a great help of Herr Matsumura, they could be repaired!!
Now we have no bad ADC channels.

16^{00} Murphy, Becker
16^{20} Gas check done
Run 22535. At start have several magnet fluctuations (in first 5 mins). Tagging HV had to be switched locally.

16^{27} JOAS readout err 33 - br. 4 cr. 3 - continously
call to Matsumura - he will come

1710 Two big magnet fluctuations — to 6800, 5400 A. Call magnet experts, they find nothing wrong.

17^{43} DL8 + crate controler exchanged by Matsumura. - o.k.

1756 Run 22536 : JOAS Readout error 33 - Missing LAM branch 6 crate 7 · I.D. Ring 3 > pi
1858 Large magnets fluctuation, to < 7000 A, followed by immediate recovery.
2253 JOAS Readout error 33 — Missing LAM branch 4 crate 1 : ID ring 2
2255 Same again — thrice
2315, 2333 ditto
2346 Repeated "no triggers ---", to stop run 22542. (not cured by "pause")
2353 JOAS readout error 73 — CAMAC access fail branch 1 crate 7 : beampipe chamber.

3.9.85
0^{00} R. Felst and H. Rieseberg on shift.

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT 2 $E_{LG}>6$GeV	T_2 BIT 17 $2T\cdot E_4\cdot \geq 2TR$
6															
22535	25 sep 85	1616	1637	6.49	6.48	24.6	1233	4065	2201	321	79	1911	2853	641	18
22536	28.85	17:44	18:32	4.96	4.82	16.2	2817	8002	4002	734	113	4349	5663	1411	34
22537	"	1832	1922	4.35	4.26	15.5	2900	8002	3960	755	117	4344	5848	1453	31
22538	"	1922	1951	3.83	3.73	12.5	1686	4372	2117	439	55	2571	3021	814	16
22539	"	2117	2208	6.60	6.63	23.9	2580	8021	4284	671	161	3629	6202	1172	20
22540	"	2201	2245	5.83	5.86	20.1	2669	8001	4163	694	139	3934	6159	1323	30
22541	"	2246	2335	5.03	5.17	15.1	2875	8001	4085	749	113	4308	5927	1421	24
22542	"	2335	2342	4.05	4.40	12.8	372	1065	508	97	12	591	666	177	0
22543	"	23:44	0:38	3.96	4.30	12.2	3214	8002	3653	836	102	4693	5630	1388	14
22544	29.85	0:39	0:40	3.45	3.76	10.4	57	132	68	15	1.6	72	90	15	0
22545	"	1:11	1:56	5.98	6.07	18.6	2700	8002	4073	702	131	4021	5728	1288	30
22546	"	1^{57}	2^{45}	5.20	5.27	15.6	2874	8001	3921	747	116	4352	5711	1350	32
22547	"	2^{46}	3^{20}	4.53	4.60	14.0	2078	5379	2574	540	76	3032	3920	932	26
22548	"	3^{24}	4^{01}	4.07	4.13	12.6	2204	5356	2485	573	72	3079	3820	919	12
22549	"	4^{38}	5^{22}	6.20	6.11	19.6	2619	8002	4264	681	131	3944	5790	1226	29
22550	"	5^{22}	6^{09}	5.42	5.33	16.7	2793	8002	4117	726	122	4205	5769	1338	24
22551	"	6^{10}	7^{00}	4.74	4.64	14.6	3007	8002	3833	783	114	4408	5815	1390	23
22552	"	7^{01}	7^{30}	4.04	3.95	13.2	1736	4416	1986	452	59	2556	3098	760	12
22553	"	8^{33}	9^{17}	5.51	5.35	20.8	2622	8002	4164	683	142	3816	5870	1125	19
22554	"	9^{18}	9^{58}	3.94	4.09	20.6	2380	7515	4004	620	128	3671	5483	1146	27
22555	"	10^{44}	11^{29}	?45	?	20.3	2677	8002	4200	697	142	3757	6190	1085	22
22556	"	11^{29}	12^{16}	?	?	17.8	2766	8001	4117	720	128	4086	5821	1273	20
22557	"	12^{16}	13^{05}	?	?	13.7	2882	7779	3645	750	102	4302	5581	1314	18
~~22558~~	"														
22559	"	17 11	18 06	4.89	4.54	14.7	3240	8002	3758	857	126	4155	6057	1073	22
22560	"	19 05	19 46	4.31	3.95	13.4		5605	2581						
22561		19 52	19 49	3.89	3.55	13.0	3332	8002	3582	867	113	4489	5870	1350	27
22562	"	19 48	20 29	3.46	3.13	11.7	2433	5600	2408	633	74	3229	4041	974	13
22563	"	21 07	21 54	6.03	6.00	20.5	2794	8002	4071	728	149	4212	5523	1315	30
22564	"	21 55	22 07	5.27	5.22	15.3	746	2183	1107	164	30	1131	1537	376	9
22565	"	22 08	22 57	5.09	5.04	16.3	2943	8002	3883	765	125	4406	5567	1419	19
22566	"	22 57	23 50	4.47	4.43	14.1	~~3006~~	8002	3736	810	114	4606	5521	1470	28
22567	"	23:50	0:44	3.94	3.89	13.0	3233	8002	3776	841	109	4770	5355	1425	13
22568	4.9.85	0:44	0:56	3.48	3.41	11.7	664	1593	778	173	20	947	1076	280	3

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	$\langle L \rangle$ 10^{30} cm^{-2}s^{-1}	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ EXP. ENERGY	IBM TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ON-LINE REJ SUM MIPROC T_2 %	ON-LINE REJ NORD-50 T_1 or T_2 %	Σ_{Bhabha}	MH	E_{BEAM}	Mag. Field ~16 Gauss	Remarks
ON	ON	ON	ON	3.37	4.95	12989.96	IBM	1.4	0.6	38	49	56	0	21.800	4844	I.D. problems
"	"	"	"	3.04	8.57	12998.53	"	1.7	0.8	45	53	97	6	"	4841	
"	"	"	"	2.29	6.45	13004.98	"	1.0	0.8	47	53	73	4	"	4842	
"	"	"	"	1.98	2.74	13007.72	"	0.8	0.6	49	54	31	3	"	4844	Beams dumped
"	"	"	"	3.53	7.69	13015.41	"	1.5	1.3	40	49	87	4	21.802	4840	
"	"	"	"	2.92	6.45	13021.86	"	1.3	1.1	44	51	73	1	21.800	"	
"	"	"	"	2.56	6.27	13028.13	"	1.2	1.0	47	51	71	0	21.802	4841	
"	"	"	"	2.67	1.24	13029.37	"	0.8	0.7	47	53	14	0	21.800	"	
"	"	"	OFF	2.12	6.36	13035.73 (13031.14)	mid night	0.8	0.65	49	57	72	1	21.800	4841	
"	"	"	"	~~0.00~~ 1.63	~~1.63~~ 6.36	13035.73	"	0.7	0.56	55	57	0	0	21.800	4840	Beams dumped
"	"	"	"	4.19	9.63	13045.36	"	1.4	1.1	42	52	109	9	21.800	4840	
"	"	"	"	3.26	6.36	13051.72	"	1.2	0.9	45	53	72	0	"	4841	
"	"	"	"	2.65	4.59	13056.31	"	1.0	0.7	48	55	52	1	"	4841	
"	"	"	"	2.13	4.33	13060.64	"	1.0	0.65	49	56	49	1	"	4840	Beams dumped
"	"	"	"	3.98	8.13	13068.77	"	1.5	1.2	41	49	99	1	21.800	4841	
"	"	"	"	3.22	7.86	13076.63	"	1.3	1.0	44	51	89	1	21.802	4841	
"	"	"	"	2.54	7.25	13083.88	"	1.1	0.85	47	55	82	2	21.802	4838	
"	"	"	"	2.03	3.00	13086.88	"	1.0	0.7	47	57	34	0	21.800	4838	Beams dumped
"	"	"	OFF	4.05	9.19	13096.07	"	1.5	1.3	41	51	104	2	"	4840	
"	"	"	"	3.35	7.95	13104.02	"	1.4	1.3	42	49	90	1	"	"	
"	"	"	"	3.18	7.77	13111.79	"	1.4	1.2	42	50	88	1	"	"	
"	"	"	"	2.91	8.31	13120.10	"	1.25	1.1	44	52	94	2	21802	"	
"	"	"	OFF	2.49	5.83	13125.93	"	1.1	0.8	46	55	66	1	21.800	4841	run 22558 junk (13 crts) beam lost afterwards
"	"	"	ON				"	~~1.2~~	~~0.8~~							
"	"	"	ON	2.77	8.57	13134.50	"	1.2	0.8	45	56	97	1	21.802	4850	
"	"	"	"	2.37	5.57	13140.07	"	1.2	0.7					" "	4849	NORD problem data copied from crt
"	"	"	"	1.83	5.39	13145.46	"			48	57	61	1	21.800	4849	
"	"	"	"	1.46	4.33	13149.79	"	0.9	0.55	49	60	49	0	21.802	4849	Beam dumped
"	"	"	ON	4.48	11.75	13161.54	"	1.4	1.0	42	52	133	2	21.800	4844	
"	"	"	OFF	3.97	2.30	13167.84	"	1.2	0.8	43	52	26	2	21.802	4848	STOPPED TO RESTART FAMP
"	"	"	ON	3.31	9.63	13177.47	"	1.2	0.75	45	54	109	3	21.802	"	
"	"	"	"	2.64	6.54	13180.01	"	1.0	0.65	47	56	74	0	"	"	
"	"	"	"	2.08	7.24	13187.25	"	0.9	0.6	47	56	82	0	21800	4847	
"	"	"	"	1.61	1.15	13188.40	"	0.8	0.5	49	58	13	1	"	4850	beams dumped

RUN	DATE	START	STOP	AT RUN START I⁺	AT RUN START I⁻	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL ×10⁶	TØ REJ ×10⁶	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 E_{LG}>6GeV	T_2 Bit 17 $2T\text{-}E_t \geq 2TR$

3.9.85 0^{15} Gas check OK

0^{38} During run # 22543 FAMP status changed to OFF. Inform J. Olsson during working hours

0^{40} Stop run # 22544 for refilling

↓

Found on System Console during Run # 22542

YPARA 71 : FAMP ERROR

INFO, SLAVE, ERROR 99 1 1

1^{08} New filling ready, start run 22545

Beam pipe temperature alarm : Channel 4 LD is oscillating green ↔ red. Temperature is 19.4°C

Channel 5 LD is brighter (green) than normal. Not connected

Alarm stops by itself after two minutes.

1^{47} Other temperature alarm of same kind

3^{21} IBM ONLINE-JOB ERROR CHECK 3 stops Run # 22547. We have to start a new run

↳ Bad event

3^{28} Z-chamber trip

4^{00} Beams dumped

4^{35} New filling ready, run # 22548

7^{30} Beams dumped 55 nb⁻¹ this shift.

8^{00} Kuhlen and Wurmuth on shift

Gas check done ✓

8^{52} JDAS readout ERROR 73 : Camac access fail branch 1 crate 7 (BP-CH.)

9^{00} Mostly ~ 30% higher background than normal and therefore asks for optimization

9^{19} minor crate 3 reset after run start

9^{25} today's background rather high, also our background increased steadily, now factor 2 higher than normal.

on the other hand the specific lumi SL = $46 \cdot 7 \cdot 10^{28}$* never seen that high before, beam lifetimes 2-4 hours

9^{55} at fill end currents down to ≈ 3.1 mA, SL up to $69 \cdot 10^{28}$*, lifetime calculation at PKR faulty

10^{45} new fill ready, but PETRA screen gives nonsense information about beam currents

11^{32} missing minor crate 6 reset after run start

(later on set to zero)

11^{40} Z-chamber trip

11^{52} JDAS readout error 33 missing Lam br 6 cr 3 (10)

* not genuine, artefact of wrong currents from PETRA

In view of the continuing error of the PETRA current indication I conclude that there was nothing wrong with the previous fill and it was our misjudgement of the situation that made us throw it away too early.

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	<L> $10^{30}\,cm^{-2}s^{-1}$	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ EXP. ENERGY	IBM TAPE OUTPUT	At Run Start ID (μA)	TOF (V)	ONLINE REJ. SUM MIPROC T_2-%	NORD-50 T_1 & T_2 %	Σ Bhabha	MH	E_{BEAM}	Mag. Field -1.6 Gauss	Remarks

3/9/85

12^{30} we phone PKR for more information on their problem to measure the PETRA currents. They traced the fault back to the pickup stations, (amplifiers and computer readout being OK). At the end of this fill they need access time to study the problem further.

13^{10} "JDAS readout error 33 - missing LAM branch 6 crate 3 : 10 ring 3 > PI" continuously. Run 22557 stopped, run 22558 started, but the same. Stopped this one too (13 evts). Autumn will come

13^{14} beams lost

13^{48} PETRA announces "Restart ca 16:00" → magnet run down to 500 A

Jets test runs all OK, nothing wrong with LAM's!

Reload FAMP, OK

Important Note!

There seems to be a problem with FAMP. There is an auto check at every Run Start, that all 3 slaves are OK, if 1 of the 3 has tripped (for unknown reasons) and cannot be brought back to running state (by interrupt), then FAMP is switched off automatically, to enable the run to proceed. An error message, YPARA 71, is written onto the console (and onto operators terminal). This seems to happen about once / day.

Experience shows that the only way to bring FAMP back to life is to reload it. See description in back of JDAS Op. Manual

Reloading of FAMP can proceed in parallel with data taking (with FAMP off!). Don't stop a Run to reload FAMP! 20 minutes of beamtime were lost on 1/9 because of this!

If FAMP reloading was successful, i.e. if the program (HELS)FAMPL says so, then you can switch on FAMP between runs, by F15, F9, 32, F1. Then start a new run!

3.0.

ca 15^{45} Nord crash with TRANSF!! twice. Reload worked only after DISC stop and restart. Then O.K. (who is going to repair the "fault" light of the disc drive?) Krebiel

16^{00} Kleinwort, Finch

Injection, Magnet back to 7500 A

16^{22} Gas Check Lotz

17^{41} NO TRIGGERS PAUSE/CONTINUE CURES IT

18^{26} Zch trip

18^{48} TRANSF! error on system console. Attempted to stop run - but no response (run continued) so MAP stopped.

RUN	DATE	START	STOP	AT RUN START I⁺	AT RUN START I⁻	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL ×10⁶	TØ REJ ×10⁶	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{LG}>6$GeV	T_2 Bit 17 $2T\cdot E_t\cdot \geq 2TR$

18[50] Disk changed on NORD, NORD reloaded. RUN 22561 started

20[10] Ech trip

20[27] Luminosity is low - request new fill.

21[36] FAMP switched off at start of run 22564, attempt to reload - according to instructions in ZDAS appendix
Stopped run, started new run with FAMP ON - it works OK.

22[59] Regular magnet fluctuations of a few amps

23[01] Ech trip (always get LG>250 hits message at same time!)

2350 "

4.9.85 0:00 Kado + Chvin on shift

0:34 Z-ch. trip

0:40 gas check done, ok.

8:00 Diechmann & Krehbiel o.s.

8:30 Gas check done

8:35 Permanent illegal JETC DATA. Diechmann ~~kicks~~ taps suspected DL8. It helps.

11:30 At Run 22578 start: FAMP Hangup. Run without FAMP, F. loading started.

12:10 Soft trip ~~from TO~~ VC + JETC because of ToF rate. Senderausfall. VC had hard trip

12:50 Soft trip VC + JETC because of ToF rate. Run paused. After chamber runup suddenly "Energie-Änderung"
They had to do this because there was not enough HF power. (Wonder why energy was then raised to 27.815.*) We agreed to dump the beams (they were bad anyhow) to give PETRA the opportunity to repair their transmitter. No data taken with changed energy.
However a note to data handlers: From the shape of the e^+ pickup signal on the scope there is a suspicion that from at least from the first Senderausfall (12:10) there ~~not~~ were positrons (5-10% of total) in the wrong bunch, one bunch behind the main one.

15:00 - 16:00 Twice RZ-chamber trip (alone!) for no obvious reason.

* e^+,e^- in orbits with bigger radius, corrects for PETRA magnets unchanged
however, this results in higher energies

16[00] Castwright & Glaser

16[20] Gas check done

16[25] Z-ch-trip (with LG>250 hits as noted above). Reset, watched rates, no sign of anything wrong. Am baffled.

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	<L> 10^{30} cm^{-2}s^{-1}	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ EXP. ENERGY	IBM ↑ TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ONLINE REJ. SUM MIPROC T_2-%	ONLINE REJ. NORD-50 T_1 & T_2 %	Σ Bhabha	MH	E_{BEAM}	Mag. Field -1.6 Gauss	Remarks

17:47 new Bartl, Olsson & Krehbiel testing new trigger.

from R 22587, a new T1 postpone trigger has been installed (on suggestion from G. Zevi)
Trigger is 1 Tag * ≥1 Septant * ≥1 ToF * ≥1 Track all
T1 postpone bit: 11 (counting from Ø); Coincidence bit 9 (counting from Ø)
Thus the trigger pattern is now 7761B for T1 postpone, 51777B for T9 coincidence
Hardware changes: A new prom for the septant triggers, new wirewrapping in the coincidence card in the trigger box.
This trigger has a very low rate (≈1/5min) and does not cause any deadtime.
Testing this out cost us some beamtime; in addition, by accident, R 22585 was taken without the T1 postpone trigger bit 10 (counting from Ø) being activ. The Run 22585 is otherwise good for data reduction!
The changed ~~readout~~ trigger patterns have been temporarily changed via SET-TRIGGER. They will be made permanent in program (rebuilding tasks), by next fill period. H.K. / J.O.

20:00 W. Bartl replacing B. Glaser

21:20 The new trigger is now permanently in: YPARAT, ZDAS were rebuilt J.O.

22[15] Run hung with no triggers. Would not reset with pause/continue.
Stop run, start new one — get "Error in FAMP transfer, slave and info 2 99"
According to instructions on p9, proceed with FAMP OFF while reloading FAMP.
This happened once before today (11[30]) — still once/day within statistical errors!

5.9.85

0:0 Magnussen & Smolik on shift

0:05 Gas check OK.

8[00] Finch and Feist on shift

8[11] Gas check O.K.

8[50] JETC + VTXC off trip

9[30] Wasserleck in TASSO-Halle, Laufen ohne TASSO

9[40] new fill ready. but high background, PKR tries to reduce it

9[50] BACKGROUND NO BETTER, PKR is readjusting the orbit

10[40] background acceptable, start run

12[18] several missing LAM branch 2, crate 3; stopped after pause/continue

12[20] at the beginning of run 22606 FAMP appeared to be switched off, started the reloading procedure

12[57] FAMP back on ready for next fill

15[20] no trigger, Pause/Continue doesn't helps, start new run
message appears: error in FAMP transfer, Slave at unit 1 99 ⇐ see p. 9 for more
new run proceeds with FAMP off

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{LG} > 6$ GeV	T_2 Bit 17 $2T \cdot E_{\perp} \geq 2TR$
22569	4.9.85	2:18	3:07	5.39	6.33	18.7	2952	8002	3984	768	144	4086	5621	1207	25
22570	"	3:08	3:59	4.71	5.57	16.4	3069	8002	3837	799	137	4434	5485	1381	24
22571	"	4:00	4:53	4,12	4.91	14,0	3210	8002	3703	835	117	4668	5449	1417	24
22572	"	4:54	5:50	3.60	4.33	12.3	3375	8002	3615	878	108	4830	5370	1466	22
22573	"	6:19	7:08	5.76	5.78	21.7	2906	8002	4106	756	160	4188	5566	1267	20
22574	"	7:09	7:58	5.24	5.07	17.3	2940	8002	4032	765	132	4411	5567	1404	29
22575	"	7:58	8:51	4.61	4.44	15.7	3039	8002	3902	791	124	4478	5598	1408	24
22576	"	8:51	9:46	4.04	3.87	13.3	3263	8002	3658	735	113	4763	5400	1528	15
22577	"	10:42	11:30	6.10	6.07	21.5	2858	8002	4099	744	160	4169	5399	1297	13
22578	"	11:31	12:00	5.35	5.33	15.2	1740	5032	2574	453	69	2743	3437	872	13
22579	"	12:01	12:50	4.95	4.89	14.1	2521	6570	3102	656	93	3791	4503	1203	16
22580	"	13:29	14:17	6.23	6.17	22.0	2851	8002	4166	742	163	4154	5507	1316	34
22581	"	14:18	15:08	5.45	5.40	18.1	2952	8002	4004	768	139	4381	5591	1400	27
22582	"	15:08	15:59	4.77	4.72	15.8	3026	8002	3855	787	124	4589	5410	1352	16
22583	"	15:59	16:53	4.18	4.14	12.7	3192	8002	3701	830	105	4818	5305	1459	16
22584	"	16:53	17:01	3.69	3.64	11.0	418	1016	449	108	11	617	664	164	1
22585	4/9/85	18:35	18:59	5.66	5.49	19.5	1401	3563	1979	364	71	2123	2132	688	17
22586	"	18:59	19:03	5.27	5.08	20.4	201	604	292	52	10	704	389	95	2
22587	"	19:04	19:11	5,21	5,01	24.7	363	965	484	94		1185	666	161	4
22588	"	19:13	20:10	5.01	4.81	15.9	3117	8002	3948	811	129	4531	5572	1318	26
22589	"	20:11	21:06	4.35	4.04	13.7	3259	7970	3792	848	116	4666	5439	1345	15
22590	"	21:30	22:10	6.36	6.38	26.2	2356	6552	3517	613	154	3352	4477	1035	23
22591	"	22:13	22:59	5.60	5.57	15.9	2767	8001	4172	720	115	4335	5490	1340	24
22592	"	22:59	23:50	4.92	4.88	15.8	3051	8002	4019	794	125	4509	5427	1336	19
22593	4.9.85	23:51	0:46	4.30	4.27	13.9	3299	8002	3717	858	119	4658	5517	1317	21
22594	5.9.85	0:47	0:49	3.76	3.73	13.8	133	334	175	34	30	391	205	58	0
22595	"	1:18	2:06	6.47	6.40	24.7	2861	8002	4127	744	183	4037	5676	1205	20
22596	"	2:06	2:55	5.57	5.62	20.9	2888	8002	4251	751	158	4226	5578	1250	25
22597	"	2:55	3:46	4.88	4.92	15.7	3044	8002	4022	791	124	4444	5586	1312	21
22598	"	3:47	4:40	4.29	4.33	13.9	3163	7845	3727	823	114	4534	5384	1318	25
22599	"	5:54	6:43	6.10	6.24	23.1	2863	8001	4067	768	177	3828	5866	1047	25
22600	"	6:44	7:34	5.34	5.48	19.6	3008	8002	4116	783	153	4184	5790	1219	27
22601	"	7:34	8:25	4.68	4.81	17.7	3013	8002	4025	783	178	4017	5831	1135	34
22602	"	8:26	9:03	4.15	4.27	15.2	1867	4801	2398	486	73	2779	3203	760	17
22603	stopped during pedestal check, because of TOF noise but triggered														

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	<L> (10^{30} cm^{-2} s^{-1})	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ EXP. ENERGY	IBM / TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ONLINE REJ. SUM MIPROC T_2 %	ONLINE REJ. NORD-50 T_1 & T_2 %	Σ_{Bhabha}	MH	E_{BEAM}	Mag. Field (-1.6 Gauss)	Remarks
ON	ON	ON	ON	4.03	11.48	13799.88	IBM	1.4	0.8	41	53	130	1	27800	4849	
"	"	"	"	3.32	8.48	13208.36	"	1.2	0.7	44	54	96	1	27802	4848	
"	"	"	"	2,60	7.24	13215.60	"	1.0	0.6	47	56	82	0	21800	4848	
"	"	"	"	8.03	4.59	13220.19	"	0.8	0.5	49	57	52	1	"	4850	beams dumped
"	"	"	"	3.84	9.98	13230.17	"	1.3	1.0	43	57	113	2	27802	4847	
"	"	"	"	3.43	8.38	13238.56	"	1.1	0.8	46	52	95	1	21800	"	
"	"	"	"	2.96	8.75	13247.31	"	1.0	0.7	46	54	99	0	21802	8	
"	"	"	"	2.28	6.54	13253.85	"	0.95	0.6	48	57	74	3	"	4847	Beams dumped
"	"	"	ON	4.06	10.76	13264.01	"	1.4	1.1	41	51	115	3	21800	4847	~~Without FAMP. Not After~~ ~~Famp reload run stopped~~
"	"	"	OFF	3.55	4.68	13268.69	"	1.15	0.8	44	51	53	3	21802	4850	with out FAMP. & After Famp reload Run stopped
"	"	"	ON	2.42	5.65	13274.34	"	1.0	0.7	47	55	64	1	21800	4850	FAMP on again. Beams dumped
"	"	"	"	4.30	12.28	13286.62	"	1.3	0.9	42	50	139	2	"	4847	
"	"	"	"	3.63	9.72	13296.34	"	1.1	0.8	45	52	110	2	"	4848	
"	"	"	"	2.92	7.69	13304.03	"	1.0	0.6	47	54	87	1	" 2	4847	
"	"	"	"	2.29	5,74	13309,77	"	0.85	0.56	48	56	65	0	"	4,849	
"	"	"	"	1.92	0.71	13310.48	"	0.8	0.5	49	59	8	0	21802	4.847	Beams dumped
ON	ON	ON	ON	3.95	4.96	13314.34	IBM	1.2	1.0	48	47	55	2	21.800	4.847	~~charge trig~~ T/postp at 10 minute
"	"	"	"	3.91	7.06	13315.40	"	1.1	0.8	43	55	12	0	21.800	4.847	" Normal trigger
"	"	"	"	3.44	0.97	13316.37	"	1.0	0.8	45	52	11	1	21.800	4.847	" T/postp. bit 11 installed
"	"	"	"	2.90	8.59	13324.76	"	1.0	0.7	47	53	95	2	21.8	4841	" (Zorn?)
"	"	"	"	2.18	6.71	13331.47	"	0.9	0.6	48	55	76	3	21.8	4846	
"	"	"	"	4.47	10.69	13342.16	"	1.6	1.1	41	49	121	2	21.802	4846	
"	"	"	OFF	3.78	9.45	13351.61	"	1.2	0.8	44	51	107	3	"	4844	FAMP curr. Ran without FAMP
"	"	"	ON	2.82	8.75	13360.36	"	1.0	0.7	46	52	99	1	"	4844	FAMP back on.
"	"	"	"	2.11	6.71	13367.07	"	0.8	0.55	49	56	76	5	21.800	4844	
"	"	"	"	2.37	0.09	13367.16	"	~~0.8~~	—	47	52	1	0	21.802	4845	beams dumped
"	"	"	"	3.96	9.89	13377.05	"	1,55	1.1	42	51	112	3	21.800	4844	
"	"	"	"	3.31	8.57	13385.62	"	1.2	0.85	44	50	98	3	21.802	4844	
"	"	"	"	2.55	8.31	13393.93	"	1.0	0.7	43	52	94	3	21.802	4844	
"	"	"	"	2.04	5.39	13399.32	"	0.9	0.65	48	~~64~~ 55	~~69~~	0	21.802	4843	beams dumped
"	"	"	"	3.59	10.60	13409.92	"	1.5	1.1	42	52	120	4	21.800	4844	
"	"	"	"	3.11	9.28	13419.20	"	1.2	0.85	45	51	105	2	21.802	4844	
"	"	"	"	2.13	5.21	13424.41	"	1.0	0.7	45	53	59	1	21.800	4841	
"	"	"	"	1.84	2.83	13427.24	"	1.0	0.7	45	53	32	3	"	4844	beams dumped

REMARKS 13

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{LG} > 6$ GeV	T_2 Bit 17 $2T \cdot E_h \geq 2$ TR

85.9.5 16[00] Knies & Glasser on shift

16:20 Restarted FAMP - appeared to work - Boring fill

19[00] Senderausfall at PETRA. Changed the Energy?

20:00 W. Bartel replacing B. Glaser

21:00 DL8 - problems missing LAM BR6 crate 3
usual procedure cleaning, shaking, praying does not help ⟹
call Riesberg

22:00 After exchange of one DL8 data taking resumed

6. 9. 85

00[00] Stephens & Kleinwort on shift

00[15] Gas check OK.

00[28] Time out in FAMP transfer, slave and info: 1 99, run 22620 without FAMP

2[05] Σ ch trip - again associated with LG > 250 hits.

2[07] Run Endad missing LAM Branch 2 crate 3 TOF 1 - reload TOF program
also switch on FAMP.

NOTE FOR J.O. / H.E.M.

4[35] We noticed a "OUTSIDE SEGMENT BOUNDS" - Error for TASK 34727 (YMAGNET) at each restart since yesterday evening 18:21. Since that time the YMAGNET-subroutine YROVP (= reading of VTPC voltage and currents) was never called and no magnet-fluctuation-message occurred → ~~problem~~ possibly YMAGNET was never called. J (C.K.) rebuilded YMAGNET (and YPAROT) → O.K. ~~I do not know what to do in SUBSTANTIATION AB and rebuild the task or was this done~~

So you did the correct thing. HEM
It's puzzling that the previous shift had not seen these errors since 6pm.

7[22] Error in FAMP transfer, slave and info: 2 99

8[22] Middleton & Haidt on shift
Gascheck done
Restarted FAMP

12[15] IBM busy call IBM, but nobody answering

12[33] IBM online computer up again - start new run 22624
FAMP transfer error: Slave and Info: 1 99 immediately after start of run
several times "no trigger" - pause / continue helps

14[13] "Missing LAM branch 4 crate 3 : ID ring 2"

Clean CC contacts → o.k. Reg.

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	<L> 10^{30} cm^{-2} s^{-1}	Bhabha ∫L dt nb^{-1}	∫L dt EXP. ENERGY	IBM ↑TAPE OUTPUT	At Run Start ID (μA)	TOF (V)	ONLINE REJ. SUM MIPROC T_2-%	NORD-50 T_1 & T_2 %	Σ Bhabha	MH	E_{BEAM}	Mag. Field -1.6 Gauss	Remarks

11[00] FOR NIGHT SHIFT - NO HIGHPRI TIME LEFT FOR REFORM JOBS - PLEASE SUBMIT THEM TONIGHT.

16[00] Matsura + Meinke on shift

16[08] Camac problem branch 4 crate 7 fan alarme

16 46 Gas check done

17[48] missing LAM branch 4 crate 3 run stopped
after changing crate contr., Lam grade finally faulty DL8 located

18[55] DL8 repaired, data taking has started

7. 9. '85

0:00 W. Bartel & I. Dumdotter
Notice that FAMP is off since run #22637 only? switch it on for the next run i.e. #22650

0:15 Gas check done

1:00 Std. histograms: I am not sure whether the new term 2-trigger is on. I suspect it is off. I don't take any action

2:15 FAMP went off during run #22651 ~~with~~ after time out in FAMP transfer slave and Info 1 99

2.20 JOBS READOUT ERROR 45 - MP-16 analogic incomplete YY=1 again. 3[45] again 5:49

3:13 Turn FAMP on.

8[00] Haidt & Warming on shift

Gas check done

Please note: (JC/PWA) I found Maihak at 10.6, from Log: it was > 10.3 for more than 2 days now. we try to keep the muon gas mixture as exactly as possible at 90:10 ≙ Maihak "Kreislauf" = 10mA. Acceptable values are in the range 9.8 to 10.2 mA (this tolerance being smaller than stated in the gas check manual so far). In case the "Kreislauf" value observed is bigger or smaller, please, readjust the Aetkan flow accordingly. A change in flow by ± 1 or 2 mm will do. Change Aetkan only!
Valve 32 increases Aetkan flow, decreases it. PWA

9[00] "no triggers" - PAUSE/CONTINUE did not help - we stop run - next run ok

9[02] at run start FAMP off due to FAMP transfer error
we stop this run, do F15 F9 3 to switch it on, start next run, now ok

10[42] same happening with FAMP again

11[36] " " " " "

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{LG}>6$GeV	T_2 Bit 17 $2T\cdot E_\perp \geq 2$TR	PROCESSORS ON/OFF N50	MIP	TOF	FAMP	$\langle L \rangle$ 10^{30} cm^{-2} s^{-1}	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ EXP. ENERGY	IBM / TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ONLINE REJ. SUM MIPROC T_2-%	ONLINE REJ. NORD-50 T_1 & T_2 %	Σ Bhabha	MH	E_{BEAM}	Mag. Field ~1.6 Gauss	Remarks
16																															17
22604	5.9.85	10^{37}	11^{26}	5.19	5.10	24.5	2899	8002	4183	752	184	4022	5671	1175	26	on	on	on	on	2.42	6.98	13434,22	IBM	1.4	1.2	43	50	79	2	27.9	
22605	"	11^{26}	12^{19}	4.60	4.52	19.5	3163	8002	4068	822	160	4438	5548	1237	24	"	"	"	~~off~~	2.37	~~6.40~~ 6.80	13440.82	"	1.1	0.8	46	52	77	2	"	
22606	"	12^{20}	12^{46}	4.05	3.98	13.0	1520	3955	1868	395	51	2249	2699	648	17	"	"	on	off	2.33	2.39	13442.41	"	1.0	0.8	47	54	27	3	"	beams dumped
22607	"	13^{32}	14^{26}	4.86	6.16	15.4	3180	8002	3745	828	127	4169	5859	1129	18	"	"	"	ON	2.92	8.04	13450.45	"	1.2	0.75	44	56	91	1	"	
22608	"	14^{26}	15^{15}	4.26	5.47	14.0	2870	7076	3246	746	104	3930	4993	1110	20	"	"	"	"	2.39	6.45	13456.90	"	1.0	0.60	46	57	73	0	"	data taking stopped
22609	"	15^{16}	16^{11}	3.99	4.92	13.2	3260	8002	3659	848	111	4657	5313	1364	20	"	"	"	OFF	2.15	6.45	13463.35	"	1.0	0.6	47	57	73	3	"	
22610	"	16:12	16:16	3.33	4.38	11.5	207	551	248	47	6	327	345	101	3	"	"	"	OFF	1.93	0.62	13463.97	"	0.8	0.5	47	59	7	0	"	Beams dumped
22611	"	16:58	17:24	5.60	5.26	19.6	1297	3886	2066	335	63	1861	2907	556	9	ON	ON	ON	OFF	4.13	5.48	13469.45	"	1.4	1.6	42	49	62	1	"	PUT FAMP IN - was reloaded during fill but not on
22612	"	17:24	~~18:16~~	5.18	5.34	20.4	2994	8001	4029	619	158	4329	~~5646~~	~~1209~~	~~24~~	"	"	"	ON	~~3.20~~	7.60	13477.05	"	1.2	1.0	43	52	86	0	"	
22613	"	18:19	18:53	4.48	4.64	16.5	2032	5448	2653	441	86	3061	3675	883	13	"	"	"	"	2.59	5.65	13482.70	"	1.0	0.9	46	54	64	1	"	crate problem - knubbel
22614	"	18:55	19:58	4.09	4.23	12.4	45	137	118	10	1	75	73	20	0	"	"	"	"	2.37	.14	13482.88	"	1.0	0.8	41	58	2	1	"	not recorded run
22615	"	19:04	19:31	3.20	3.52	11.4	1390	3228	1435	320	41	2017	2113	569	9	"	"	"	"	1.72	2.56	13485.44	"	1.0	0.8	51	58	29	1	"	Beams dumped
22616	"	20:01	20:49	5.79	6.10	29.6	2861	8002	4420	744	220	3957	5640	1183	21	"	"	"	"	4.00	9.54	13494.98	"	1.8	1.6	41	47	108	4	"	
22617	"	21:00	21:01	4.86	5.15	18.8	39	152	83	10	1.9	69	88	16	0	"	"	"	"	4.16	0.09	13495.07	"			27	55	1	0	"	
22618	"	22:07	22:59	4.05	4.33	12.6	3114	8002	3903	810	102	4664	5480	1332	24	"	"	"	OFF	2.38	6.71	13501.78	"	1.5	1.3	48	54	76	0	"	beams dumped
22619	6.9.85	~~23:40~~	0:28	6.24	5.94	19.7	2870	8002	4146	746	147	4115	5569	1143	19	"	"	"	ON	4.48	11.40	13513.18	"			42	51	129	1	"	
22620	"	0:29	1:18	5.43	5.17	14.7	2944	8002	4027	766	112	4493	5462	1319	21	"	"	"	OFF	3.79	10.78	13523.96	"	1.2	0.7	45	52	122	2	"	
22621	"	1:18	2:06	4.74	4.50	12.9	2826	7246	3342	735	95	4124	4454	1183	20	"	"	"	"	2.99	7.86	13531.82	"	1.0	0.6	46	56	89	1	"	stopped - missing trim problem TØ9
22622	"	2:08	2:53	4.16	3.95	13.0	2612	6506	2981	679	89	3821	4403	1034	16	"	"	"	ON	2.17	4.15	13535.97	"	0.4	0.55	48	57	47	3	"	beams dumped
22623	"	3:42	4:32	5.80	5.94	21.2	2982	8001	4340	776	164	4169	5591	1106	21	"	"	"	ON	4.56	11.22	13547.19	"	1.4	1.2	42	48	127	7	"	
22624	"	4:35	5:27	4.94	5.09	15.4	3106	8001	3966	808	125	4420	5571	1158	24	"	"	"	"	3.55	10.60	13557.79	"	1.0	0.63	45	53	120	7	"	
22625	"	5:27	6:23	4.27	4.41	12.1	3319	8002	3677	864	104	4680	5475	1179	22	"	"	"	"	2.73	7.60	13565.39	"	0.9	0.55	47	56	86	0	"	
22626	"	6:23	6:49	3.69	3.82	11.2	1492	3406	1540	388	43	2035	2388	529	5	"	"	"	"	2.09	3.71	13569.10	"	0.8	0.45	51	58	42	0	"	Run hung up - no trigger. beams dumped
22627	"	7:22	8:16	5.77	6.11	15.0	2872	8002	4147	747	111	4171	5647	1090	18	"	"	"	OFF	4.86	10.51	13579.61	"	1.4	0.95	42	51	119	7	"	
22628	"	8:11	8:59	4.95	5.30	14.7	2853	8001	3956	743	105	4320	5621	1108	25	"	"	"	OFF	3.99	9.81	13589.42	"	1.2	0.8	45	53	111	4	"	
22629	"	9:00	9:53	4.28	4.62	13.6	3287	8002	3780	856	117	4565	5606	1154	19	"	"	"	ON	2.90	7.78	13597.20	"	1.0	0.6	47	55	88	3	"	
22630	"	9:54	10:53	3.68	4.00	11.6	3519	8002	3622	917	106	4756	5605	1181	15	"	"	"	"	2.31	6.98	13604.18	"	1.0	0.6	52	57	79	1	"	
22631	"	10:53	11:45	3.16	3.45	11.0	1666	3644	1545	434	48	2189	2473	525	12	"	"	"	"	1.66	3.45	13607.63	"	0.9	0.5	49	60	39	0	"	beams dumped
22632																"															
22633	"	12:08	12:23	6.08	6.04	27.5	867	2467	1305	226	62	1129	1915	317	8	"	"	"	"	3.91	2.21	13609.84	"	1.5	2.0	41	50	25	0	"	lost (no events)
22634	"	12:31	13:22	5.61	5.59	16.1	2895	8002	3990	754	122	4171	5689	1093	25	"	"	"	OFF	3.73	9.90	13619.74	"	1.3	1.1	43	53	112	3	"	
22635	"	13:31	14:15	4.87	4.86	13.3	3096	8002	3882	806	107	4423	5603	1236	26	"	"	"	"	2.92	3.26	13623.10	"	1.1	0.7	46	54	106	0	"	
22636	"	14:16	14:35	4.23	4.23	13.1	323	805	374	84	11	456	529	110	24	"	"	"	ON	2.38	0.71	13629.81	"	0.9	0.5	44	57	8	1	"	DL-8 problem.
22637	"	15:06	16:06	3.72	3.72	11.2	3573	8001	3552	931	105	4688	5685	1142	17	"	"	"	off	1.74	7.24	13637.05	"	0.7	0.4	49	58	82	3	"	

RUN	DATE	START	STOP	AT RUN START I⁺	AT RUN START I⁻	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL ×10⁶	TØ REJ ×10⁶	T₁ ACC SUM	T₂ ACC SUM	T₁ Bit 2 E_LG > 6GeV	T₂ Bit 17 2T·E_H ≥ 2TR
18 Run	DATE	START	STOP	Run start I⁺	Run start I⁻	DEAD TIME (%)	TIME (sec)	Records in	Records out	ALL ×10⁶	TØ Rej ×10⁶	T₁ ACC Sum	T₂ ACC Sum	T₁ Bit2 E_LG>6GeV	T₂ Bit 17 2T·E_H ≥ 2TR
22638	6.9.85	16⁰⁷	16¹⁰	3.24	3.25	21.3	150	736	145	35	8	204	198	56	0
22639	"	16¹⁹	16³¹	3.15	3.16	10.1	682	1509	680	178	18	1918	1042	180	2
22640	"	17⁴⁵	17⁴⁸	6.20	6.18	21.2	160	538	291	42	9	226	369	48	2
22641	"	18 36	1846	5.35	5.48	18.5	585	1816	999	152	28	886	1331	254	5
22642	"	18 48	1935	5.15	5.27	17.9	2737	8002	4335	713	128	4162	5863	1106	30
22643	"	19 35	20 01	4.53	4.63	14.0	1507	4136	2105	393	55	2227	3092	606	9
22644	"	20 02	20:54	4.22	4.32	13.8	3078	8001	3977	802	111	4471	5823	1216	34
22645	"	20 55	21:52	3.70	3.79	12.9	3407	8002	3773	886	114	4526	5914	1093	26
22646	"	21:52	21:56	3.24	3.32	11.9	190	413	183	49	6	225	310	54	0
22647	"	22:21	23:05	6.13	6.56	18.2	2681	8002	4204	692	127	3944	5856	1005	27
22648	"	23.06	23:54	5.32	5.72	15.6	2853	8001	4053	743	116	4217	5774	1125	22
22649	7.9.85	23:54	0:46	4.62	4.99	13.1	3081	8002	3869	801	105	4380	5755	1097	25
22650	"	0:47	1:16	4.02	4.36	13.2	1724	4108	1988	448	58	2341	3058	579	20
22651	"	1:43	2:27	6.38	6.35	21.8	2580	8001	4420	671	146	3752	5868	1033	25
22652	"	2:27	3:13	5.57	5.56	18.4	2718	8002	4252	707	130	4027	5822	1121	28
22653	"	3:14	4:09	4.84	4.83	18.7	3088	8001	4170	803	151	4288	5926	1156	39
22654	"	4:10	5:07	4.14	4.14	13.8	3276	8002	4000	853	118	4412	5943	1124	21
22655	"	5:08	5:11	3.56	3.56	11.7	166	418	203	43	5	238	268	57	0
22656	"	5:42	6:30	6.21	6.30	29.5	2903	8001	4364	755	222	3897	5741	1110	24
22657	"	6:30	7:20	5.34	5.44	23.1	2935	8002	4226	763	176	4084	6036	1108	32
22658	"	7:20	8¹⁰	4.62	4.71	14.1	2965	8002	3989	772	108	4303	5865	1090	32
22659	"	8¹¹	9⁰⁰	4.02	4.11	13.5	2932	7176	3525	763	103	4017	5260	991	27
22660	"	9⁰³	9⁰³	———			no events								
22661	"	9⁰³	9¹³	3.51	3.60	13.6	530	1239	600	138	19	717	841	171	2
22662	"	9²²	10⁴²	6.03	6.02	20.6	2945	8001	4063	766	158	4028	5667	969	19
22663	"	———		no	events	(reload	FAMP)								
22664	"	10⁴³	11³⁵	5.17	5.17	15.8	3070	8002	3920	799	127	4293	5658	1045	16
22665	"	———		no	events	(reload	FAMP)								
22666	"	11²⁶	11⁴⁴	4.46	4.46	20.1	243	827	313	63	13	336	400	79	1
22667	"	11⁴⁴	12³⁹	4.40	4.40	13.7	3415	8002	3752	889	122	4427	5714	1063	17
22668	"	12⁴⁰	12⁴²	3.77	3.77	12.4	138	346	165	36	4	191	224	46	2
22669	"	13³²	14⁰²	6.07	6.05	21.5	2574	8002	4224	774	166	4036	5789	1037	24
22670	"	14⁰³	14²¹	5.22	5.21	17.0	3049	8002	4090	793	135	4310	5668	1061	21
22671	"	14⁵¹	15⁴⁵	4.50	4.50	13.8	3220	8001	3906	838	116	4469	5659	1115	21
22672	"	15⁵⁰	16:31	3.88	3.88	12.3	2425	5642	2625	631	78	3313	3899	775	17

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	⟨L⟩ 10³⁰ cm⁻² s⁻¹	Bhabha ∫L dt nb⁻¹	∫L dt EXP. ENERGY	IBM TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ONLINE REJ. SUM MIPROL T₂ %	ONLINE REJ. NORD-50 T₁ & T₂ %	Σ Bhabha	MH	E_BEAM	Mag. Field −1.6 Gauss	Remarks
Processors on/off N50	MIP	TOF	FAMP	⟨L⟩ 10³⁰ cm⁻² s⁻¹	Bhabha ∫L dt nb⁻¹	∫L dt Exp. Energy	IBM/TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	On line Rej. Sum Mipro T₂ %	On line Rej. Nord 50 T₁ & T₂ %	Σ Bhabha	MH	E_BEAM [GeV]	Mag. Field −1.6 Gauss	Remarks 19
on	on	on	ON/OFF	1.48	0.27	13637.32	IBM	0.6	0.4	49	61	3	0	21.800	4842	Camac problems
"	"	"	"	1.28	0.53	13637.85	"	0.6	0.4	51	58	6	0	"	4841	beams dumped
"	"	"	"	5.07	0.88	13638.73	"	1.6	1.3	35	51	10	0	"	"	DC8 problem
"	"	"	"	4.18	2.65	13641.38	"	1.2	1.25	44	48	30	2	21802	4840	
"	"	"	"	3.56	9.98	13651.36	"	1.2	1.25	45	48	113	1	"	4842	
"	"	"	"	3.10	3.89	13655.25	"	1.0	1.0	47	52	44	1	21800	4841	
"	"	"	"	2.44	7.86	13663.11	"	0.9	0.9	48	53	89	1	"	"	
"	"	"	"	2.01	6.18	13669.29	"	0.8	0.7	50	55	70	1	"	"	
"	"	"	"	1.83	0.18	13669.47	"	0.7	0.6	51	60	2	0	21802	"	beam dumped
"	"	"	"	4.90	11.66	13681.13	"	1.8	1.25	42	50	132	1	21800	4840	
"	"	"	"	3.89	11.75	13692.88	"	1.2	1.0	45	52	133	2	"	4840	
"	"	"	"	2.81	7.51	13700.39	"	1.0	0.7	46	54	85	1	"	4841	
"	"	"	ON	2.34	4.15	13704.54	"	~1	~0.7	51	54	47	1	"	4844	beams dumped
"	"	"	ON/OFF	4.52	9.81	13714.35	"	1.6	1.5	41	47	111	4	21800	4841	
"	"	"	OFF	3.75	8.39	13722.74	"	1.2	1.1	43	50	95	4	21802	4842	
"	"	"	ON	2.81	9.72	13732.46	"	1.0	1.0	47	51	110	2	"	4841	
"	"	"	"	2.11	5.48	13737.94	"	0.9	0.9	49	53	62	3	21800	"	
"	"	"	"	2.07	0.35	13738.29	"	—	—	47	55	4	0	"	"	beams dumped.
"	"	"	"	3.94	11.75	13750.04	"	1.5	1.6	42	48	133	1	"	4842	
"	"	"	"	3.32	9.36	13759.40	"	1.2	1.4	46	50	106	0	"	4841	
"	"	"	OFF	2.76	7.33	13766.73	"	1.0	1.2	46	53	83	0	21802	"	
"	"	"	ON	2.09	5.39	13772.12	"			49	53	61	0	"	4840	run stopped because "no trigger"
								0.85	0.65							
"	"	"	"	1.55	0.80	13772.92	"	0.85	0.65	48	55	9	0	"	4841	beams dumped
"	"	"	"	4.10	11.22	13784.14	"	1.5	1.5	41	52	127	4	"	4840	
								1.2	0.75							
"	"	"	"	3.38	10.07	13794.21	"	1.80	0.75	44	54	114	4	"	"	
								1.05	0.60							
"	OFF	OFF	ON	2.75	0.53	13794.74	"	1.05	0.60	—	66	6	0	21.800	"	Plesey +TOF appr. off
"	ON	ON	ON	2.42	9.37	13804.11	"	1.0	0.6	46	56	106	4	21.802	4841	
"	"	"	"	2.25	0.27	13804.38	"	"	"	44	57	3	0	"	"	beams dumped
"	"	"	"	4.11	12.19	13816.57	"	1.6	1.6	43	50	138	4	"	4842	
"	"	"	"	3.25	10.07	13826.64	"	1.2	0.7	45	53	114	3	"	4844	
"	"	"	"	2.45	6.63	13833.27	"	1.0	0.7	47	54	75	1	"	"	
"	"	"	"	2.06	5.00	13838.27	"	0.9	0.6	49	56	46	7	21.800	4844	beams dumped

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{LG} > 6$GeV	T_2 Bit 17 $2T \cdot E_4 \cdot \geq 2TR$

7/9/85

11^{36} by mistake Plessey & TOF processors switched off, but FAMP on, stop run after 800 records

12^{39} in order to avoid FAMP-automatic-Off at run start, we switch it off and on on purpose before we start a new run, this worked fine

13^{05} after end of last run, tektronix claims to be busy (was not true!), we can't look at histograms; starting a testrun does not help; I suspect something goes wrong at run end we restart ZDAS before we start a new run

16^{00} Hughes & Krehbiel on shift

17^{40} A series of ZDAS errors: 33 Misc LAM br. 3 cr. 4 2-Cl. Pa. 1
Rec ~~After Stop Run~~ 32 2 3 ref. 3 times
At ~~After~~ Stop Run Yes or No I pressed F2. The run did not pause, but continued o.k.

18^{40} I devoted some time to check the new Zorn Trigger. Method: Run without output, then manually enabling only T1 postpone Bit 12 (counting 1...16), no T1 acc, and coincidence 10; then clearing the Trigger-bit histograms. (This is a clumsy operation, since EDIT + CLEAR clears only the last.) Result: 1) There are genuine ZORN II triggers, ca 1 per 2 min.
2) The Zorn II - T1 - postpone - bit is mostly accompanied by others
3) None of 9 triggers entered the lower Trigger Bit Histograms. Why not? They certainly caused T2 acc.
Maybe because of 25% Histo Fraction
No! there must be a mask in size!

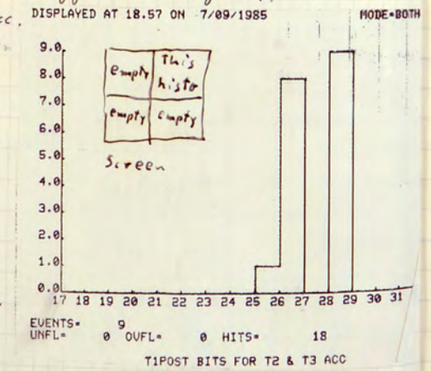
18^{50} PC - VTX Alarm. Pressure wrong. After some phone calls the experts came to the conclusion that the gas bottle was empty. P. Petersen came in and changed the bottles.

18^{55} All chambers tripped. 4 Sonder ausfall with partial beam loss. Decided to ask for a new fill

21^{25} Console Error "Ring Violation" after Clearing of LUN 34 - Screen
Afterwards "Display drawing Event" which it obviously did not. Same error twice. Task YEDISP must be rebuilt after this run.

21^{35} ZDAS reloaded. VTXC Micros reloaded.

21^{49} VTXC Trip.



PROCESSORS ON/OFF N50	MIP	TOF	FAMP	<L> 10^{30} cm^{-2} s^{-1}	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ EXP. ENERGY	IBM TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ONLINE REJ. SUM MIPROC T_2-%	ONLINE REJ. NORD-50 T_1 & T_2 %	Σ_{Bhabha}	MH	E_{BEAM}	Mag. Field ~1.6 Gauss	Remarks

Possible LUMI Record

~~Last Run ending in 6/09/85 : Run No 22648 $\int L$ = 13692.88~~

Last Run ending in 7/09/85 : Run No 22679 $\int L$ = 13898.53
" " " in 6/09/85 : Run No 22648 $\int L$ = 13692.88
205.65 for the day 7/09/85

22^{20} Olsson arrived. We tested (w. dummy run) to remove the veto ~~bit~~ (TOF ≤ 8) from T1-Postp. Bit 11 (1 TBG). Rate of this trigger rose by a factor 1.5. Decided to leave the veto in for the time being. (What will the rate be at the beginning of a filling?)
Task YEDISP was rebuilt after Run 22677. Ev. Displ. Now ok.

8/9/85

$0.^{00}$ Middleton & Magnussen on shift

0^{25} gas checks done.

0^{30} BP chamber kept tripping off at start of new fill, eventually stays on.

0^{35} FAMP ~~tripped off~~ at start of run - will reload ready for next run.

2^{50} Magnet trip, can not reset, called Magnet group in.

3^{10} beams dumped.

5^{18} About 10 fuses were blown when the magnet tripped (because upper reservoir was nearly empty). Reservoir has been filled & fuses replaced by MK1.

5^{20} At last we are taking data again, the magnet is restored.

Ethane primary side (P4) in muon gas system is low - ~~perhaps~~ bottle needs changing

08^{00} Duerdoth & Kraus

8^{00} Gas checks done — Ethane supply needs to be changed soon.

9^{50} Vertex chamber trip — valve failure — reset in gashouse.

10^{22} Beams dumped — readjusted magnet, as it had drifted up a bit.

14^{58} ETHANE supply switched from left to right battery.

16^{00} Stephens & Kawagoe

16^{15} Gas check OK.

17^{30} Reform Jobs submitted.

17^{50} Histogram fraction reset to 25% Krehbiel

18^{00} ZDAS readout error 46 - MP-16 out of sequence; YY=1

18^{Rs} " " " " "

Run No	Date	Start Time	Stop Time	At Run Start I^+	At Run Start I^-	Dead time %	Duration (sec)	Records in	Records out	All TØ $\times 10^6$	TØ Rej $\times 10^6$	T_1 Acc Sum	T_2 Acc Sum	T_1 Bit 2 $E_{LG}>6$GeV	T_2 Bit 17	N50	MIP	ToF	FAMP	$\langle L \rangle$ 10^{30} cm^{-2} s^{-1}	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ this Exp/Energy	IBM/Tape Output	At Run ID μA	At Run ToF V	Online Sum MIPROC T_2 %	Online Rej Nord 50 T_1 & T_2 %	Σ Bhabha	MH	E Beam	Mag. Field −1+6 Gauss	Remarks
22673	7/09/85	17:00	17:50	6.33	6.45	26.4	2915	8002	4288	758	200	3903	5729	1027	28	On	On	On	On	4.44	13.70	13378.27										
22674	"	17:50	18:40	5.47	5.53	22.3	2995	8002	4080	779	174	4062	5930	1030	19	"	"	"	"	3.38	8.13	13857.97	IBM	1.8	1.5	41	49	155	5	21.802	4844	
22675	"	18:57	19:48	4.43	4.55	16.0	2976	7471	3686	774	123	4026	5580	1007	24	"	"	"	"	2.47	6.01	13860.10	"	1.35	1.1	44	52	92	0	21.800	"	
22676	"	20:46	21:37	6.23	6.32	24.2	3037	8002	4375	790	191	4003	5813	973	23	"	"	"	"	4.47	12.10	13866.11	"	1.05	0.83	47	53	68	2	21.800	"	Partial Beam Loss + New fill
22677	"	21:39	22:21	5.29	5.37	17.9	2478	6421	3239	645	115	3514	4519	878	16	"	"	"	"	3.46	9.28	13878.20	"	1.4	1.1	42	48	137	1	21.802	4843	
22678	"	22:29	23:24	4.56	4.65	15.3	3281	8002	3963	854	131	4468	5758	1055	16	"	"	"	"	2.64	8.22	13887.48	"	1.2	0.8	45	52	105	3	21.800	4844	Run stopped by operator
22679	"	23:24	23:51	3.91	3.99	12.3	1546	3532	1696	402	49	1981	2643	445	12	"	"	"	"	2.09	2.83	13895.70	"	1.0	0.68	47	53	93	3	"	4843	
22680	8/9/85	0:15	0:23	6.30	6.36	21.9	472	1408	751	123	27	695	1089	188	6	"	"	"	"	5.38	2.39	13898.53	"	0.85	0.58	50	55	32	0	"	4844	Beams dumped.
22681	"	0:32	1:19	5.97	6.03	18.7	2808	8002	4283	731	137	4030	5925	1050	24	"	"	"	OFF	4.35	13.25	13900.92	"	1.6	1.6	41	47	27	0	21.802	4845	stopped because of Lumy triggers.
22682	"	1:20	2:12	5.11	5.17	17.8	3104	8001	4072	807	113	4281	5831	1060	28	"	"	"	ON	3.29	9.28	13914.17	"	1.4	1.1	44	49	150	3	21.800	4846	
22683	"	2:12	2:52	4.35	4.42	14.7	2324	5664	2747	604	89	3151	4084	743	14	"	"	"	"	2.55	6.18	13923.45	"	1.2	0.9	46	52	105	3	21.800	4847	
22684	"	5:24	6:18	4.95	4.90	17.5	3254	8002	4072	846	148	4162	6136	1003	20	"	"	"	"	3.04	11.04	13929.63	"	1.0	0.8	46	54	70	1	21.802	4847	magnet trip.
22685	"	6:18	6:27	4.22	4.18	15.2	459	1126	554	119	18	608	828	136	6	"	"	"	"	2.55	1.41	13940.67	"	1.1	1.2	47	52	125	6	21.802	4847	
22686	"	7:03						13	all	chambers tripped, Nord hang up						"	"	"	"	2.55	1.41	13942.08	"	1.0	0.8	48	54	16	0	21.800	4850	beams lost
22687				no	event																	(97)		1.4	1.2							
22688	"	7:14	8:04	6.16	6.16	23.8	2998	8001	4164	780	186	8975	5930	1074	23	"	"	"	"	4.38	13.43	13985.51	"	1.4	1.2	43%	50%	152	6	"	4848	
22689	"	8:05	8:56	5.25	5.25	19.2	3078	8002	4263	801	153	4291	5764	1000	27	"	"	"	"	3.46	9.54	13995.05	"	-	-	45%	49%	108	3	21,802	4859	
22690	"	8:57	9:51	4.49	4.49	13.8%	3256	8001	3910	847	117	4385	5823	1015	31	"	"	"	"	2.83	8.39	14003.44	"	0.9	0.65	47%	54%	95	2	21,800	4860	
22691	"	9:52	10:22	3.86	3.86	12.2%	1820	4226	1966	474	58	2346	3054	511	7	"	"	"	"	2.37	3.89	14007.33	"	0.8	0.55	47%	66%	44	0	21,802	4859	beams dumped.
22692	"	10:54	11:45	5.89	6.13	25.3%	3039	8002	4271	791	201	3922	5867	1004	23	"	"	"	"	4.35	13.34	14020.67	"	1.4	1.3	41%	49%	151	6	21,800	4840	
22693	"	11:46	12:39	4.96	6.17	19.5%	3183	8002	4096	828	162	4256	5835	1057	35	"	"	"	"	3.41	10.51	14031.18	"	1.2	.8	46%	51%	119	4	21,802	4844	
22694	"	12:38	13:34	4.22	4.41	14.0	3287	8002	3871	855	120	4443	5789	1058	33	"	"	"	"	2.41	7.51	14058.69	"	1.0	.65	48	54	85	6	21.800	4844	beams dumped
22695	"	14:13	15:04	6.16	6.14	26.2	2993	8002	4314	779	204	4010	5805	1009	24	"	"	"	"	4.22	11.84	14,020.53	"	1.6	1.2	43	49	134	1	"	"	
22696	"	15:05	15:56	5.24	6.15	20.7	3066	8002	4208	798	165	4224	5908	1040	22	"	"	"	"	3.42	10.25	14,030.78	"	1.2	.9	46	60	116	1	"	"	
22697	"	15:56	16:42	4.48	4.41	16.6	2762	6926	3408	718	119	3805	5041	859	18	"	"	"	"	2.47	5.92	14,036.70	"	1.0	.75	47	53	67	3	"	4843	beams dumped.
22698	"	17:04	17:56	6.24	6.36	31.6	3049	8002	4351	794	251	3930	5774	977	27	"	"	"	"	4.21	10.16	14046.86	"	1.6	1.2	42	48	115	7	"	4842	
22699	"	17:56	18:45	5.28	5.40	21.7	2909	8002	4261	757	165	4161	5825	1069	32	"	"	"	"	3.38	9.72	14,056.58	"	1.2	1.0	44	49	110	1	"	4844	
22700	"	18:45	19:32	4.55	4.66	15.4	2765	7113	3597	720	111	3871	5148	914	20	"	"	"	"	2.85	6.98	14063.56	"	1.0	0.65	47	52	79	0	"	4844	beams dumped.
22701	"	19:57	20:47	6.35	6.33	28.2	2977	8001	4371	775	219	3762	5991	978	23	"	"	"	"	4.05	10.60	14074.16	"	1.4	1.3	41	48	120	4	"	4841	
22702	"	20:47	21:38	5.40	5.38	18.6	3020	8001	4143	786	146	4179	6011	1061	29	"	"	"	"	3.37	10.16	14084.32	"	1.2	0.8	45	51	115	2	"	4841	
22703	"	21:38	22:13	4.61	4.60	16.0	2008	5193	2761	522	84	2812	3534	678	14	"	"	"	"	2.71	5.30	14089.62	"	1.0	0.65	41	49	60	2	"	4841	Stop for DC8 problem
22704	"	22:30	22:46	3.98	3.97	12.9	865	2076	981	225	29	1174	1444	226	6	"	"	"	"	2.21	1.68	14091.30	"	0.9	0.55	47	56	19	2	"	4840	beams dumped

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{LG} > 6$GeV	T_2 Bit 17 $2T \cdot E_4 \cdot \geq 2$TR

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	<L> 10^{30} cm^{-2} s^{-1}	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ EXP. ENERGY	IBM TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ONLINE REJ. SUM MIPROC T_2-%	ONLINE REJ. NORD-50 T_1 & T_2 %	Σ_{Bhabha}	MH	E_{BEAM}	Mag. Field ~1.6 Gauss	Remarks

19[15] JOAS readout error 33 - Missing LAM branch 3 crate 2 : muon chamber.

22[10] Permanent "Illegal ~~SETC~~ DATA" appear

Look at histogram and find big spike around ch 600 in "Mean hits/wire" histogram. It is 600 → 608

Hans Ambrus is on his way (he's actually at DESY) so we pause the run. The clear 0 clears the offending DL 8 (No 75) and all seems to be well once more

22[37] Σ ch. trip.
by chance!

22[30] Finally there was a "Value Failure" warning in the Rucksack. There was no indication in the counting room so we have no idea how long the alarm had been on. Also IBM P.C. not running.

On the IBM PC screen:
08/09/85 18:44:51 RUNTIME ERROR 1 PC = -21743
RUNTIME error 01, PC = AB11
Program aborted.

9/9/85 00:[00] hrs Dieckmann & Chrin on shift.

00:[20] Gas check done. All O.Kay.
1:41 valve failure Alarm (VTXC) cleared.
3:05 Start Run No 22709 without FAMP because of Time Out in Famp Transfer. (See Page 9).
Famp reloaded in parallel with data-taking.
3:53 start Run No 22710 with FAMP ON.

8:00 Barthel & Hughes on shift
8:00 gas check done
10:00 DL 8 #34 frequent 'Illegal fdc-Data' Rivaberg is there to investigate the problem.
DL 8 changed
10:25 CDC-engineer working on the disk drive
12:15 Ill. fdc-data DL 8 #75 risk remove Start from unit #75 ok call Rivaberg

12:55 Magnet trip secondary water flow too small. Try to kick flow meter. Does not help. Call K.
13[05] Blue drive has been repaired, is now "system disc" again J.O
14:30 Magnet problem: the flow of cooling water through our magnet decreased from 58 m^3/h on Oct. 1984 to 50 m^3/h as of today. In one of the cooling circuits (#10) the ~~pressure~~ flow is insufficient to switch the flow meter. An intermediate solution is found for tonight (only the absolute pressure will be measured in cooling circuit #10). Tomorrow we will have to switch off for a few hours to have K insert a new throttle diaphragm to increase the pressure drop caused by the water flow through branch #10. Next shut down we have to thoroughly check all cooling circuits and eventually clean ~~the~~ heat exchangers and pumps.
14:45 Magnet on again
16[00] Ambrus & Duerdoth.
16[30] Gas check done.
16[35] Magnet error — it went down to < 7400 amps & came up again.
16[40] JDAS GER 33 - MissingLAM br 2 cr 4; TOF Electr.
18[00] PKR have trouble with positrons; so we will keep this filling for another ½ hour or more.
21[00] New version of N50 program as test version - this can be tested by Jan Olsson at his convenience (HEM)
22[40] Will request dump at ~~00~~ 23[00] when PKR shift changes. 23[00]. No positrons and phase of transmitters has to be adjusted.

0[00] Kawagoe & Hardt on shift
0[20] Gas Check OK.
2[17] VTXC valve failure → cured.
3[05] New filling (9998) is ready. After "ok to start" JDAS console dead - reload N10
5[25] VTXC gas alarm (already the third time during this shift)
5[45] Filling 9999 ready
6[40] Start new run, but JDAS console immediately blocked - reload Nord
7[20] ID in VTXC soft trip

8.00 Middleton and Kuhlen on shift
8.01 IBM switched off, we write to tape
8.08 "Time out in FAMP transfer, slave and info: 1 99"; FAMP is now off
8.10 Magnet people want to do some repair at our magnet. They ask us to have the magnet run down at 9:30[4].
This will last ca. 3 hours.

RUN	DATE	START	STOP	AT RUN START I+	AT RUN START I-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL ×10⁶	TØ REJ ×10⁶	T₁ ACC SUM	T₂ ACC SUM	T₁ Bit 2 E_L6>6GeV	T₂ Bit 17 2T·E_L·≥2TR
22705	8/9/85	23:10	00:00	5.80	6.34	24.8	2917	8002	4352	758	188	3976	5720	993	32
22706	9/9/85	00:00	00:52	4.90	5.35	16.7	3066	8002	4037	797	132	4344	5566	1048	27
22707	"	00:52	1:37	4.18	4.58	14.5	2595	6393	3061	675	98	3602	4462	832	18
22708	"	02:16	03:05	6.37	6.41	23.3	2896	8002	4235	753	175	3859	5949	982	24
22709	"	03:05	03:53	5.45	5.49	16.1	2821	8001	4030	733	118	4071	5885	1015	34
22710	"	03:53	04:47	4.70	4.74	15.6	3219	8002	3833	837	130	4273	5800	944	22
22711	"	04:47	05:02	4.03	4.06	13.0	806	1972	941	209	27	1088	1423	244	7
22712	"	5:52	06:44	5.94	5.88	18.0	3073	8002	4090	799	144	3986	5855	946	27
22713	"	06:44	7:39	5.05	4.94	15.9	3221	8002	4020	838	133	4302	5865	991	26
22714	"	7:38	8:37	4.31	4.26	12.9	3442	8002	3718	896	116	4419	5895	958	20
22715	"	8:37	8:43	3.76	3.73	12.0	306	745	345	80	09	402	525	95	1
22716	"	9:53	10:00	6.26	6.42	23.0	342	945	509	89	2	431	624	82	1
22717	"	10:13	10:22	5.91	6.06	20.5	491	1332	646	127	26	594	991	151	7
22718	"	10:27	10:39	5.68	5.84	23.6	423	1078	527	110	26	535	774	112	5
22719	"	10:39	11:31	5.48	5.63	17.3	3115	8002	3978	810	140	4108	5917	959	30
22720	"	11:32	12:25	4.73	4.86	14.3	3179	8001	4040	827	118	4145	5678	984	19
22721	"	12:31	12:49	4.04	4.16	14.1	1034	2330	1116	269	38	1312	1673	324	9
22722	"	14:57	15:51	5.85	5.66	17.6	3187	8002	4109	830	146	3963	6152	960	27
22723	"	15:51	16:46	4.99	4.92	14.1	3256	8002	3861	846	120	4307	5953	981	33
22724	"	16:46	17:45	4.27	4.13	12.5%	3512	8002	3704	914	114	4515	5894	1044	21
22725	"	17:45	18:18	3.64	3.52	11.0%	1915	4161	1895	498	55	2363	3042	499	9
22726	"	19:49	20:44	5.17	5.39	15.1%	3259	8002	4004	848	128	4112	6187	1000	25
22727	"	20:44	21:42	4.37	4.57	12.5%	3415	8002	3788	886	111	4391	5995	1019	23
22728	"	21:42	22:43	3.71	3.89	11.1%	3641	8002	3435	947	105	4544	5951	969	26
22729	"	22:43	23:11	3.16	3.32	11.0%	1647	3628	1615	428	47	2080	2611	456	12
22730	10/9/85	23:37	0:24	6.14	6.32	21.7	2988	8002	4149	777	169	3913	5869	973	30
22731	"	0:28	1:19	5.24	5.41	13.2	3088	8002	3980	803	138	4194	5751	990	26
22732	"	1:20	2:16	4.49	4.65	12.8	3321	8002	3772	822	112	4446	5863	1046	21
22733	"	2:17	2:27	3.83	3.97	12.6	598	1429	681	156	20	796	938	200	4
22734	"			lost			(no events)								
22735	"	3:29	4:00	5.51	5.78	18.2	3005	8002	4081	782	142	4119	5913	1054	29
22736	"	4:00	4:51	4.71	4.95	14.7	3200	8002	3933	833	122	4345	5764	1060	23
22737	"	4:51	5:41	4.01	4.25	13.7	1606	3813	1837	418	57	2054	2775	493	11
22738	"	5:51	6:41	6.45	6.65	28.2	2914	8002	4273	766	216	3766	5887	1016	31
22739							(no events)								

RUN	PROCESSORS ON/OFF N50	MIP	TOF	FAMP	⟨L⟩ 10³⁰ cm⁻² s⁻¹	Bhabha ∫L dt nb⁻¹	∫L dt EXP. ENERGY	IBM / TAPE OUTPUT	AT RUN START ID (μA)	AT RUN START TOF (V)	ON LINE REJ. SUM MIPROC T₂ %	ON LINE REJ. NORD-50 T₁+T₂ %	Σ Bhabha	MH	E_BEAM	MAG FIELD -1×Gauss	REMARKS
22705	ON	ON	ON	ON	3.96	12,46	14103,76	FBM	1·4	1·0	42	48	141	0	21,800	4840	
22706	"	"	"	"	3,30	10,87	14114,63	"	1,2	0,8	44	52	133	2	21,802	4842	
22707	"	"	"	"	2.51	6,10	14120,73	"	1.0	0,6	47	55	69	0	21.800	4841	Beam dumped
22708	"	"	"	"	4,28	9,19	14129,92	"	1,5	1,1	41	50	104	6	21,802	4841	
22709	"	"	"	OFF	3,62	9,10	14134,02	"	1,2	0,8	44	52	103	4	21,802	4841	Pump off because of Timeout in Pump Transfer at run start.
22710	"	"	"	ON	2,61	8,04	14147,06	"	1,0	0,65	45	55	91	1	21,800	4841	Pump ON again.
22711	"	"	"	"	3,28	1,24	14148,30	"	0.9	0,55	46	55	14	0	21,800	4843	beams dumped
22712	"	"	"	"	4,08	13,17	14161,47	"	1.3	0.8	41	52	149	3	21,802	4842	
22713	"	"	"	"	3,10	8,66	14170,13	"	1.2	0,65	46	52	98	6	"	4842	
22714	"	"	"	"	2.30	7.77	14177,90	"	1.0	0,6	47	56	88	3	"	4841	
22715	"	"	"	"	1.92	0.62	14178,52	"	0.8	0.5	44	57	7	0	"	4840	
22716	"	"	"	"	4.01	0.71	14179,23	"	1.5	0.9	35	51	8	2	"	4840	
22717	"	"	"	"	3.50	1.86	14181,09	"	1.5	0.8	40	54	21	0	21.802	4840	
22718	"	"	"	"	3.33	0.71	14181,80	"	1.4	0.8	42	54	8	0	21.800	4838	
22719	"	"	"	"	2.97	7.77	14189,57	"	1.2	0.7	45	53	88	5	21.800	4841	
22720	"	"	"	"	2,30	7,42	14196,99	"	1.1	0.65	41	52	84	2	"	4842	
22721	"	"	"	"	1,85	1,77	14198,76	"			48	55	20	0	"	4843	Magnet trip, beam dump.
22722	"	"	"	"	3.72	12,98	14211,75	"	<1.0	<0.6	44	51	147	3	"	4842	
22723	"	"	"	"	3.08	9.01	14220.76	"	1.0	0.6	47	54	102	3	"	4847	
22724	"	"	"	"	2.21	8.30	14229.06	"	.85	0.6	49	56	94	1	"	4847	
22725	"	"	"	"	1.71	8.18	14232.24	"	.7	0.5	49%	57%	36	0	"	4853	beams dumped.
22726	"	"	"	"	3.40	10.16	14242.40	"	1,2	0,8	46%	52%	115	3	21,802	4850	
22727	"	"	"	"	2.58	8.04	14250.44	"	0.9	0.6	48%	55%	91	0	21,800	4843	
22728	"	"	"	"	1.90	6.71	14257.15	"	0.8	0.5	49%	59%	76	1	"	4843	
22729	"	"	"	"	1.39	2.39	14259.54	"	0.7	0.4	48%	58%	27	0	"	4841	beams dumped.
22730	"	"	"	"	4.20	11.48	14271.02	"	1.4	1.1	41	51	130	9	21800	4844	
22731	"	"	"	"	3.39	9.01	14280.03	"	1.2	0.8	44	53	102	3	"	"	
22732	"	"	"	"	2.55	7.78	14287.81	"	0.9	0.6	47	55	88	1	21,802	4843	
22733	"	"	"	"	2.07	1.41	14289.22	"	0.8	0.5	47	56	16	0	"	4842	Beams dumped
22734									1.3	1.2							
22735	"	"	"	"	3.71	10.51	14299.73	"	1.3	1.2	45	52	119	3	21,800	4838	
22736	"	"	"	"	2.89	9.45	14309.18	"	1.0	0.8	46	53	107	2	"	4828	
22737	"	"	"	"	2.32	3.27	14312.45	"	0.9	0.6	46	55	37	1	"	4842	beams dumped
22738	"	"	"	"	4.40	12.19	14324.64	"	1.5	1.2	40	49	138	0	21.802	4840	
22739																	

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{LG}>6$GeV	T_2 Bit 17 $2T\cdot E_4\cdot \geq 2TR$
22740	10/9/85	6[44]	7[33]	5.43	5.61	21.3	2977	8002	4099	775	165	4069	5865	1013	34
22741	"	7[37]	8[00]	4.62	4.53	14.7	1321	3440	1756	343	50	1877	2450	473	9
22742	"	8:07	9:02	4.32	4.48	13.1	3293	8001	3844	857	112	4469	5789	1063	20
22743	"	9:09	9:45	3.62	3.76	11.9	2136	4926	2241	556	66	2844	3530	655	10
22744	"	11:47	12:37	4.99	4.72	15.6	3161	8002	3959	823	128	3788	5916	908	25
22745	"	12:42	13:40	4.23	4.00	13.0	3507	8002	3791	913	119	4487	5790	979	28
22746	"	13:47	14:26	3.55	3.34	10.8	2262	4978	2200	589	63	2856	3603	599	13
22750	"	15:33	16:18	6.12	6.03	19	2622	8001	4082	683	130	3705	5947	972	40
22751	"	16:18	17:04	5.30	5.22	17.8	2742	8002	4038	714	127	3845	5732	1003	30
22752	"	17:05	17:55	4.60	4.52	14.4	2955	7990	3883	768	110	4042	5714	994	28
22753	"	18:23	19:11	5.98	5.71	15.6	2817	8002	4139	732	114	4034	5899	994	25
22754	"	19:11	20:02	5.15	4.90	13.7	3023	8002	3971	787	106	4372	5723	1113	26
22755	"	20:02	20:44	4.44	4.21	12.5	2466	5995	2813	642	80	3392	4298	872	11
22756	"	21:10	21:56	6.14	6.12	17.3	2748	8002	4318	715	124	3974	5794	1049	32
22757	"	21:56	22:45	5.28	5.25	15.2	2870	8002	4067	746	114	4334	5826	1218	20
22758	"	22:46	23:08	4.55	4.52	15.0	1270	3387	1695	330	49	1805	2392	500	13
22759	"	23:09	23:15	4.25	4.22	11.8	321	822	376	83	9.9	445	592	111	2
22760	11.9.85	0:02	0:50	5.99	5.90	15.4	2831	8002	4230	736	113	4104	5561	1078	32
22761	"	0:50	1:40	5.13	5.06	14.6	3005	8002	3932	782	114	4333	5679	1210	23
22762	"	1:41	2:34	4.42	4.35	12.5	3186	8001	3894	828	108	4571	5468	1179	12
22763	"	3:15	4:5	6.05	6.02	18	2760	8002	4324	718	134	3929	6002	1130	24
22764	"	4:05	4:55	5.2	5.14	14.1	2934	8002	4069	769	107	4286	5734	1222	34
22765	"	4:55	5:31	4.49	4.44	13.2	2111	5516	2752	549	72	3092	3867	842	20
22766	"	6:49	7:05	6.32	6.16	17.9	9761	8002	4330	713	128	3960	5939	1085	23
22767	"	7:05	7:54	5.45	5.32	15.1	2302	8002	4121	755	114	4298	5738	1218	34
22768	"	7:54	8:46	4.71	4.59	14.2	3069	8001	3979	798	113	4468	5575	1222	24
22769	"	8:48	9:07	4.06	3.95	11.4	1065	2540	1236	277	31	1496	1763	411	9
22770	"	9:32	10:15	6.23	6.35	19.5	2583	8002	4328	671	130	4014	5715	1178	25
22771	"	10:16	10:25	5.39	5.50	17.8	427	1337	762	110	19	668	890	168	4
22772	"	10:25	11:12	5.24	5.35	17.0	2786	8001	4302	724	123	4221	5736	1231	29
22774	"	14:20	15:09	4.99	4.98	15.4	2885	8001	4470	750	115	4151	5755	1074	34
22775	"	15:09	15:56	4.27	4.26	13.1	2573	6641	3351	669	87	3760	4762	937	23
22776	"	16:24	17:10	6.39	6.35	23.9	2544	8002	4472	662	158	3709	5840	1092	22
22777	"	17:10	17:56	5.53	5.51	17.9	2677	8001	4211	697	125	3994	5844	1094	29
22778	"	17:56	19:34	4.83	4.87	15.0	2204	6110	3189	573	86	3277	4486	873	20

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	$\langle L \rangle$ 10^{30} cm^{-2}s^{-1}	Bhabha $\int L dt$ nb^{-1}	$\int L dt$ EXP. ENERGY	IBM / TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ONLINE REJ. SUM MIPROC T_2 %	ONLINE REJ. NORD-50 T_1 & T_2 %	Σ Bhabha	MH	E_{BEAM}	Mag. Field −1×Gauss	Remarks
ON	ON	ON	ON	3.32	9.45	14374.09	IBM	1.2	0.9	43	51	107	1	21.800	4842	
"	"	"	"	2.78	4.33	14338.42	"	1.05	0.75	46	52	49	1	21.802	4833	IBM stopped
"	"	"	OFF	2.24	7.51	14345.93	TAPE	0.9	0.65	48	55	85	1	21.802	4842	
"	"	"	ON	1.71	3.71	14349.64	TAPE	0.8	0.55	49	57	42	1	21.802	4842	beams dumped
ON	ON	ON	OFF	2.85	9.98	14359.62	TAPE	2.2	1.1	41	53	113	2	21.802	4844	
"	"	"	ON	2.02	6.89	14366.51	TAPE	1.0	0.6	48	55	78	4	21.800	4842	
"	"	"	"	1.53	3.36	14369.87	"	0.8	0.5	49	58	38	0	21.800	4844	
ON	ON	ON	OFF	4.24	11.12	14380.99	TAPE JDAS88	1.4	1.5	41	52	110	2	21.800	4841	runs 22747 – 22789 do not exist
"	"	"	"	3.30	8.75	14388.74	IBM	1.5	1.0	41	53	99	0	21.800	4844	
"	"	"	"	2.63	8.22	14396.96	"	1.3	0.85	43	54	93	2	21.802	4847	beams dumped
"	"	"	"	4.22	9.01	14405.97	"	1.3	1.5	44	51	102	0	21.802	4847	
"	"	"	"	3.10	8.22	14414.19	"	1.1	0.8	47	53	93	4	21.802	4848	
"	"	"	"	2.47	5.74	14419.93	"	1.0	0.65	48	56	65	0	21.800	4847	beams dumped
"	"	"	"	4.32	10.60	14430.53	"	1.4	1.2	44	49	120	4	21.802	4847	
"	"	"	"	3.39	8.92	14439.45	"	1.2	0.85	46	52	101	4	"	4847	
"	"	"	"	2.68	2.65	14442.10	"	1.0	0.7	44	53	30	2	21.800	4847	Stopped to check TOF rate overload.
"	"	"	"	2.70	0.88	14442.98	"	1.0	0.7	47	57	10	0	21.802	4847	beams dumped.
"	"	"	"	4.35	11.65	14454.63	"	1.3	1.0	44	50	132	2	21.800	4847	
"	"	"	"	3.34	9.10	14463.73	"	1.1	0.75	46	54	103	3	21.802	4848	
"	"	"	"	2.58	6.10	14469.83	"	1.0	0.7	47	54	69	1	21.800	4847	beams dumped
"	"	"	"	4.05	10.6	14480.43	"	1.4	2.0	44	49	120	3	21.800	4847	
"	"	"	"	3.3	9.9	14490.33	"	1.2	0.8	46	52	112	4	21.802	4847	
"	"	"	"	2.48	4.59	14494.92	"	1.0	0.7	47	53	59	1	21.800	4847	beams dumped
"	"	"	"	4.38	9.54	14504.46	"	1.4	1.3	43	48	108	2	21.800	4847	
"	"	"	"	3.51	10.25	14514.71	"	1.2	0.9	45	51	116	0	21.800	4846	
"	"	"	"	2.53	7.07	14521.78	"	1.0	0.75	46	53	80	0	21.800	4847	
"	"	"	"	2.08	1.66	14523.44	"	0.9	0.6	50	54	21	1	21.800	4847	beams dumped.
"	"	"	"	4.34	9.72	14533.16	"	1.4	1.25	42	49	110	1	21.802	4847	
"	"	"	"	3.71	0.53	14533.69	"	1.2	1.0	39	46	6	0	21.800	4847	run stopped because of low LG ADC after the run; problem of LG ADC
"	"	"	"	3.25	4.95	14538.64	"	1.2	0.95	45	49	56	4	21.800	4847	No further runs because of LG ADC problem.
"	"	"	"	3.93	8.04	14546.68	"	1.1	0.8	44	46	91	2	21.802	4847	Running through New Fill; Run 22773 not existing.
"	"	"	"	2.12	5.48	14552.16	"	1.0	0.7	49	52	62	2	21.800	4847	beams dumped
"	"	"	"	3.08	6.80	14558.96	"	1.4	1.5	47	47	77	1	"	4847	
"	"	"	"	2.71	6.27	14565.23	"	1.3	1.3	43	50	71	5	"	4840	
"	"	"	"	2.41	5.65	14570.88	"			47	51	61	1	"	"	Beams lost

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{LG}>6$GeV	T_2 Bit 17 $2T\text{-}E_4\cdot>2$TR

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	$\langle L \rangle$ $10^{30}\,\text{cm}^{-2}\,\text{s}^{-1}$	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ EXP. ENERGY	IBM TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ONLINE REJ SUM MIPROC T_2-%	ONLINE REJ NORD-50 T_1 & T_2 %	Σ_{Bhabha}	MH	E_{BEAM}	Mag. Field -1 x Gauss	Remarks

30 10.9.85

9.45 Amplitudes of DL 8 # 35 (wires 280-287) died yesterday at 18h during run # 22725
Why you do not take standard histograms during your shift? Rey
Error was noticed during run # 22743

9.45 Magnet run down for cooling system maintainance.

11.30 Several TRANSP!! - Errors. But System-disk into del (average) Drive C.K.

11.44 Magnet o.k. again,
tried to start a new run, but forgot to switch on HV. → Nord crashes

11.45 run 22744 in progress
Time out in FAMP transpr, slave and insp: 1 99

13.47 It was foreseen to switch from DESY II to DESY I. This means that we couldn't have a new fill for the next hours. They ask the PETRA experiments to have half an hour in addition to do some work there. All agree, so we will have the next fill at 3 o'clock (they promise), and will keep this one until then.

14.40 Injection

3.20 Nord hangs whilst starting run ... then no response from Nord at all ⇒ re-load.

15.28 when starting a run, it stops after a few seconds with →
"YPARA 52, error during LG pedestal runs"
history: 1. run started (22747)
2. FAMP error, switches off by itself
3. run stopped
4. FAMP switched on via MICROS-CTRL, not reloaded
5. run started → Nord 10 hangs up level 9
6. Nord 10 reloaded
7. run started → YPARA 52 error

runs 22747 to 22749 do not exist!

no obvious hardware or CAMAC fault, but run 22750 could be started successfully when switching off the FAMP.

15.54 IBM is back, but we continue with this tape for this run.

16.00 Steglewa & Olsson on Shift.

16.30 Gas check done but P18 was 7.5 ↓ ~5.3 and P22 was ~5.5 and is now ~3.5. checking through past lists indicates that this does occasionally happen.
17.00 Kreislauf for 90:10 was high so Methan flow was adjusted. Noise from B2 ceased
20.00 Methan flow was compensated so readjust flow to ~16.7
Methan concentration seems to be about right now
P18 now 5 and P22 ~2.9.

31

21 Howards last version of NSOOAR makes correct trigger histograms, made it standard version.
FAMP investigation: 1 slave is dead †. The supervisor has recognized this and now says there are 2 slaves.
In principle we can run with 2 slaves, this will be investigated at next fill.. J.O.
Next fill at 23.00 FAMP confused, no slaves more... Leave it!

21.00 Talk with Herr Kessler of B2 re gas. He said the fall in P22 & P18 values is probably due to rising atmospheric pressure which causes less gas to be returned from the detector. P22 should not be allowed to fall below 1. If it continues to fall increase "fresh gas input" ie increase the flows through the two flow meters - but make sure the UNDER reading (10.0) remains the same
Herr Kessler will come down to mezzo to make sure everything is OK.
Hu home No 665197. According to I.D by both Atmosphere Pressure is rising.

21.30 P18 5 P22 2.9

23.10 Fan of Crate 2:3 (TOF) making noise, although green status. Stop Run, switch power off/on, → overload, then green status again, no noise. Reload TOF proc. (F15, F11, F1), start new Run.
Tomorrows shiftcrew should call Mr Bergmann, for Gould plotter service (tel 2564)

11.9.85

0.00 Hughes & Dittrich

0.20 Gas check done P18 5. P22 2.7

1.00 Readout Error 46 - HP-16 - out of sequence; YY=1

3.00 Problems with Nord (Waiting for IBM Card for 10min) the Nord hung up, Reloaded Nord, by starting JDAS following Errors occured on the Lam point: File Open Error 000116 for Rampoa ... called Jan, Problem was solved by REBUILD JDAS.

3.50 Readout Error 33 15 x

8.00 Ambrus & Chrin

8.05 Gas check done. P18 4.5 P22 2.2

8.48 For Crate 2,3 (TOF) again sounding an alarm for unknown reason. Waited until Run End before switching power off/on. This gave a momentarily "overload" before settling with green status lamp on. Now, no alarm.
Reload TOF & start New Run.

10.15 Run No. 22771 stopped because of YPARA error 24: Too low Pedestal in lead glass APC.
" " 22772 started but same error message after pedestals readout. Trying to reach Kawagoe.
Meanwhile Run continues.

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{LG}>6$GeV	T_2 Bit 17 $2T\text{-}E_t\cdot \geq 2$TR

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	<L> 10^{30} cm^{-2} s^{-1}	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ EXP. ENERGY	IBM ↔ TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ONLINE REJ. SUM MIPROC T_2 %	ONLINE REJ. NORD-50 T_1 & T_2 %	Σ_{Bhabha}	MH	E_{BEAM}	Mag. Field ~1 x Gauss	Remarks

10:20 Gould Plotter serviced by H. Rieseberg. (Water pool had dried up). Printout now back to normal quality.

11:00 Kawagoe on the way to hall.

11:12 Unable to start run 22773 because of FBI link problem. Nord Hang-up ∴ reload. (J.O. is here). Meanwhile Kawagoe is working on the faulty LG ADC. Data taking NOT in progress.

12:15 Gas thrown P22 → 3,0 P18 → 5,5 (Heading back to normal values).

14:20 Leadglass problem (8 ADC missing, 48 channels) traced to faulty 2282 processor. The exchange brought many problems, 1 spare can only read 96 channels (instead of 160), the others can only be adressed at 0 (Just to use in crate 6,7), and crate 5 had a screwhole that did not screw (Hausbender fixed it..). After all this exercise, 4 ADC channels turn out to be bad. We decide to continue with them in next fill period, and take data meanwhile (and eat something!) Kawagoe / Olsson
└ chips?

15:10 Vertex + I.D. Soft Trip.

16:00 H. Mills & H. Krehbiel on shift

16:24 new fill ready. run #22776 started. Still some LG problems.
16:40 Soft trip ok ID & BP-Clt
16:50 Missing LAM br2 cr3 TOF1
17:30 Complaints from Tassr that the Luminosity is low. They may be right.
Compare with today 10:00 Run 22777, with curr. = 2x 5.4 mA Lumi = 3.77, now 2.00.
Complaining helped a bit; The green (corrected) Lumi on TV = 3.89, but high backgrd.
Background better. SL now 22.28 E28
17:40 Tassr states "Very big improvement"; Called Bartel. He promised to poke further in PKR
17:46 JDAS Evt 33. Mrs LAM 2/4 TOF2
18:00 HEM submits Reform Job.
18:33 Beams lost – "Senderausfall"
19:05 "Short Break" Senderausfall. Mark J wanted ~~tot~~ tempor. access. Broken wire in chamber. They want to disable 1/4 of chamber. — strong smell as from burning rubber in hardware section. Not localizable. – Air cond room Ok. Outside there is a faint hint of same smell. HEM says it smells like melting styrofoam

20:05 Beams up again. Fine conditions
20:30 Beams 2x 5.8 mA, SL 22.28 E28, AL 4.07, ToF 1.25 V, DT. 19%
21:35 Another REFORM job submitted.
22:40 YSPY reports hole in T1 input histogram – its correct!:- in the LG endcaps
A cable was found to be hanging out. This must have been so all fill – previous histograms show very low counts in this bin. Odd that there are any counts at all. (Sorry!! K. Kawagoe)
22:59 High TOF rate background – due to TASSO magnet trip. Beams dumped as arranged.
New version of YRUNSUM installed – spot the difference.

~~27~~ 23:25 "Short break" Linac II trouble. May be 1/2 hour. We run the magnet down

12.9.85 0:00 Dietrich & Warming

0:05 Injektion started set magnet to stand A's.
gas check done ✓ → why did the previous shift not do the gas check ?? Sorry! I got to.
new fill ready, but bad background for 15 min
at run start NORD problem, Nord in idle-loop at "~~RBH~~ waiting for IBM link"
we restart NORD, everything is fine thereafter.

8:00 Dieckmann + Hughes.
8:20 Gas check done
9:10 Nord drivers exchanged (for testing purposes). Shift should report any Nord Errors To whom?
[redacted]
16:00 Glaues & Ambrus
Gas check done
20:17 called for a new fill, BKR says synchrotron not working, near fill not possible
22:27 HV was off in LG crate 3; Kawagoe not ~~abl~~ ottice or TSO restart LG setting program
23:30 Nr YSPY Errors: Muon chambers.

∫Lumi record: Last Run of 11/09/85: 14599.33
Last Run of 12/09/85: 14798.30
A = 199.0

R 22807-808
with part of LG off

13.9.85 (Friday) J. Spitzer and H. Riesberg on shift.

J. Chrin is here to solve Muon Digitizer problem.
02:50 Muon crate 11 was wildly oscillating and consequently t_0-V_D plus V_D for this crate was drastically reduced → badly to the YSPY errors. Two chambers disconnected because of high currents #357 & #356 (Total dead + dem is now 24). Volts are now back up to nominal values & so far, station (i.e. crate 11) performing as normal. H.S.

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{L6} > 6$ GeV	T_2 Bit 17 $2T \cdot E_H \cdot \geq 2TR$
22779	11/09/85	20:06	20:53	6.36	6.36	19.4	2686	8002	4304	699	134	3636	6152	1016	41
22780	"	20:53	21:41	5.50	5.49	15.9	2866	8002	4066	765	118	3917	6257	1083	28
22781	"	21:41	22:33	4.74	4.74	14.0	3071	8002	4013	798	111	4241	6084	1163	33
22782	"	22:33	23:04	4.09	4.08	14.0	1568	4142	2074	407	57	2269	2973	611	14
22784	12/9/85	0:34	1:21	5.85	5.72	18.0	2755	8002	4217	716	128	4009	5940	1150	22
22785	"	1:21	2:11	5.03	4.92	15.7	2849	8002	4111	741	116	4196	5766	1104	31
22786	"	2:12	3:03	4.3	4.21	13.6	3037	8002	3920	730	107	4354	5798	1096	23
22787	"	3:03	3:19	3.71	3.63	12.9	904	2296	1126	235	30	1251	1650	334	11
22788	"	4:01	4:45	6.27	6.14	22.2	2603	8001	4280	677	150	3712	5580	1005	42
22789	"	4:45	5:31	5.42	5.30	16.5	2733	8001	4178	711	117	4046	5707	1133	20
22790	"	5:32	6:22	4.69	4.59	13.5	2989	8001	3973	787	105	4214	5781	1050	29
22791	"	6:23	6:50	4.04	3.95	133	1525	3990	1948	409	54	2173	2283	516	13
22792	"	7:20	8:06	6.34	6.28	17.0	2754	8002	4369	716	121	4079	5700	1100	22
22793	"	8:06	8:55	5.41	5.36	14.2	2888	7788	4088	751	106	4199	5605	1131	33
22794	"	9:07	9:50	4.46	4.42	25.4	2574	8001	4310	670	170	3651	5702	1004	38
22795	"	9:51	10:04	3.94	3.90	14.3	541	1537	820	140	20	799	1072	231	4
22796	"	10:49	11:34	6.22	6.17	18.7	2631	8002	4426	684	127	4111	5644	1138	19
22797	"	11:34	12:21	5.35	5.28	15.6	2770	8002	4261	720	112	4306	5642	1137	19
22798	"	12:21	13:14	4.60	4.53	14.5	3108	8002	4079	808	117	4579	5671	1229	20
22799	"	13:14	13:31	3.93	3.86	12.5	991	2590	1092	257	32	1486	1753	401	6
22800	"	13:59	14:45	6.32	6.32	26.9	2668	8001	4495	694	187	3905	5557	1097	24
22801	"	14:44	15:32	5.42	5.41	17.4	2759	8002	4286	718	124	4219	5629	1150	25
22802	"	15:32	16:18	4.66	4.64	16,8	2698	8002	4339	702	118	4221	5581	1187	32
22803	"	16:18	16:58	4.06	4.04	14.3	2531	6198	3171	611	87	3444	4403	905	14
22804	"	17:33	18:17	5.88	5.87	21,6	2584	8002	4446	672	145	3977	5496	1097	26
22805	"	18:17	19:04	5.09	5.06	16.4	2786	8002	4201	724	119	4275	5705	1146	29
22806	"	19:05	19:56	4.38	4.36	13.1	3046	8001	4046	792	104	4497	5984	1151	21
22807	"	19:58	20:37	3.76	3.74	12.0	2529	5274	2620	658	78	3092	3762	802	22
22808	"	21:32	22:05	6.34	6.32	22.9	703	2158	1241	182	41	944	1328	283	6
22809	"	22:15	23:01	5.87	5.83	19.4	2717	8002	4303	706	129	4029	5841	1038	18
22810	"	23:01	23:38	5.07	4.97	14.1	2193	5864	3067	570	80	3129	4263	834	21
22811	"	23:38	0:39	4.49	4.40	14.1	3311	8002	4030	861	121	4558	5614	1109	37
22812	13.9.85	0:57	1:27	3.58	3.48	11.7	1725	3829	1701	449	52	2277	2655	521	13
22813	"	1:55	2:39	6.20	6.06	18.4	2633	8002	4366	685	126	3949	5695	1078	31
22814	"	2:50	3:27	5.34	5.18	15.3	2827	8001	4161	735	112	4305	5586	1134	21

PROCESSORS ON/OFF NSO	MIP	TOF	FAMP	$\langle L \rangle$ $10^{30}\,cm^{-2}s^{-1}$	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ EXP. ENERGY	IBM/TAPE OUTPUT	AT RUN START ID (μA)	AT RUN START TOF (V)	ONLINE REJ. SUM MIPROC T_2 %	ONLINE REJ. NORD-50 T_1&T_2 %	$\sum$ Bhabha	MH	E_{beam}	Mag. Field −1×Gauss	Remarks
ON	ON	ON	OFF	3.90	9.98	14580.86	IBM	1.5	1.4	42	49	115	5	21.802	4840	None
"	"	"	"	3.03	8.75	14589.61	"	1.2	1.2	45	52	99	2	"	"	
"	"	"	"	2.31	7.42	14597.03	"	1.0	1.0	48	53	84	0	21.800	"	
"	"	"	"	1.53	2.30	14599.33	"	0.9	0.8	48	53	26	0	"	"	Beams dumped
"	"	"	"	4.08	11.22	14610.55	"	1.4	1.5	43	50	127	3	21.800	4829	
"	"	"	"	3.29	10.25	14620.80	"	1.3	0.9	45	51	116	2	21.800	4847	
"	"	"	"	2.39	7.95	14628.75	"	1.0	0.8	46	54	90	2	21.800	4847	
"	"	"	"	1.94	1.5	14630.25	"	0.9	0.7	46	54	17	1	21.800	4847	Beams dumped
"	"	"	"	4.24	9.72	14639.97	"	1.7	1.5	37	49	110	4	"	"	
"	"	"	"	3.45	9.10	14649.07	"			42	50	103	1	"	4844	
"	"	"	"	2.7	7.77	14656.84	"	~~1.1~~	~~0.75~~	44	53	88	1	"	4846	
"	"	"	"	2.17	3.53	14660.37	"	0.9	0.65	45	54	40	0	21.802	"	Beams dumped
"	"	"	OFF	4.83	10.78	14671.15	"	1.3	1.3	42	48	122	4	21.800	4846	
"	"	"	"	3.51	9.28	14680.43	"	1.1	0.75	46	50	105	1	21.802	4845	Run stopped (Nord Hardware Test)
"	"	"	"	1.75	3.62	14684.05	"	1.0	1.0	43	49	41	0	"	4847	(Background optimized)
"	"	"	"	1.54	0.71	14684.76	"	1.0	1.0	45	50	8	0	"	4846	Beams dumped
"	"	"	"	4.91	11.13	14695.89	"	1.3	1.0	43	47	126	0	"	4847	
"	"	"	"	3.92	9.28	14705.17	"	1.2	1.0	45	49	105	0	"	4847	
"	"	"	"	2.79	8.04	14713.21	"	1.0	0.8	48	51	91	3	"	4847	
"	"	"	"	2.37	2.65	14715.86	"	0.8	0.65	47	53	30	1	"	4848	Beams dumped
"	"	"	"	4.40	11.13	14726.99	"	1.4	1.2	40	46	126	5	"	4849	
"	"	"	"	3.19	8.22	14735.21	"	1.2	1.0	44	49	93	1	21800	4850	
"	"	"	"	2,56	5,92	14741.13	"	1.0	0.85	44	49	67	3	21.802	"	
"	"	"	"	2.03	3.98	14745.11	"	1,1	0,75	47	51	45	5	21.802	"	Beams dumped
ON	ON	ON	OFF	4,06	9,98	14755.09	"	1.5	1,9	40	47	113	0	21,800	"	
"	"	"	"	3,31	10,25	14765.34	"	1,2	0,9	45	50	116	2	21.800	4850	
"	"	"	"	2,44	7,33	14772.67	"	?	?	47	52	83	6	21.800	4850	
"	"	"	"	1.63	3.98	14776.65	"	0.6	0.8	51	53	45	1	21.800	4848	→ Beams dumped (tried for new bill - synchrotron not working ALESTINATE)
"	"	"	"	5.23	3.09	14779.74	"	1.6	1.2	39	45	75	2	21.802	4847	LG obb supply 3 →
"	"	"	"	4.02	9.28	14789.02	"	1.2	0.8	42	49	105	3	21.800	4850	bad gben hv reset
"	"	"	"	3.12	6.45	14795.47	"	1.1	0.7	45	50	73	1	21.800	4849	mux ch error
"	"	"	"	2.52	6.80	(14798.30 Mid night) 14802.27	"	1.0	0,6	48	52	77	3	21.800	4850	"
"	"	"	"	1.70	3,45	14805.72	"	0.8	0,45	49	58	39	1	21.800	4847	Beams dumped
"	"	"	"	4.54	11.22	14816.94	"	1.6	1.2	41	48	127	2	21.800	4847	
"	"	"	"	3.60	10.51	14827.45	"	1.2	0.8	44	51	119	1	21.802	4847	

RUN#	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{LG} > 6$GeV	T_2 Bit 17 $2T \cdot E_\gamma \geq 2$TR

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	$\langle L \rangle$ 10^{30} cm^{-2} s^{-1}	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ EXP. ENERGY	IBM TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ONLINE REJ. SUM MIPROC T_2-%	ONLINE REJ. NORD-50 T_1&T_2 %	Σ Bhabha	MH	E_{BEAM}	Mag. Field -1 x Gauss	Remarks

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0^{25} Gas check OK

0^{35} At the start of a new Run comes up the expected (from J. Olsson) TRANSF!! error. With the help of Jan Olsson on the telephone line we switched the System Disc from the blue to the orange drive. See also A9 in the JDAS Manual.

0^{57} Start Run # 22812

Lead glass Pedestal Error in Crate 1, Channel 144 > 500 still there. We were unable to read K. Kawagoe by phone. He will be on the 8 o'clock shift

1^{27} Stop for beam dump.

1^{50} New filling ready, R 22813 started

YVOLTS : TA6 - Mainframe 56, channel 19 HV = 2690 instead of 2700 → Try to reset: Needs Does not require resetting.

~3^{15} Two magnet fluctuations

We have a semi-alarm in the TOF CAMAC crate (Branch 2, Crate 3): Green status lamps on, but buzzer is abstling: Same error as described on page 31

4^{20} Reset the alarm by crate off/on. Reload Miproc A99

5^{15} Stop: Run # 22816 for beam dump

5^{35} VTXC Valve failure, reset

5^{50} New filling ready, Start R 22817

6^{10} Magnet fluctuates !!!! only small fluctuations (± 10 A) seen

7^{25} TOF CAMAC crate starts again to be noisy

8^{00} Kawagoe + Olsson on shift

8^{50} The ADC pedestal problem has been solved.

9^{10} Short break: We do Disc Copy. Broken slave nr 2 exchanged in FAMP, test run OK, to be on real data taking again.

10^{20} New fill ready, but LG distributor 4 & 8 dead. Kawagoe searches for broken PM, drawing overcurrent.

11^{6} LG problem fixed, TOF Q:3 fan exchanged meanwhile, start Run finally.
FAMP fails immediately LG counter nr 15-7-18 dead, from R 22821

11^{30} Mum chamber #358 re-connected (9's neighbor # 357 is still dis-connected) : Total dead is Now 23 chambers.
If Ns dead exceed 23 - call expert.

16^{00} Cofferight, Lemke

16^{15} Gas check done, Kreisdauf only 9.6, but some evidence that someone's already readjusted the ethane (it's higher than it was this morning). Decide to look again in a couple of hours.

16^{20} Vertex chamber anode current seen to be "kicking" from 50 to 80 t. Possibly result of PKR's optimisation efforts.

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18^{10} Ethane adjusted in gas house (17.1 → 17.4).

18^{30} PETRA announces "break for about 5 hours"

19^{00} Asked PETRA what's wrong — they say water leak in klystron, klystron will have to be changed, this will take "at least the rest of this shift". Magnet → 300 A

22^{20} PETRA INJECTION Magnet → 7500 A

22^{50} Back to Short break!

14.9.85 0:00 Ambrus and Kado on shift

0:19 gas ok,
PKR: Restart eq. 7:30 / Magnet → 300 Amps

7:15 PKR: Injection / Magnet → 7500 Amps

1:35 start run # 22830, VTXC soft trip Q2 (bad beam conditions)

1:38 ID + VTXC soft trip

1:44 ID hard / VTXC soft trip

1:54 VTXC soft trip Q2

2:30 " " " Q2 (thresholds readjusted)

8^{00} Ruseberg + Feldt on shift

8^{20} gas check done Kreislauf 10:2, reduced slightly Ethan flow

8^{45} Beams dumped

9^{40} New Filling ready

Event display got stuck at a very nice 4 jet event at 7:29

At command NEXT EVENT : YECOPY DID NOT RETURN AN EVENT - MAYBE RUN NOT IN PROGRESS

Histogramming works

10^{30} At start of Run # 22839 the NORD hangs up after the last →
No reaction on Terminal 9, reset does not help
Reload of Nord does not work. No error message on system console
Disc-drive on FAULT (orange one)
We call Jan Olsson • Investigation of disc-drive
1.) Arms are drawn back
2.) Error LED's : Lowest is on



3.) Reset of Fault is not possible

Serlog Nr. B
2 EXP - part
Tel. 700 8800

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{LG} > 6$ GeV	T_2 Bit 17 $2T \cdot E_4 \geq 2TR$
22815	13.9.85	3:28	4:21	4.58	4.42	12.9	3155	8002	3986	821	106	4595	5596	1188	29
22816	〃	4:24	5:15	3.87	3.72	11.8	3046	7186	3352	793	93	4147	5011	1004	26
22817	〃	5:51	6:36	6.08	5.99	19.3	2668	8001	4371	695	134	3849	5679	1027	20
22818	〃	6:37	7:24	5.21	5.09	15.9	2847	8002	4081	741	118	4334	5478	1145	24
22819	〃	7:25	8:17	4.46	4.33	13.4	3124	8001	7511	814	109	4501	5555	1101	23
22820	〃	8:18	8:37	3.62	3.48	19.8	1052	2561	1267	274	35	1452	1748	349	6
22821	〃	11:08	12:03	4.43	4.32	13.4	3292	8001	3983	857	115	4223	5810	1053	37
22822	〃	12:04	12:21	3.76	3.64	11.5	982	2323	1116	255	29	1351	1595	303	3
22823	〃	12:47	13:32	6.43	6.01	18.8	2677	8002	4346	697	131	3913	5708	1016	28
22824	〃	13:33	14:21	5.55	5.13	15.0	2879	8002	4103	749	112	4231	5725	1076	20
22825	〃	14:21	15:08	4.78	4.38	14.3	2776	7592	3986	722	103	4157	5389	1064	30
22826	〃	15:39	16:23	6.13	6.11	18.9	2643	8001	4470	688	130	4034	5675	1087	26
22827	〃	16:24	17:09	5.27	5.08	17.6	2714	8002	4331	706	124	4362	5557	1214	28
22828	〃	17:10	17:58	4.84	4.26	14.4	2884	8002	4292	642	108	4470	5664	1280	24
22829	〃	17:58	18:22	3.52	3.67	13.2	1367	3641	1871	356	47	20916	2544	590	13
22830	14.9.85	1:32	2:28	6.07	6.09	20.3	2645	8002	4170	688	140	3711	5869	983	33
22831	〃	2:28	3:18	4.86	5.03	14.2	2957	8002	3990	768	109	4200	5700	1043	25
22832	〃	3:18	4:14	4.20	4.36	12.9	3360	8002	4000	874	113	4472	5795	1154	29
22833	〃	4:15	5:03	3.58	3.72	11.3	2840	6379	3015	739	84	3705	4595	935	18
22834	〃	5:36	6:21	6.09	6.14	18.0	2682	8001	4258	698	126	3930	5652	1067	26
22835	〃	6:21	7:10	5.22	5.27	14.5	2892	8001	4058	753	109	4274	5649	1137	25
22836	〃	7:10	8:04	4.46	4.50	13.0	3221	8002	4009	838	109	4495	5696	1100	31
22837	〃	8:05	8:46	3.78	3.82	12.1	2429	5686	2750	632	76	3314	4027	780	13
22838	〃	9:40	10:27	6.01	6.07	17.7	2687	8001	4283	700	124	3886	5691	1011	21
22840	〃	11:06	11:57	4.58	4.59	13.0	3056	8001	3969	796	103	4443	5645	1153	23
22841	〃	12:02	12:32	3.87	3.88	13.7	1753	4479	2146	457	63	2523	3110	641	16
22842	〃	14:30	14:40	6.16	6.27	51	413	891	531	107	55	397	626	109	2
22843	〃	14:44	14:53	5.87	5.92	29.6	468	1206	625	121	36	622	823	153	1
22844	〃	15:00	15:31	5.58	5.60	25.4	1737	4415	2358	452	115	2233	3176	596	12
22845	〃	15:59	16:52	4.60	4.60	12.9	3169	8002	3900	826	106	4450	5728	1137	23
22846	〃	16:53	17:52	3.90	3.90	11.0	3522	8002	3604	917	101	4697	5711	1060	19
22847	〃	17:53	18:24	3.30	3.30	10.2	1682	3747	1630	437	44	2205	2609	509	7
22850	〃	19:39	20:25	5.67	5.64	16.0	2722	8002	4237	709	114	4129	5679	1038	27
22851	〃	20:26	21:17	5.01	4.98	13.1	3046	8002	3913	792	103	4435	5599	1103	29

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	$\langle L \rangle$ 10^{30} cm^{-2}s^{-1}	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ EXP. ENERGY	IBM / TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ONLINE REJ. SUM MIPROL T_2 %	ONLINE REJ. NORD-50 T_1 & T_2 %	Σ_{Bhabha}	MH	E_{BEAM}	Mag. Field −1 x Gauss	Remarks
ON	ON	ON	OFF	2.80	8.84	14836.29	IBM	1.0	0.7	48	53	100	1	21.802	4847	
〃	〃	〃	〃	1.98	4.77	14841.06	〃	0.8	0.55	48	56	54	1	21.800	4847	
〃	〃	〃	〃	4.66	11.13	14852.19	〃	1.8	1.2	40	48	126	5	21.802	4845	
〃	〃	〃	〃	3.55	10.16	14862.35	〃	1.3	0.85	44	51	115	2	21.802	4847	
〃	〃	〃	〃	2.53	8.39	14870.74	〃	1.0	0.7	47	53	95	1	21.800	4846	
〃	〃	〃	〃	2.15	1.50	14872.24	〃	0.9	0.55	47	53	17	0	〃	4846	Beams dumped.
〃	〃	〃	〃	2.23	8.13	14880.37	〃	1.2	0.7	45	53	92	5	〃	4850	
〃	〃	〃	〃	2.23	2.83	14883.20	〃	0.9	0.6	49	55	32	0	21.802	4850	Beams dumped.
〃	〃	〃	〃	4.21	10.51	14893.71	〃	1.7	1.0	41	48	119	0	〃	4850	
〃	〃	〃	〃	~~3.39~~ 3.20	8.39	14902.10	〃	1.2	0.75	44	51	95	4	〃	4852	
〃	〃	〃	〃	2.84	6.54	14908.64	〃	1.0	0.65	46	50	74	2	〃	4853	Beams dumped
〃	〃	〃	〃	4.33	11.31	14919.95	〃	?	?	42	47	128	3	21.800	4853	
〃	〃	〃	〃	3.24	8.75	14928.70	〃	1.2	0.8	45	48	99	2	〃	〃	
〃	〃	〃	〃	2.65	6.63	14935.33	〃	1.0	0.75	47	49	75	2	〃	〃	
〃	〃	〃	〃	1.96	2.83	14938.16	〃	0.8	0.65	49	51	32	1	〃	〃	Beams dumped
〃	〃	〃	〃	3.64	9.98	14948.14	〃	2.0	1.5	40	51	113	4	21.802	4851	
〃	〃	〃	〃	2.97	6.72	14954.86	〃	1.3	0.8	44	53	76	0	〃	4858	
〃	〃	〃	〃	2.43	7.16	14962.02	〃	1.0	0.65	48	53	81	3	21.800	4859	
〃	〃	〃	〃	1.82	5.17	14967.19	〃	0.8	0.5	50	55	57	1	〃	4857	beams dumped
〃	〃	〃	〃	4.94	11.93	14979.12	〃	1.4	1.2	40	50	135	3	〃	4859	
〃	〃	〃	〃	3.93	10.87	14989.99	〃	1.2	0.8	44	52	123	1	21.802	4859	
〃	〃	〃	〃	2.95	8.39	14998.38	〃	1.0	0.65	47	53	95	3	21.802	4859	
〃	〃	〃	〃	2.33	4.77	15003.15	〃	0.8	0.55	50	54	54	1	21.802	4859	Beams dumped
〃	〃	〃	〃	4.33	9.54	15012.69	〃	1.6	1.4	41	49	108	1	21.802	4860	No Run # 22839
〃	〃	〃	〃	2.52	7.33	15020.02	〃	1.0	0.65	46	53	83	1	21.800	4860	
〃	〃	〃	〃	2.34	4.42	15024.44	〃	0.9	0.7	47	55	50	0	21.800	4860 → 4840	beams dumped
〃	〃	〃	〃	3.16	1.24	15025.68	〃	1.5	1.3	36	44	14	0	21.800	4840	problems with readout of T_2, T_3, ID current
〃	〃	〃	〃	3.91	2.12	15027.80	〃	1.4	1.2	38	51	24	2	21.800	4840	
〃	〃	〃	〃	3.69	5.92	15033.72	〃	1.3	0.1	42	49	67	2	21.802	4840	
〃	〃	〃	〃	2.71	9.01	15042.73	〃	1.0	0.65	47	54	102	2	21.800	4841	
〃	〃	〃	〃	1.95	6.80	15049.53	〃	0,9	0,55	49	57	77	2	21.802	4840	
〃	〃	〃	〃	1.52	2.56	15052.09	〃	0,7	0,44	48	59	28	0	21.800	4840	Beams dumped
〃	〃	〃	〃	4.35	9.19	15061.28	〃	1.4	1.7	43	50	104	2	21.802	4838	runs 22848 and 22849 missing.
〃	〃	〃	〃	3.20	10.34	15071.62	〃	1.1	0.7	46	54	117	1	21.802	4837	

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{LG} > 6$GeV	T_2 Bit 17 $2T \cdot E_4 \cdot \geq 2$TR

40 14.9.85

10^{30} cont'd. We take system disc out of the faulty orange drive and put it into the blue drive.
Now Reload of Nord is possible.
J. Olsson advises us not to use the event display, Rebuild the program first!

11^{05} Start of Run # 22840

12^{00} Rebuild YE DISP ← this is correct
When asking for next event we get now: READING IN IBM CONSTANTS FILE NOW
Event of 7:29 is still in! After some swirling in the Event display program, it works again!

12^{31} Beam dumps

Rebuild also YE COPY – YECOPY rebuild is included in YEDISP rebuild (but no harm done)

14^{30} New filling ready

At Run start Missing LAM B 3 C 1 ID current
" B 2 C 3 TOF 1 counters } several times
System crate Watch dog PARMS 000002 140204 (oct)

14^{35} several =3 Beam tank dummy ramping, due to temperature alarm of klystron,
finial reached 27.8 GeV but background is horrible

15^{10} trigger 3 input and output empty, trigger 2 has hits

16^{00} cleaning all contacts and exchanging the crate controller, produced normal trigger histograms
also no problems with display DARVILL & KUHLEN ON SHIFT

16^{27} gas check done; "Kreislauf" was too low (9.75 instead of 10.0), so I increased the flow from 17.0 to 17.2

17^{30} we agree with other groups to ask for a new filling. PKR will do it at 17^{45}

17^{50} PKR call to say that there are linac problems and that they will try to keep this beam until the linac is settled

18^{28} Z-CH - Trip

19^{40} Power supply of Br. 2 cr. 3 had an alarm, but the status light not showed green, so we switched it off and on again. Now it was impossible to start a run, "Br. 2 cr. 3 no response". One has to reload the μ-processor via F15 (Micro-Ctrl) and A99 - initial load.
Runs 22848 & 22849 lost – no data taken before ending.

20^{15} Tasso has replaced a fuse in Disk drive unit 1.

21^{15} "Kreislauf" still 9.80. I increased the flow to 17.5

21^{30} ID 2 VTx chambers 'soft' trip

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	$\langle L \rangle$ $10^{29} \text{cm}^{-2}\text{s}^{-1}$	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ EXP. ENERGY	IBM TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ONLINE REJ. SUM MIPROC T_2-%	ONLINE REJ. NORD-50 T_1 & T_2 %	Σ Bhabha	MH	E_{BEAM}	Mag. Field ~1 x kGauss	Remarks

41

15.9.85 0^{00} Hedgecock, Becker

0^{30} GAS CHECK COMPLETED.

4^{20} "Illegal jet chamber data" continuously

YSPY err: DL8 no hits: 89 – stop run: DL8 removed, contacts cleaned

8^{00} Krehbiel + Ambrus

8^{36} Gas check done

~~9^{20}~~ 9^{20} JDAS ERR 73 CAMAC access fail Br. 1 Crate 7 Beampipe Chamber

9^{45} A burst of ERRORS 1x Miss LAM Z-chamber, then many times Miss LAM TOF Counte- Br. 2 Cr. 3.
8 Pause - Continue did not help. Run stopped, A99 Initial Load. ~~Now~~ Now Run started. O.K.

Before 10^{00} Mu Crate 10 had to be reset by hand twice thrice 4 times

10^{00} Beams dumped -

12^{00} Warming looks after the μ-Crate-10 hangups

12^{30} Warming declared that he had done what he could. (Taking out all modules of μ Crate 10 one by 1, cleaning the contacts and replugging them.) The work was ~~at~~ obstructed by inconsiderately placed concrete blocks. Crate seems ok. No more missings since then.

13^{10} Error sequence 33 Miss LAM br. 3 cr. 4 Z-Ch. Part 1
53 Syst. C. watchdog flag 000 2 140204
33 Miss LAM TOF 1 counters br 2 cr. 3 3 Times. Same as above
Pause - Continue helped

13^{12} Error 73 CAMAC access fail br. 1 cr 7 Beampipe Ch. Once

14^{20} " " " " " " " " " "

14^{30} " " " " " " " " " "
Mu chamber miss 12 this time once

TASSO complained about high background. Ours was perfect. Suggested short connection between PKR and TASSO
Several times "UNTERGRUND OPTIMIEREN" on TV. Watched our rate. No effect.
However finally our background went up, from 1 → 1.25. A little complaining helped.

16^{00} Kleinwort, Olsson Gas-check done
After some Hardware and software work with FAMP, it was switched on for R 22875. Deadtime was very high, >30%, and to test effect of FAMP on deadtime, Run was stopped and new run started. Deadtime immediately down to ~20% (normal at 6×6 mA). A new run with FAMP on corroborates this. Deadtime again 29%. Leave it off, to think again.

19^{00} Missing μ crates finally often: 12 reset at CAMAC several times, 14 at once down in hall.

22^{00} DL8 (wires 64-71) in 5-2 was found missing in wire map R 22881-883 (YSPY has not seen it.). Cleaning contacts on DL8 helped.

Concerning FAMP: On Lavrijsens advice, we made a run with dummy FAMP program (just passing events, no analysis) to see if Deadtime is caused by analysis program or FAMP overhead. With dummy program, there is no extra deadtime (contrary to Petri's belief....).

RUN	DATE	START	STOP	AT RUN START I+	AT RUN START I−	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL ×10⁶	TØ REJ ×10⁶	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{L6}>6$GeV	T_2 Bit 17 $2T\cdot E_4\geq 2$TR
22852	14.9.85	21 17	22 18	4.25	4.23	11.6	3373	8002	3992	877	101	4608	5869	1127	29
22853	--	22 18	22 25	3.48	3.45	10.5	391	926	407	102	11	547	600	120	5
22854	15.9.85	0 14	01 00	5.96	5.93	18.1	2679	8001	4408	697	126	3892	5699	1060	31
22855	-"-	00 10	01 48	5.13	5.01	14.9	2870	8002	4174	746	111	4202	5770	1112	27
22856	-"-	01 49	02 40	4.41	4.30	13.6	3034	8002	4078	789	107	4383	5545	1120	25
22857	-"-	02 40	02 49	3.80	3.68	12.6	481	1278	633	125	16	702	906	186	5
22858	-"-	04 10	04 30	6.18	6.17	21.9	1132	3983	2673	285	65	1588	2453	416	16
22859	-"-	04 33	05 18	5.74	5.68	19.9	2655	8002	4329	691	137	4032	5664	1126	26
22860	-"-	05 18	06 06	4.97	4.88	14.9	2867	8002	4197	746	111	4302	5733	1170	23
22861	-"-	06 06	06 58	4.28	4.19	13.1	3048	8001	3975	783	104	4516	5484	1116	17
22862	-"-	06 58	07 10	3.69	3.58	11.9	665	1652	815	173	21	945	1158	249	5
22863	-"-	07 55	08 44	4.96	5.76	15.7	2847	8002	4225	741	117	4235	5706	1070	29
22864	"	08 43	9 35 ~~9 35~~	4.26	4.92	13.7	3064	8002	4040	798	109	4460	5760	1138	31
22865	"	09 35	09 45	3.63	4.18	12.5	478	1277	649	125	15.5	727	827	184	2
22866	"	09 46	10 02	3.52	4.06	11.8	2854	2216	1045	236	27	1294	1520	352	6
22867	"	10 56	10 40	6.01	6.14	19.0	2621	8002	4402	682	130	4008	5662	1102	~~27~~ 29
22868	"	11 39	12 27	5.21	5.16	15.5	2773	8002	4173	722	112	4370	5548	1196	27
22869	"	12 26	13 19	4.51	4.44	14.2	3068	8002	4004	798	113	4456	5640	1143	25
22870	"	13 18	13 46	3.88	3.80	12.3	1638	4125	2026	426	52	2407	2834	647	16
22871	"	14 20	15 04	6.26	5.72	20.5	2552	8002	4529	664	136	4070	5670	1161	27
22872	"	15 03	15 48	5.43	4.83	17.8	2624	8002	4260	682	122	4306	5687	1166	26
22873	"	15 54	16 36	4.33	3.89	14.1	2436	6582	3353	634	89	3740	4691	986	22
22874	"	17 30	17 52	5.04	5.56	20.2	1245	3760	2016	324	66	1772	2718	464	18
22875	"	18 18	18 24	6.04	6.36	32.0	248	722	427	65	21	327	497	86	1
22876	"	18 24	18 32	5.93	6.24	22.7	437	1349	744	114	26	640	894	155	4
22877	"	18 32	18 37	5.68	5.95	29.2	300	870	497	78	23	452	529	119	4
22878	"	18 58	19 21	5.67	5.94	18.4	2566	8002	4429	668	193	4109	5620	1123	21
22879	"	19 41	20 08	4.92	5.08	15.6	2805	8002	4249	730	114	4291	5738	1129	29
22880	"	20 08	20 59	4.23	4.33	13.2	2829	7609	3779	736	97	4326	5311	1106	21
22881	"	21 22	21 27	6.23	6.31	33.3	279	791	432	72	24	362	532	97	2
22882	"	21 27	21 59	6.10	6.15	21.1	1895	5932	3361	493	104	2965	4139	839	11
22883	"	22 00	22 43	5.46	5.45	17.5	2594	7702	4231	674	118	4072	5411	1100	21
22884	"	22 49	23 37	4.66	4.63	14.4	2904	8002	4214	756	109	4479	5558	1138	35
22885	"	23 38	23 59	4.02	3.99	13.5	1270	3405	1753	330	45	1977	2323	545	10

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	<L> 10^{30} cm^{-2}s^{-1}	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ EXP. ENERGY	IBM / TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ONLINE REJ. SUM MIPROL T_2 %	ONLINE REJ. NORD-50 T_1&T_2 %	Σ Bhabha	MH	E_{BEAM}	Mag. Field −1=6 kauss	Remarks
ON	ON	ON	OFF	2.30	7.69	15079.31	IBM	0.55	0,9	48	52	87	3	21800	4838	
"	"	"	"	1.72	0.71	15080.02	"	0.4	0,8	47	60	8	0	21.802	4838	Beams Dumped
"	"	"	"	4.00	10.78	15090.80	"	1.6	1.1	40	48	122	1	21.802	4838	
"	"	"	"	3.00	7.77	15098.57	"	1.2	0.8	44	50	88	1	21.802	4837	
"	"	"	"	2.21	7.33	15105.90	"	1.0	0.7	45	52	83	3	21800	4837	
"	"	"	"	1.86	1.06	15106.96	"	0.85	0.6	46	53	12	0	21800	4838	Beams dumped
"	"	"	"	4.41	4.68	15111.64	"	1.4	1.0	24	36	53	1	21800	4836	DL8 error (89)
"	"	"	"	3.75	8.83	15120.47	"	1.4	1.0	41	49	100	3	21800	4843	
"	"	"	"	2.88	7.95	15128.42	"	1.15	0.8	45	50	90	2	"	4842	
"	"	"	"	2.23	6.85	15135.31	"	1.0	0.7	46	53	78	1	21.802	4842	
"	"	"	"	1.90	1.77	15137.08	"	0.8	0.6	47	53	20	0	21.800	4842	beams dumped
"	"	"	"	3.20	8.22	15145.30	"	1.2	1.0	45	50	93	7	"	4.840	
"	"	"	"	2.56	6.36	15151.66	"	1.05	0.7	47	52	72	4	21.802	4.842	
"	"	"	"	2.27	0.88	15152.54	"	.90	0.6	45	52	10	0	21.800	4.840	Run stopped ; 30ms Errors
"	"	"	"	1.86	2,47	15155.01	"			48	56	28	0	21.802	4.841	Beams dumped
"	"	"	OFF	3.61	9.01	15164.02	"	1.4	1,1	42	48	102	4	27.800	4.844	
"	"	"	"	2.96	8.75	15172.77	"	1.2	0.85	46	50	99	3	"	4.840	Problems with μ-rate 10
"	"	"	"	2.20	6.80	15179.57	"	1.0	0.7	47	53	77	4	21.802	4.843	
"	"	"	"	1.87	2.92	15183.49	"	0.83	0.6	48	54	33	1	"	"	Beams dumped
"	"	"	"	3.45	8.92	15192.41	"	1.35	1.1	43	~~46~~ 46	101	0	"	"	
"	"	"	"	2.66	6.01	15198.42	"	1.25	1.1	46	50	68	3	27.800	4.844	
"	"	"	"	1.84	3.80	15202.22	"	0.9	0.7	48	52	43	1	"	-4844	Beams dumped.
"	"	"	"	2.46	3.27	15205.49	"	~~1.55~~ 1.5	1,2	39	49	37	3	"	-4845	beam lost
"	"	"	ON	3.37	0,62	15206.11	"	1,18	1,2	38	45	7	0	"	-4844	
"	"	"	OFF	3.65	1,15	15207.26	"	1.6	1,1	41	48	13	2	"	-4845	
"	"	"	ON	3.76	1,68	15208.94	"	1,35	1,1	40	46	19	1	"	-4844	
"	"	"	OFF	3.52	9,10	15218.04	"	1,3	1,0	43	47	103	2	"	"	
"	"	"	"	2.90	6,63	15224.67	"	1,1	0,8	46	50	75	2	"	-4845	
"	"	"	"	2.14	6.36	15231.03	"	1,0	0,65	47	53	72	2	"	-4844	Beams dumped
"	"	"	ON	4.09	1.24	15232.27	"	1.8	1.1	37	30	14	0	"	-4842	
"	"	"	OFF	3.89	6.10	15238.37	"	1.4	1.0	40	47	69	3	"	-4841	
"	"	"	ON	3.28	8.22	15246.59	"	1.2	0.9	44	48	93	1	"	-4842	Famp dummy prog.
"	"	"	"	2.45	5.21	15251.80	"	1.0	0.7	47	50	59	1	"	-4843	" " "
"	"	"	"	2.16	2.92	15254.72	"	0.9	0.65	48	51	33	0	"	-4844	Beams dumped " "

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{LG}>6$ GeV	T_2 Bit 17 $2T\cdot E_4 \cdot \geq 2TR$	PROCESSORS ON/OFF N50	MIP	TOF	FAMP	$\langle L \rangle$ $10^{30}\,cm^{-2}s^{-1}$	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ EXP. ENERGY	IBM / TAPE OUTPUT	AT RUN START ID (μA)	AT RUN START TOF (V)	ONLINE REJ. SUM MIPROC T_2 %	ONLINE REJ. NORD-50 T_1&T_2 %	Σ_{Bhabha}	MH	E_{BEAM}	Mag. Field ~1 x Gauss	Remarks
22886	16.9.85	0:29	0:37	6.46	6.29	24.3	442	1451	798	115	28	686	959	182	3	ON	ON	ON	ON	4.98	2.21	15256.93	IBM	1.6	1.4	37	48	25	2	21.800	4840	Beams lost. FAMP dummy
22887	"	5:13	5:34	5.00	4.70	27.2	1239	~~3944~~ 4662	2279	323	88	1821	2801	507	14	ON	ON	ON	OFF	1.55	2.12	15259.05	"	1.5	1.3	~~40~~	~~45~~ 89	24	1	21.802	4841	Beams dumped. remove parts
22888	"	7:48	8:33	5.36	5.61	20.3	2633	8002	4609	686	139	3976	5887	1033	34	ON	ON	ON	OFF	2.90	7.07	15266.12	"	1.6	1.3	43	45	80	1	21.900	4840	
22889	"	8:33	9:20	4.59	4.64	16.8	2765	8002	4304	719	121	4236	5719	1101	31	"	"	"	"	2.38	6.01	15272.13	"	1.1	0.9	46	49	68	0	21.800	4841	
22890	"	9:20	10:13	3.96	3.91	13.2	3131	8002	4025	815	107	4437	5721	1112	29	"	"	"	"	1.87	6.45	15278.58	"	1.0	0.75	47	52	73	1	21.802	4841	
22891	"	10:13	10:21	3.41	3.35	11.8	458	1149	529	119	14	643	784	131	2	"	"	"	"	1.59	0.53	15279.11	"	0.9	0.55	45	57	6	1	21.802	4838	Beams lost
22892	"	14:50	14:53	5.28	5.44	28.7	169	526	309	44	13	234	405	67	2	"	"	"	"	—	—		JDAS 02 TAPE	1.2	1.1					21.802	~~4525~~	halt the logging system off JUNK – We set the magnet wrong
22893	"	14:59	15:47	5.11	5.05	18.4	2701	8001	4435	703	129	4409	5871	996	27	"	"	"	"	3.04	6.98	15286.09	JDAS 02 TAPE	1.2	1.1	44	47	79	7	21.802	4846	
22894	"	15:51	16:41	4.44	4.26	14.3	2568	8002	4059	743	111	4224	5854	1092	31	"	"	"	"	2.31	6.89	15292.98	JDAS 04 TAPE	1.1	0.8	46	52	78	2	"	4847	
22895	"	16:41	17:35	3.86	3.68	12.9	3181	8001	3942	828	107	4354	5866	1047	30	"	"	"	"	1.77	5.57	15298.55	IBM	1.0	0.6	48	54	63	5	"	~~4844~~	
22896	"	17:53	17:55	3.24	3.06	18.7	105	450	350	27	5	332	175	96	1	"	"	"	"	1.10	0.09	15298.64	"	"	"	54	24	1	0	"	"	Beams lost. Test a new trigger in this run.
22897	"	18:39	19:23	5.66	5.75	18.7	2581	8002	4340	672	132	3892	5552	1058	35	"	"	"	"	3.75	10.07	15308.71	"	1.4	1.1	38	48	112	0	"	4844	
22898	"	19:24	20:10	4.95	4.93	16.4	2741	8002	4145	714	117	4108	5627	1028	24	"	"	"	"	2.94	7.77	15316.48	"	1.4	0.8	42	51	88	7	"	4842	
22899	"	20:10	20:59	4.33	4.30	13.9	2941	8001	3956	765	107	4261	5669	1100	29	"	"	"	"	2.17	5.83	15322.31	"	1.2	0.7	44	53	66	0	21.800	4844	
22900	"	20:59	21:37	3.37	3.73	13.4	2198	5665	2800	572	77	3135	3880	815	18	"	"	"	"	1.82	4.68	15326.89	"	1.0	0.6	46	53	53	5	"	4842	Beams dumped
22901	"	22:31	23:13	6.33	6.31	25.7	2473	8001	4498	643	165	3611	5680	1004	31	"	"	"	"	3.57	8.39	15335.38	"	1.8	1.4	38	47	95	0	21.802	4840	
22902	"	23:13	23:57	~~5.55~~ 4.87	~~5.22~~ 4.51	18.4	2638	8002	4446	686	126	4181	5617	1154	20	"	"	"	"	3.25	8.39	15343.77	"	1.3	1.2	43	47	95	2	21.800	4840	
22903	"	23:58	0:34	4.86	4.50	14.6	2129	5992	3104	554	81	3241	4239	882	21	"	"	"	"	2.94	5.12	15348.89	"	1.1	0.8	46	51	58	1	"	"	Beams Lost
22904	19.9.85	1:05	1:48	6.29	6.24	21.9	2552	8001	4459	664	145	4086	5528	1154	23	"	"	"	"	4.34	11.22	15360.11	"	?	?	42	47	122	2	"	4841	
22905	"	1:48	2:33	5.49	5.31	18.3	2674	8002	4335	686	128	4337	5417	1207	30	"	"	"	"	3.41	8.57	15368.68	"	1.2	0.9	44	49	97	2	"	4840	
22906	"	2:33	3:20	4.99	4.58	14.6	2826	8002	4075	735	108	4387	5622	1206	37	"	"	"	"	2.55	5.39	15374.07	"	1.05	0.75	45	52	61	3	"	"	
22907	"	3:21	3:52	3.84	3.63	13.1	1860	4974	2530	484	63	2806	3459	772	12	"	"	"	"	2.00	4.33	15378.40	"	0.9	0.65	47	52	53	0	21.802	4839	beams dumped
22908	"	4:18	4:59	6.17	6.09	21.3	2464	8002	4114	641	136	4027	5347	1136	27	"	"	"	"	4.21	8.39	15386.79	"	1.4	1.2	41	48	95	4	21.800	4840	
22909	"	5:00	5:43	5.40	5.26	17.7	2597	8002	4227	676	120	4213	5545	1250	24	"	"	"	"	3.51	7.95	15394.74	"	1.2	1.0	44	50	90	2	21.802	"	
22910	"	5:43	6:28	4.32	4.58	16.2	2671	8002	4186	695	112	4473	5335	1246	29	"	"	"	"	2.60	6.98	15401.72	"	1.1	0.8	46	50	79	1	"	"	
22911	"	6:29	7:13	4.12	3.97	14.4	2610	7481	3781	679	98	4341	5009	1205	26	"	"	"	"	1.83	6.10	15407.82	"	0.9	0.75	48	52	69	3	"	4841	beams dumped
22912	"	7:40	8:22	5.74	5.73	20.4	2498	8001	4360	650	132	3986	5483	1136	29	"	"	"	"	3.37	8.22	15416.04	"	1.5	1.4	41	48	93	0	"	4843	
22913	"	8:22	9:03	5.05	4.86	21.9	2419	8002	4335	629	132	4558	5209	1406	26	"	"	"	"	2.50	5.48	15421.52	"	1.15	0.95	47	49	62	2	21.800	4841	
22914	"	9:03	9:47	4.37	4.14	14.8	2573	7456	3692	670	99	4318	4898	1256	23	"	"	"	"	2.01	6.27	15427.79	"	1.0	0.95	47	53	71	0	21.802	4844	Beams Dumped
22915	"	11:05	11:45	5.35	5.74	25.7	2411	8002	4200	627	161	3531	5430	986	31	"	"	"	"	3.04	6.27	15434.06	"	1.4	1.4	37	51	71	0	21.800	4844	
22916	"	11:46	12:29	4.70	5.18	19.4	2582	8001	4082	672	130	4082	5443	1235	23	"	"	"	"	2.52	5.57	15439.63	"	1.8	1.3	42	52	63	2	21.802	4845	
22917	"	12:30	13:17	4.11	4.55	14.9	2810	8001	4062	622	108	4570	5357	1322	26	"	"	"	"	1.98	4.86	15444.49	"	1.2	0.8	47	52	55	1	21.200	4847	
22918	"	13:18	13:34	3.58	3.77	13.7	930	2519	1229	242	33	1387	1791	420	5	"	"	"	"	1.63	2.21	15446.70	"	0.9	0.65	47	54	25	0	21.802	4847	beams dumped.
22919	"	14:02	14:42	6.02	6.00	22.7	2389	8002	4420	622	140	4037	5284	1235	20	"	"	"	"	3.73	9.81	15456.51	"	1.5	1.4	39	47	111	1	21.802	4846	

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{LG}>6$GeV	T_2 Bit 17 $2T\cdot E_4\cdot \geq 2TR$

46 16.9.85

0^{00} Howard Mills and Hans Riesebeeg

0^{25} Beams ready Gas check o^{2}

0^{27} Beams lost just after a (second) nice Hadronic event.

PKR says: Magnetstörung

3^{00} PKR has problems with injection: Two times the beams were lost at ~19 GeV/beam

3^{15} SHORT BREAK, Klystron regulation problem. We decrease our magnet current → 2000 A

3^{35} Injection starts again

5^{10} Finally we get a weak filling 4.7, 5.0 mA

Run 22887 High background; TOF rate 1,3 - 1,4 V, dead time ~30%, $L = 1.8\times10^{30}$, $SL = 14\times10^{28}$

PKR: A feedback loop has switched off. They can not optimize the beam. Beams will be dumped if diagnosis is completed.

5^{13} When logging in to Nord I using commands get MEMORY PARITY. will reload @ run end. Beam dumps at 5^{40}

Reloaded - Ok. Magnet ⇒ 500 A

6^{50} Injection starts, Magnet → 7500

Now running on "orange" disc drive to check whether it is still Ok.

7^{45} Beams arrive - shutdown

7^{49} Trip of beampipe chamber.

Tasso complain about high background - quickly inform CELLO that they are coordinating from now on.

08^{00} Daraill & Smolik on shift.

08^{12} Call PKR - They will try to increase spec. lumi ($L_s = 2.2\cdot10^{29}$ should be ~ 4)

08^{33} Gas check done.

08^{45} Reformjet submitted

09:35 we call cello to ask about a new filling. They ask round the other groups and then PKR and call us back to say that the Klystron expert will come in about 45 minutes, and that we should keep this fixing until then.

10:20 Beams lost. Short break. this was predicted to be about 1hr, but we have not called for confirmation of this.

11:30 Forgot about the magnet until now. magnet current down to 1000 A

12:20 Vertex chamber alarm - Valve failure - reset according to instructions.

13:35 Broadcast message to tell us that Petra is about to be switched on - We shall see.

14:40 Now we have beam, we turn the magnet back up. The IBM is down so we load a tape.

14:49 Everything now ready - we start run 22892 - writing to tape. Tape No JDAS 02

14:53 Everything not ready! we set the magnet current to 7000 A instead of 7500 A and also mainframe 61 of the tagging HV system failed to switch on.

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	<L> 10^{30} cm^{-2}s^{-1}	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ EXP. ENERGY	IBM TAPE OUTPUT	At Run Start ID (μA)	TOF (V)	ONLINE REJ. SUM MIPROL T_2-%	NORD-50 T_1 & T_2 %	Σ Bhabha	MH	E_{BEAM}	Mag. Field -1 x Gauss	Remarks

47

14:58 we try again.

16^{00} Raucke, Becker

16^{10} Gas check ok

16^{50} Problems with p create (Part 12) P. Warming informed ⇒ cleaning contacts cured the problem

17^{50} R 22896 with oldest trigger enable T1 acc. bit 5 EL + Sept. new logic. Run is otherwise OK! PKR

Rate too high, trigger removed until further thinking reduces rate.

? ? ? ? ?

Why did the previous shift not notice that the μ-filter-standard-histograms were different from what they should be? Was the problem known?

17/9/85

0^{00} Kawagoe & Spitzer on shift

0^{31} Beams lost

0^{05} Z chamber trip twice.

8^{00} Darvill and Chrin on shift

9^{58} "Short Break" Petra told people want to adjust a collimator magnet for Tasso. I don't know what it means either, but that is a translation of the words said to me by the CELLO shift. ½ hour is the quoted length of this 'short break'.

10^{09} the quartz-controlled CAMAC clock is 2 mins 10 seconds fast. Reset to radio time signal. MEIT

11:59 Our background is somewhat high so I ask PKR if they can do something for us.

12:15 PKR seem to have improved things for us. Our I.P. current is now down to 1.1 mA.

16:00 Kodo & Smolik on shift

16:10 gas check OK.

17:35 JDAS error 73: CAMAC access fail br. 1 cr. 7

17:36 " " " " " " " "

19:30 ID + VTXC soft trip

19:55 JDAS error 73: CAMAC access fail br. 1 cr. 7

20:05 half of the electron beam dumped in our detector! all chambers tripped hard

rest of beams dumped / new fill

20:47 JDAS error 73: CAMAC access fail br. 1 cr. 7

21:39 " " " " " " " " "

21:54 " " " " " " " " "

22:11 " " " " " " " " "

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{LG} > 6$ GeV	T_2 Bit 17 $2T\text{-}E_4 \cdot \geq 2$ TR
48															
22920	17.9.85	14:43	15:23	5.22	5.16	20.5	2422	8002	4624	630	129	4397	5303	1375	31
22921	"	15:24	16:07	4.58	4.52	16.4	2610	8002	4167	679	111	4608	5266	1415	14
22922	"	16:08	16:48	3.98	3.90	15.4	2366	7023	3560	616	95	4173	4541	1266	26
22923	"	17:29	18:09	6.26	6.28	47.0	2384	8002	4967	620	291	3746	5188	1232	34
22924	"	18:10	18:49	5.47	5.44	24.2	2383	8002	4327	620	150	4288	5376	1352	29
22925	"	18:50	19:35	4.87	4.76	17.3	2553	8001	4369	665	115	4414	5395	1435	37
22926	"	19:36	20:06	4.19	4.14	15.6	1749	5229	2826	455	71	2992	3506	951	25
22927	"	20:34	21:15	6.39	6.35	25.2	2434	8001	4459	633	160	3725	5462	1220	28
22928	"	21.15	21:56	5.58	5.52	20.3	2407	8001	4370	625	127	4123	5418	1299	33
22929	"	21:56	22:40	4.90	4.84	17.4	2597	8002	4265	675	118	4405	5363	1370	34
22930	"	22:40	23:24	4.30	4.25	15.0	2626	7574	3904	683	102	4348	5087	1346	29
22931	"	23:52	0^{33}	6.42	6.28	24.4	2433	8002	4542	633	154	3951	5439	1198	37
22932	18.9.85	0:34	1:15	5.62	5.48	20.2	2483	8001	4490	646	130	4134	5466	1359	27
22933	"	1:16	2:00	4.93	4.79	18.5	2624	8001	4282	682	126	4365	5391	1364	23
22934	"	2:00	2:44	4.33	4.21	15.2	2587	7592	3970	673	102	4258	5170	1309	26
22935	"	3:12	9^{52}	6.32	6.33	28.7	2346	8002	4677	610	175	3846	5297	1170	29
22936	"	3^{52}	4^{32}	5.54	5.54	23.1	2379	8002	4554	619	143	4158	5369	1331	37
22937	"	4^{33}	5^{16}	4.89	4.89	18.6	2561	8001	4524	666	123	4330	5322	1360	31
22938	"	5^{16}	5^{46}	4.30	4.29	16.7	1745	5774	2657	453	75	2831	3472	823	15
22939	"	6^{15}	6^{57}	6.18	6.22	29.3	2517	8001	4629	654	191	3917	5439	1183	36
22940	"	6^{57}	7^{39}	5.41	5.44	22.8	2452	8001	4683	637	145	4138	5415	1306	32
22941	"	7^{39}	8^{22}	4.78	4.82	19.0	2573	8002	4557	669	127	4412	5389	1345	36
22942	"	8^{23}	9^{11}	4.22	4.25	13.9	2919	8002	4029	759	105	4654	5446	1354	36
22943	"	9^{12}	9^{16}	3.68	3.72	14.0	243	651	346	63	8	373	393	123	1
22944	"	9.42	10^{25}	6.04	5.92	20.2	2523	8002	4490	656	132	4090	5478	1217	30
22945	"	10:25	11:10	5.23	5.13	17.0	2674	8002	4383	695	118	4364	5578	1325	25
22946	"	11.11	11.57	4.55	4.46	16.1	2718	8001	4325	707	113	4430	5468	1297	26
22947	"	11^{57}	12^{42}	4.00	3.92	15.1	2624	7212	3708	682	103	4172	4867	1183	18
22948	"	13^{24}	13^{30}	6,43	6,35	20,6	300	996	525	78	16	466	678	112	2
22949	"	13^{30}	13^{37}	6,31	6,24	29,3	352	996	568	92	27	457	694	193	3
22950	"	1337	1342	6,18	6,10	20,7	296	1008	542	77	16	447	642	134	7
22951	"	1343	1350	6.07	5,99	24,0	446	1410	793	116	28	707	961	197	4
22952	"	1351	1358	5,92	5,84	25,3	404	1131	662	105	26	574	754	156	5
22953	"	1359	14^{05}	5,77	5,69	18,7	351	1105	613	92	17	567	740	167	5
22954	"	14^{05}	1447	5.65	5.57	20.4	2472	8002	4381	643	131	4327	5451	1236	28

PROCESSORS ON/OFF NSO	MIP	TOF	FAMP	$\langle L \rangle$ $10^{30}\,cm^{-2}s^{-1}$	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ EXP. ENERGY	IBM/TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ONLINE REJ. SUM MIPROC T_2 %	ONLINE REJ. NORD-50 $T_1 \cdot T_2$ %	$\sum$ Bhabha	MH	E_{beam}	Mag. Field -1 x Gauss	Remarks
49																Remarks,
ON	ON	ON	OFF	3.33	7.42	15463.93	IBM	1.2	1.1	44	45	84	3	21.802	4846	
ON	ON	ON	OFF	2.54	5.74	15469.67	"	1.0	0.8	46	50	65	1	21.800	4847	
"	"	"	"	1.90	4.15	15473.82	"	0.85	0.75	47	52	47	4	21.800	4847	beams dumped
"	"	"	"	1.98	3.62	15477.44	"	1.8	2.1	39	41	41	3	21.802	4846	
"	"	"	"	2.9	7.95	15485.39	"	1.3	1.4	43	49	90	0	21800	4847	
"	"	"	"	2.31	7.24	15492.63	"	1.7	1.0	45	48	82	1	21800	4847	
"	"	"	"	1.72	2.83	15495.46	"	1.0	0.8	47	48	32	0	21.802	4847	beams lost
"	"	"	"	3.73	8.22	15503.68	"	1.6	1.3	40	47	93	5	21800	4846	
"	"	"	"	3.05	7.33	15511.01	"	1.3	1.1	42	48	83	0	"	4845	
"	"	"	"	2.44	6.89	15517.90	"	1.2	0.9	45	49	78	2	21802	4844	
"	"	"	"	1.87	5.04	15522.94	"	1.0	0.8	47	51	57	1	21800	4844	beams dumped
"	"	"	"	3.77	8.66	15531.60	"	1.5	1.2	39	46	88	1	21800	4844	
"	"	"	"	3.30	9.81	15541.41	"	1.4	1.0	42	47	111	1	21802	4844	
"	"	"	"	2.64	5.65	15547.06	"	1.2	0.8	44	49	64	3	21802	4842	
"	"	"	"	1.94	5.21	15552.27	"	1.0	0.9	46	51	59	1	21802	4843	beams dumped
"	"	"	"	3.78	9.01	15561.28	"	1.5	1.2	37	45	102	0	21.802	4842	
"	"	"	"	3.14	5.74	15567.02	"	1.4	1.1	42	46	65	0	21.800	4843	
"	"	"	"	2.41	6.89	15573.91	"	1.2	1.0	43	46	78	3	21.802	4844	
"	"	"	"	2.11	3.53	15577.44		1.1	0.8	43	51	40	0	21.800	4843	beams dumped
"	"	"	"	3.42	7.42	15584.86	"	1.5	1.2	39	45	84	3	21.800	4843	
"	"	"	"	2.82	6.36	15591.22	"	1.2	1.1	42	44	72	3	21.802	4844	
"	"	"	"	2.33	6.27	15597.49	"	1.1	0.9	45	46	71	1	21.800	4844	
"	"	"	"	2.28	5.30	15602.79	"	0.9	0.7	48	52	60	0	21.802	4844	
"	"	"	"	1.87	0.35	15603.14	"	0.9	0.6	44	51	4	0	21.802	4844	beams dumped
"	"	"	"	3.99	9.98	15613.12	"	1.4	1.1	41	47	113	1	21.802	4843	
"	"	"	"	3.25	8.04	15621.16	"	1.2	0.9	45	48	91	4	21.800	4844	
"	"	"	"	2.38	7.69	15628.85	"	1.0	0.8	46	48	87	0	21.800	4844	
"	"	"	"	1.80	4.95	15633.80	"	0.8	0.65	47	51	56	1	21.802	4844	beams dumped
"	"	"	"	4,88	1,06	15634.86	"	1,4	1,2	37	51	12	1	"	-4847	
"	"	"	ON	3,60	1,15	15636.01	"	1,4	1,2	38	46	13	0	"	-4846	Famp stand. analysis
"	"	"	"	4,36	1,33	15637.34	"	1,35	1,15	35	49	15	0	"	-4847	Famp dummy program
"	"	"	OFF	4,41	1,33	15638.67	"	"	"	41	47	15	0	"	-4846	
"	"	"	ON	4,59	1,68	15640.35	"	1,3	1,1	40	44	19	0	"	- "	Famp stand. analysis
"	"	"	ON	4,51	1,24	15641.59	"	1,25	1,05	42	47	14	1	"	- 4847	Famp dummy prog.
"	"	"	ON	3.72	8.83	15650.42	"	1,2	1,0	45	48	100	4	21.800	4847	" " "
			ON					1,1	0.9							" " "

L6 cm

RUN	DATE	START	STOP	AT RUN START I+	AT RUN START I-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL ×10⁶	TØ REJ. ×10⁶	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 E_{LG}>6GeV	T_2 Bit 17 2T-E_4-≥2TR

18.9.85

00⁰¹ Kuhlen and Feist (auf Schicht) on shift
00²⁰ gas O.K.
00²⁵ phone PKR because of low specific luminosity ~20; they are optimizing at continuing since a few shifts they claim

8⁰⁰ Smolik & Magnussen on shift
8²⁰ gas check done

14⁰⁰ On Laurikainens request, the check of deadtime, with and without FAMP analysis, was repeated. R 22948-22953. The result is clear: The analysis program is giving extra deadtime, in particular at ~~FAMP~~ start, when currents are high. Laurikainens belief that the extra deadtime is caused by Nord overhead in event transfer is not supported, there is no difference in running with FAMP off and with FAMP dummy program ON, that is, FAMP passes events without doing any analysis
⇒ Until JADE meeting has considered this situation, leave FAMP off J.O.

16⁰⁰ Cartwright & Dietrich on shift.

16⁴⁰ Gas check done,

18⁰⁰ Jan Olsson here checking FAMP. FAMP refuses to initialise. ⇒ Definitely leave FAMP OFF until Jan has consulted Laurikainen.
18¹⁷ New fill ready (3rd attempt)

20²⁵ LG distributor readout problem (actual HV values are O.K.)
No response from Distributor # 10. The error massage will continue to appear tonight.
I will try to fix it in ~~the~~ tomorrow's shift. K. Kawagoe.
21.57 It seems to be fixed automatically. K. Kawagoe ↓40

21.58 JDAS - Readout - Error 33 branch 3(3) crate 4(3) 10 Times

19-09-85

0⁰⁰ Dochmann and Warming on shift
gas check done OK ✓
1⁵⁵ background got worse and deadtime high → we ask PKR for optimization → some success
3²⁸ vtx ch. valve failure, reset OK.

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	<L> 10^{30} cm⁻² s⁻¹	Bhabha ∫L dt nb⁻¹	∫L dt EXP. ENERGY	IBM ↑TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ONLINE REJ. SUM MIPROC T_2 %	ONLINE REJ. NORD-50 T_1 & T_2 %	Σ Bhabha	MH	E_{BEAM}	Mag. Field -1.6 Gauss	Remarks

19-08-85

4¹⁵ TOF TDC crate sounded overload alarm, but green light is still on, we switch crate off and on, then reload TOF-μprocs. (F15,F11)
Occasionally JDAS Readout Error 33 — Missing Lam br 4 cr 1 (10)
Run 22971 is empty.
5:30 fig missing lam B2 C3 TOF1 Shaking Board cable helps
6:10 soft trip both ID and Vtxd.

9⁰⁰ Kawagoe and Remcke on shift
8 33 VTXC-Hard-Trip
8 25 ID-Soft-Trip (high background)
8³⁰ Nord hungup. R22977 contains only LG pedestal data. Reload OK.
10⁰⁵ ID & VTX soft trip. TOF current so high ~ more than 5 V, asked PKR to optimize.
10:49 TOF TDC crate failure Run stopped crate switch off/on Run started (~~Hartmann~~ Maschidlauskas informed)
Run 22989 no data
11³⁰ New fill ready. high background (TOF ~ 2.5 V) asked for optimization
15³⁰ Cables and Connectors for the LG distributors have been cleaned by Herr Maschiedlauskas.
I hope that the Readout error problem has been fixed.

16⁰⁰ Dietrich and Kuhlen on shift
17⁰⁰ High TOF-rate and dead time. PKR people try to optimize.
17¹⁵ ID and VTXC trip, beams lost
17⁴⁸ Short break; problems with transmission ~~from~~ from DESY to PETRA (~1h)
17⁵⁵ Magnet set to 500A
18⁵⁰ Injektion started; set magnet to 7500A
23⁴⁵ Fortran run-time Error 000412 / 4 IBM PC Data conv out of range

0⁰⁰ Cartwright, Becker

0¹⁰ Gas check OK
0¹⁵ YSPY complains JETC DL8s NO HITS: but gives no numbers!
JETC VS4 NO HITS:
Wire map looks OK. 1⁰⁴ The above repeats regularly (at every YSPY check?)
0²⁰ Try to start new run — get stuck WAITING FOR IBM LINK. Terminal does not respond to any command. Hinard suggests reloading Nord-10. This works.

RUN	DATE	START	STOP	AT RUN START I+	AT RUN START I-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL ×10^6	TØ REJ ×10^6	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 E_{LG}>6GeV	T_2 Bit 17 2T·E_4·≥2TR
22955	18.9	14:47	15:25	4.92	4.85	16.7	2260	6798	3577	588	98	3821	4634	1139	19
22956	"	15:29	16:16	4.32	4.26	17.7	2678	8002	4197	696	123	4438	5594	1266	34
22957	"	16:17	16:50	3.75	3.71	15.6	1943	5666	2980	505	78	3147	4030	894	25
22958	"	18.20	18:53	6.34	6.27	31.3	2325	8002	4584	604	189	4179	5243	1179	34
22959	"	19.00	19:41	5.46	5.29	20.3	2475	8001	4454	645	131	4394	5342	1282	26
22960	"	19:42	20:24	4.8	4.64	22.0	2516	8001	4463	855	144	4272	5533	1272	27
22961		20:24	21:16												
22962	"	21:16	21:18	3.66	3.49	13.1	93	294	153	24	3	158	177	37	3
22963	"	21:49	22:28	6.42	6.48	26.3	2341	8002	~~7337~~ 6541	608	160	4154	5380	1201	31
22964	"	22:28	23:11	5.38	5.46	19.2	2545	8002	4295	662	127	4202	5424	1218	24
22965	"	23"	23:57	4.62	4.57	16.0	2754	8002	4109	717	114	4455	5453	1306	30
22966	"	23:58	0:41	3.98	3.83	14.0	2530	7011	3493	658	92	4052	4788	1142	24
22967	19.9.85	1:11	1:51	6.31	6.32	22.8	2381	8002	4456	620	141	4204	5318	1194	24
22968	"	1:51	2:30	5.43	5.29	26.4	2293	8002	4343	596	157	4487	5027	1326	34
22969	"	2:30	3:13	4.70	4.54	17.5	2546	8001	4291	663	116	4481	5301	1342	26
22970	"	3:13	3:46	4.12	3.97	15.6	1936	5702	2959	504	78	3333	3787	902	14
22972	"	4:17	4:58	6.11	6.26	26.6	2407	8002	4668	626	166	4059	5441	1226	35
22973	"	4:58	5:40	5.40	5.48	22.6	2466	8002	4481	641	144	4273	5476	1238	28
22974	"	5:40	6:26	4.78	4.81	18.2	2599	8002	4458	676	123	4442	5615	1321	21
22975	"	6:26	6:59	4.17	4.19	16.1	1960	5721	3032	510	82	3271	3843	966	25
22976	"	7:37	8:18	6.52	6.53	26.0	2449	8002	4558	638	166	3819	5471	1107	30
22977	" Nord hung up only leg ponetral data.														
22978	"	8:30	9:11	5.49	5.47	26.4	2421	8002	4545	630	166	3960	5478	1211	30
22979	"	9:12	9:57	4.84	4.81	18.7	2701	8001	4157	704	128	4240	5668	1221	30
22980	"	9:57	10:37	4.07	3.81	14.8	1661	4778	2333	433	64	2755	3357	711	15
22981	missing due to the TOF crate error														
22982	"	10:45	11:00	3.01	2.86	12.6	868	2478	1143	226	31	~~1528~~ 1625		387	9
22983	"	11:33	12:12	5.91	6.00	27.6	2343	8002	4649	610	230	3875	5251	1203	75
22984	"	12:13	12:53	5.15	5.22	29.6	2383	8002	4572	621	114	4214	5377	1216	35
22985	"	12:53	13:35	4.52	4.57	20.8	2492	8001	4372	514	135	4444	5318	1357	31
22986	"	13:40	14:25	3.92	3.96	19.7	2485	8001	4183	647	127	4339	5429	1140	76
22987	"	14:25	14:30	1.40	1.26	14.1	260	752	384	67	10	418	517	125	2
22988	"	16:00	16:05	6.52	6.53	37.1	294	1079	668	76	28	462	714	148	4
22989	"	16:40	17:13	6.16	6.14	39.6	1936	6758	3913	563	199	3296	4401	1020	28

RUN	Processors ON/OFF N50	MIP	TOF	FAMP	<L> 10^{30} cm^{-2}s^{-1}	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ Exp. Energy	IBM/TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ONLINE REJ. SUM MIPROC T_2 %	ONLINE REJ. NORD-50 T_1 & T_2 %	Σ Bhabha	MH	E Beam	Mag. Field -1.4 Gauss	Remarks
22955	"	"	"	OFF	2.97	6.89	15657.31 ?	"	1.1	0.9	47	50	78	3	21.802	4847	
22956	"	"	"	"	1.78	5.04	~~15722.76~~ 15662.35 ?	"	0.9	0.85	48	50	57	1	21.800	4847	
22957	"	"	"	"	1.34	3.18	~~15675.53~~ 15665.53 ?	"	1.0	1.0	49	50	36	0	21.800	4847	beams dumped
22958	"	"	"	"	3.77	8.80	15673.83	"	1.4	1.4	43	46	94	4	21.800	4846	
22959	"	"	"	"	3.07	6.98	15680.81	"	1.2	1.3	45	47	79	3	21.802	4847	
22960	"	"	"	"	2.01	5.83	15686.64	"	1.0	0.9	47	47	66	2	21.802	4844	
22961						5.5 estimated	15692.14		0.8	0.6							Run-Summary lost !
22962	"	"	"	"	1.9	0.27	15692.41	"	0.8	0.6	39	53	3	0	21.802	4844	beam dump (
22963	"	"	"	"	4.15	10.42	15702.83	"	1.4	1.7	43	46	118	2	21.800	4832	
22964	"	"	"	"	3.49	9.1	15711.93	"	1.3	1.0	43	49	103	1	21.800	4834	
22965	"	"	"	"	2.57	7.24	15719.17	"	1.2	0.85	46	51	82	3	"	4844	
22966	"	"	"	"	2.07	6.01	15725.18	"	1.0	0.75	48	53	68	1	"	"	beams dumped
22967	"	"	"	"	4.19	8.83	15734.01	"			42	47	100	2	"	"	
22968	"	"	"	"	2.98	6.54	15740.55	"	1.3	2.2	44	49	74	1	"	4843	
22969	"	"	"	"	2.42	4.77	15745.32	"	1.0	1.0	45	49	54	1	"	4841	
22970	"	"	"	"	1.93	2.65	15747.97	"	0.9	0.85	47	51	30	2	21.802	4844	beams dumped
22972	"	"	"	"	2.85	6.10	15754.07	"	1.4	1.5	43	45	69	3	"	4844	
22973	"	"	"	"	2.26	4.95	15759.02	"	1.2	1.2	45	47	56	0	"	4844	
22974	"	"	"	"	1.86	4.15	15763.17	"	1.0	1.0	47	47	47	1	"	4844	
22975	"	"	"	"	1.45	2.56	15765.73	"	"	"	~~47~~	50	29	1	"	4844	beams dumped
22976	"	"	"	"	4.26	10.51	15776.24	"	1.45	1.3	39	46	119	2	"	"	
22977																	
22978	ON	ON	ON	OFF	3.28	8.84	15785.08	IBM	1.4	1.25	41	46	100	0	21.802	4844	
22979	"	"	"	"	2.60	6.36	15791.44	"	1.25	1.2	45	51	22	1	21.800	4844	
22980	"	"	"	"	1.70	2.12	15793.56	"	1.0	1.0	50	54	44	0	"	"	Run stopped TOF-crate failure
22981									0.1	0.1							
22982	ON	ON	ON	OFF	1.27	0.44	15794.00	IBM	0.8	0.9	51	56	5	0	21.802	4842	Beams dumped.
22983	"	"	"	"	7.28	7.69	15801.69	"	1.6	2.0	39	45	87	5	"	4846	
22984	"	"	"	"	2.90	6.18	15807.87	"	1.4	1.7	43	46	70	1	"	4849	
22985	"	"	"	"	2.48	7.24	15815.11	"	1.2	1.2	46	48	82	1	"	4850	
22986	"	"	"	"	1.49	2.83	15817.94	"	1.0	1.2	44	50	32	0	"	"	
22987	"	"	"	"	1.30	0.27	15818.21	"	1.0	1.2	47	52	3	1	"	"	beams dumped
22988	"	"	"	"	4.45	1.06	15819.27	"	1.8	2.2	37	42	12	0	21.800	4850	beams dumped (high background, Beam Test)
22989	"	"	"	"	3.35	5.39	15824.66	"	1.6	1.9	40	45	61	2	21.802	4850	beams dumped

RUN	DATE	START	STOP	AT RUN START I⁺	AT RUN START I⁻	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL ×10⁶	TØ REJ. ×10⁶	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 E_{LG} > 6 GeV	T_2 Bit 17 2T·E_4 ≥ 2TR
54															
22990	19.9.85	18.57	19.36	6.06	6.05	32.9	~~3329~~	8001	4451	606	199	4022	5308	1220	33
22991	"	19.37	20.09	5.28	5.22	23.0	1930	6740	3644	502	115	3648	4473	1073	25
22992	"	21:32	22:12	6.13	6.08	27.1	2362	8002	4581	614	166	4032	5302	1230	39
22993	"	22.12	22.53	5.39	5.34	23.1	2413	8002	4466	627	145	4225	5431	1383	32
22994	"	22:53	23:35	4.73	4.68	19.0	2479	8002	4364	644	122	4514	5229	1452	36
22995	"	23³⁶	0²⁰	4.15	4.11	16.3	2613	8002	4244	680	111	4594	5407	1473	25
22996 doesn't exist															
22997	20.9.85	0³³	1²⁰	3.54	3.51	14.5	2812	8001	3995	732	106	4690	5684	1565	18
22998	"	1²⁰	2²¹	Pedestal events only											
22999	"	1:58	2:30	6.50	6.47	28.9	1784	6502	3544	467	137	2961	4779	840	32
23000	"	4²⁴	5⁰⁶	6.24	6.16	30.1	2327	8002	4598	606	182	3983	5809	1270	26
23001	"	5:06	5:46	5.33	5.42	24.6	2342	8001	4399	610	150	4268	5223	1453	30
23003	"	5:49	6:32	4.66	4.74	24.1	2478	8002	4256	645	156	4477	5192	1545	38
23004	"	6:33	7:15	4.07	4.15	17.6	2551	8002	4108	664	117	4671	5258	1556	37
23005	"	7:16	7:39	3.58	3.65	16.8	1385	4478	2379	361	61	2679	2927	833	17
23006	"	8:15	8:53	6.02	6.19	36.9	2305	8002	4713	600	221	3945	5241	1321	25
23007	"	8:54	8:59	5.26	5.42	29.9	278	1079	597	72	21	564	701	190	6
23008	"	13:13	13:20	6.76	6.09	39.1	345	1278	742	89	35	668	818	203	59
23009	JUNK														
23010	"	16.00	16.19	5.72	5.83	53.3	1149	4246	2415	299	159	2238	2476	656	10
23011	"	17:36	18:05	5.20	5.08	48.3	1728	8001	4788	449	217	4585	4483	1550	22
23012	"	18:06	18:31	4.47	4.36	42.2	1208	5757	3519	314	132	3479	3265	1107	21
23013	"	19:53	20.23	5.30	5.35	32.5	1799	8002	4383	468	152	4659	4620	1418	26
23014	"	20:24	20:55	4.63	4.67	28.5	1849	8001	4628	490	137	4601	4856	1486	29
23015	"	20.56	21:31	4.06	4.10	28.9	2138	8001	4308	556	160	4792	4762	1517	23
23016	"	21:31	21.52	3.51	3.55	26.5	1205	4546	2298	313	83	2812	2739	882	18
23017	"	23:28	23:31	5.24	5.39	45.8	124	410	258	32	15	252	253	69	1
23018	21.9.85	05⁰³	05³⁹	2.87	2.93	28.8	2131	8002	4099	555	160	4886	4922	1369	35
23019	—"—	05⁴¹	05⁵⁹	2.38	2.43	21.1	745	2575	1273	194	41	1574	1662	496	5
23020	"	06³⁷	07⁰⁵	4.97	4.40	53.4	1601	5774	3119	416	223	2901	3370	893	18
23021	"	0830	0906	5.43	3.51	37.0	2086	8002	4146	543	201	4530	4793	1467	28
23022	"	09⁰⁶	0934	4.44	2.97	25.0	1473	5598	2888	383	95	3337	3410	1045	20
23023	"	10⁰⁷	10⁴¹	5.69	4.46	43.2	2079	8001	4402	541	234	4470	4795	1371	32
23024	"	10:42	10:47	4.84	3.75	42.1	301	1236	683	78	33	732	668 ~~217~~	217	4
23025	"	11²⁴	11⁴⁹	6.02	5.89	51.7	1488	5866	3276	388	200	3411	3429	1092	16

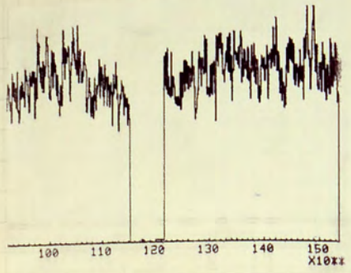
RUN	DATE	START	STOP	PROCESSORS N50	PROCESSORS MIP	PROCESSORS TOF	PROCESSORS FAMP	<L> 10^{30} cm⁻² s⁻¹	Bhabha $\int L dt$ nb⁻¹	$\int L dt$ EXP. ENERGY	IBM TAPE OUTPUT	AT RUN START ID (μA)	AT RUN START TOF (V)	ONLINE REJ. SUM MIPROC T_2 %	ONLINE REJ. NORD-50 T_1 & T_2 %	Σ Bhabha	MH	E_{BEAM}	MAG. FIELD ~1×6 kGauss	REMARKS
55																				
22990	19.9.85	18.57	19.36	ON	ON	ON	OFF	3.23	6.80	15831.46	IBM	1.6	1.9	40	47	77	1	21.802	4849	
22991	"	19.37	20.09	"	"	"	"	2.95	4.86	15836.32	"	1.5	1.7	45	49	55	4	21.800	4846	beams lost
22992	"	21:32	22:12	"	"	"	"	4.13	9.54	15845.86	"	1.5	1.6	40	46	108	4	21.800	4847	
22993	"	22.12	22.53	"	"	"	"	3.23	8.04	15853.90	"	1.2	1.3	43	47	91	3	21.800	4847	
22994	"	22:53	23:35	"	"	"	"	2.58	6.89	15860.79	"	1.1	1.1	45	48	78	0	21.802	4845	
22995	"	23³⁶	0²⁰	"	"	"	"	2.08	5.57	15866.26	"	?	?	49	49	63	3	"	4847	
22996 doesn't exist																				
22997	20.9.85	0³³	1²⁰	"	"	"	"	1.42	3.62	15869.88	"	0.9	0.8	53	52	41	0	"	"	
22998	"	1²⁰	2²¹																	beams dumped
22999	"	1:58	2:30	"	"	"	"	4.16	6.58	15876.86	"	1.6	1.6	48	47	79	0	21.802	4834	beams lost
23000	"	4²⁴	5⁰⁶	"	"	"	"	3.65	9.01	15885.87	"	1.5	1.6	41	46	102	3	21.800	4847	
23001	"	5:06	5:46	"	"	"	"	3.07	6.01	15891.88	"	1.3	1.2	43	48	68	3	21.802	4847	← Run # 23002 does not exist
23003	"	5:49	6:32	"	"	"	"	2.27	4.77	15896.65	"	1.2	1.2	45	49	54	2	21.802	4847	
23004	"	6:33	7:15	"	"	"	"	1.87	6.01	15902.66	"	1.0	1.0	48	51	68	3	21.800	4847	
23005	"	7:16	7:39	"	"	"	"	1.49	2.56	15905.22	"	0.9	0.8	49	49	29	1	"	4846	beams dumped
23006	"	8:15	8:53	"	"	"	"	2.95	6.63	15911.85	"	1.6	1.9	40	44	75	1	"	4844	
23007	"	8:54	8:59	"	"	"	"	2.75	0.53	15912.38	"	1.4	1.8	44	49	6	0	21.8	4844	Handscanned 10 sobr trigs at VD beam clean up + multivertex
23008	"	13:13	13:20	"	"	"	"	2.98	0.98	15913.26		1.8	2.3	39	44	10	0	21.802	4847	
23009	JUNK																			run junk: beams lost, osc. lock
23010	"	16.00	16.19	"	"	"	"	2.73	2.65	15915.81	"	1.8	2.7	40	46	30	0	"	4840	beam lost
23011	"	17:36	18:05	"	"	"	"	2.05	3.36	15919.17	"	1.6	2.9	45	43	38	4	"	4839	
23012	"	18:06	18:31	"	"	"	"	1.87	2.31	15921.56	"			47	41	27	1 (not rec.)	"		
23013	"	19:53	20.23	"	"	"	"	3.14	5.83	15927.39	"	1.8	2.7	45	48	66	2	"	4837	
23014	"	20:24	20:55	"	"	"	"	2.41	5.30	15932.69	"	1.4	2.0	45	47	60	3	"		
23015	"	20.56	21:31	"	"	"	"	2.10	5.65	15938.34	"	1.2	1.6	47	49	64	4	"	4825	
23016	"	21:31	21.52	"	"	"	"	1.55	2.39	15940.73	"	1.0	1.5	50	52	27	0	"	4841	Beam dumped
23017	"	23:28	23:31	"	"	"	"	2.88	0.27	15941.00	"	?	?	34	51	3	0	"	4845	beams lost (high background)
23018	21.9.85	05⁰³	05³⁹	"	"	"	"	0.90	2.30	15943.30	"	1.1	1.2	49	51	26	1	21.800	4847	
23019	—"—	05⁴¹	05⁵⁹	"	"	"	"	0.64	0.88	15944.18	"	1.0	2.0	50	53	10	0	—"—	4848	BEAMS DUMPED
23020	"	06³⁷	07⁰⁵	"	"	"	"	1.25	1.77	15945.95	"	2.0	2.8	39	49	20	3	21.802	4841	MAGNET TRIPPED
23021	"	0830	0906	"	"	"	"	0.57	1.33	15947.28	"	2.2	2.6	51	44	15	0	"	4840	
23022	"	09⁰⁶	0934	"	"	"	"	0.89	1.59	15948.87	"	?	?	~~48~~	~~54~~	18	1	21.800	4841	BEAMS DUMPED
23023	"	10⁰⁷	10⁴¹	"	"	"	"	1.95	3.71	15952.58	"	1.6	2.5	45	48	42	1	21.802	4841	(BEAMS DUMPED)
23024	"	10:42	10:47	"	"	"	"	1.68	0.62	15953.20	"	~~1.8~~	~~3.5~~	46	48	7	0	21.800	4841	↓
23025	"	11²⁴	11⁴⁹	"	"	"	"	2.31	3.89	15957.09	"	1.8	3.5	47	47	44	2	21.802	4841	BEAM DUMPED

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{LG}>6$GeV	T_2 Bit 17 $2T\cdot E_4\cdot \geq 2$TR

2^{10} YSP4 err: DL8 144, 146 no hits. Wire map: call Riesselberg: continue running he will come

V34 power supply of 13.3, 13.4, 14.3, 14.4 exchanged.
DL8 # 146 (wires 1168-1175) bit 4 missing. Radiergummi.

3^{20} Test Run ok



5^{00} VXC/ID/ZC trip

5^{07} System console: Error 90 in 35503 at 173 - FORTRAN runtime error 412 - bad character on input (twice)

Task: YIBMPC.
Same error occured during previous shift, see p51

5^{35} IBM busy for ~1 minute; then MP-16 OUT OF SEQUENCE, which seems to un-jam it.
5^{46} Got stuck in WAITING FOR IBM LINK again - reloaded Nord.

8^{00} Kleinrath, Clarke on shift
8^{15} Fully ready, ToF-rate: ≈2V
8^{20} Background Optimization ToF: ≥2V
Cos back close
9^{00} No beam transmission fail LINAC DOWN
13^{30} vacuum leak after 3 min of running
15^{00} new beam ready, TOF: 5V
15^{30} beam dumped, HV-status at HV-DOWN-request: Jet chamber, Jasso: OFF, Calo, Mark J: ON

can't find any number to call Clarke (arrived at 7:57)
8^{30} Clarke arrived from Cos back

16^{00} A. Diekmann, H. Mills on shift
Gas check ok

16^{21} Hard Trip, beam lost
17^{40} High Deadtime (50%) + High Background (Tof rate ~3V) due to bad vacuum in the machine
18^{11} Soft trip VTX + ID
18^{20} Phone call from Felst: Access will ~~be~~ be on Tuesday 12^{00} - 20^{00}
14^{40} Via telephone talked background from 9V TOF rate to 3V - now PKR's needle is off the stops.
21^{14} Magnet wanders down abit - (-15A). Corrected.

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	<L> 10^{30} cm^{-2}s^{-1}	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ EXP. ENERGY	IBM TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ONLINE REJ. SUM MIPROC T_2-%	ONLINE REJ. NORD-50 T_1 & T_2 %	Σ Bhabha	MH	E_{BEAM}	Mag. Field -1 x Gauss	Remarks

The YIBMPC program has been altered to print a proper debug message on the system console instead of a FORTRAN I/O error (when PC sends occasional rubbish). HEM

21.9 0^{20} Hedgecock + Rancke on shift
0^{30} Gas check o.k.
0^{50} Shunt break; Magnet -> 500 A
4^{15} Filling ready; but TOF Rate > 10V
4^{25} Call PKR: they are working for better conditions
4^{50} TOF-Rate shift ~3V
5^{04} TOF-Rate ~2.2V Run start
LG READOUT ERRORS - HISTOGRAMS LOOK REASONABLE!
07^{05} MAGNET TRIPPED - MH1 CALLED HV RUN DOWN.
Why should a power supply access door suddenly decide to move sufficiently to allow the micro-switch to operate the fault chain and trip off the system??
Answers on a plain post card - winner prize is an extra night shift.
07^{30} During magnet restoration, CELLO announce a new filling, which we agree upon!

8^{00} Heinzelmann + Konamiya

8^{17} background very high → phone to PKR → they are correcting the orbit
After this correction, they will try to optimize the conditions for each expt.
8^{30} Start run background still very high; Dead time ≈ 50%
9^{10} ID Soft trip
11^{30} After orbit correction background still high. ~50% deadtime, TOF ≈ 3.5 V.
All other experiments are o.k. PKR does not know how to improve on our background condition.
Vacuum is bad near to our interaction region.
N 12^{00} ID and VTX Ch. soft trip. Beam lifetime ~15min. TOF > 10V.
12^{15} Beams dumped. PKR reaches vacuum leak.
12^{40} μ filter check list OK
I noticed the O_2 readings of the gas system are appr. factor 2 lower than usually.
O_2 monitor probably needs recharging its battery.
15^{35} Trouble with vacuum. Restart ca. 20:00

16:00 W. Bartel + D. Clarke
16:10 Gas check done Magnet down to 1000 A.

RUN	DATE	START	STOP	AT RUN START I+	AT RUN START I−	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL ×10⁶	TØ REJ. ×10⁶	T₁ ACC SUM	T₂ ACC SUM	T₁ Bit 2 E_LG > 6 GeV	T₂ Bit 17 2T·E_H ≥ 2TR
23026	21.9.85	18.58	19.39	4.77	4.17	24.8	2260	8002	4199	588	146	4351	5112	1410	28
23027	21.9.85	19.39	20.21	4.19	3.65	18.3	2494	8002	4068	649	118	4493	5298	1539	41
23028	"	20.23	21.04	3.72	3.23	16.4	2407	7485	3721	626	103	4359	4813	1418	38
23029	"	21.40	22.16	4.93	4.91	35.5	2175	8002	4342	565	201	4011	4833	1300	32
23030	"	22.17	22.54	4.91	4.89	26.6	2239	8002	4181	583	155	4139	5128	1396	24
23031	"	22.55	23.36	4.34	4.33	21.5	2288	8002	4026	595	128	4380	4982	1456	27
23032	"	23.36	0.17	3.77	3.76	23.8	2414	8002	4128	627	149	4630	4985	1549	24
23033	22.9.85	00.17	00.29	3.27	3.27	18.6	~~2770~~ 660	2278	1160	172	32	1346	1390	443	7
23034	"	00.55	01.32	6.23	6.21	35.3	2196	8002	4400	571	201	3899	5017	1314	33
23035	"	01.32	02.10	5.47	5.46	27.6	2243	8002	4315	583	161	4075	5067	1420	27
23036	"	02.10	02.49	4.83	4.82	22.6	2314	8001	4281	602	136	4237	5085	1458	19
23037	"	02.49	03.31	4.28	4.27	20.0	2502	8002	4118	651	130	4477	5147	1487	27
23038	"	3.32	4.17	3.77	3.77	15.0	2694	7993	4055	679	104	4627	5103	1665	18
23039	"	4.42	5.18	6.46	6.41	45.1	2165	8002	4466	563	254	3694	4833	1261	25
23040	"	5.19	5.54	5.60	5.56	34.3	2136	8002	4305	556	191	4025	4934	1438	27
23041	"	5.55	6.33	4.92	4.88	28.7	2259	8002	4298	597	169	4341	4962	1532	34
23042	"	6.33	7.13	4.31	4.28	19.5	2393	8002	4134	623	122	4551	4915	1543	22
23043	"	7.13	7.31	3.82	3.79	16.4	1053	3307	1604	274	45	1954	2084	649	9
23044	"	8.00	8.38	6.18	6.29	32.5	2270	8002	4523	591	192	3885	5135	1383	25
23045	"	8.38	9.19	5.43	5.53	27.6	2373	8001	4372	618	170	4304	5082	1576	24
23046	"	9.19	9.57	4.76	4.85	22.6	2264	8002	4338	588	134	4482	5057	1552	30
23047	"	09.58	10.40	4.22	4.29	18.5	2544	8002	4111	662	122	4683	5172	1646	28
23048	"	10.40	11.08	3.72	3.79	15.6	1648	4954	2520	428	67	2808	3158	1003	11
23049	"	11.41	12.20	6.21	5.89	30.3	2252	8001	4579	586	177	4014	5282	1433	27
23050	"	12.20	13.00	5.48	5.18	20.2	2356	8002	4342	613	123	4485	5184	1518	25
23051	"	13.00	13.42	4.87	4.58	17.3	2458	8002	4232	638	114	4564	5174	1557	31
23052	"	13.42	14.02	4.31	4.05	18.0	1125	3818	1836	282	55	2246	2377	766	8
23053	"	14.07	14.17	4.01	3.76	15.7	570	1849	835	148	23	1078	1156	350	4
23054	"	14.44	15.22	0.54	6.47	34.8	2239	8001	4407	583	283	3746	5180	1238	31
23055	"	15.22	16.00	5.75	5.68	31.3	2189	8002	4446	569	178	4108	4830	1277	27
23056	"	16.00	16.40	5.10	5.04	23.0	2357	8002	4297	613	141	4160	5189	1373	23
23057	"	16.40	17.19	4.50	4.45	23.8	2323	8001	4167	604	144	4418	4920	1435	27
23058	"	17.19	17.41	3.94	3.90	16.8	1269	3842	1844	330	55	2174	2500	703	11
23059	"	18.06	18.44	6.51	6.49	41.3	2241	8002	4398	583	241	3529	5016	1205	32

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	⟨L⟩ 10³⁰ cm⁻² s⁻¹	Bhabha ∫L dt nb⁻¹	∫L dt EXP. ENERGY	IBM / TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ONLINE REJ. SUM MIPROL T₂ %	ONLINE REJ. NORD-50 T₁ & T₂ %	Σ Bhabha	Σ M.H.	E_BEAM	MAG. FIELD −1.6 Gauss	REMARKS
ON	ON	ON	OFF	2.16	3.45	15960.54	IBM	1.4	1.5	46	50	39	3	21.802	4857	
"	"	"	"	1.92	5.39	15965.93	"	1.6	1.3	48	52	61	0	"	4860	
"	"	"	"	1.73	3.62	15969.55	"	0.9	1.0	48	53	41	5!!	"	4832	beams dumped
"	"	"	"	3.30	6.36	15975.91	"	~1.6	~1.9	~~41~~	49	72	4	"	4838	
"	"	"	"	2.86	7.51	15983.42	"	1.4	1.5	43	51	85	2	"	4837	
"	"	"	"	2.47	4.68	15988.10	"	1.2	1.4	43	53	53	0	"	4834	
"	"	"	"	1.74	4.06	15992.16	"	1.0	1.2	47	51	46	3	"	4834	
"	"	"	"	1.50	0.88	15993.04	"	1.0	1.2	48	52	10	0	"	4834	beams dumped
"	"	"	"	3.81	8.66	16001.70	"	1.7	1.7	39	48	98	0	21.802	4848	
"	"	"	"	3.21	8.57	16010.27	"	1.6	1.3	41	49	97	1	21.802	4849	
"	"	"	"	2.74	5.92	16016.19	"	1.4	1.2	42	50	67	2	21.800	4850	
"	"	"	"	2.22	5.65	16021.84	"	1.1	1.0	46	52	64	2	21.800	4847	
"	"	"	"	1.71	5.45	16027.49	"	1.0	0.8	47	~~97~~	64	1	21.800	4847	beams dumped
"	"	"	"	3.40	7.51	16035.00	"	1.8	1.7	38	47	85	5	21.802	4847	
"	"	"	"	3.25	5.92	16040.92	"	1.6	1.7	40	49	67	1	21.800	4847	
"	"	"	"	2.89	6.36	16047.28	"	1.4	1.5	44	49	82	3	21.800	4847	
"	"	"	"	2.33	4.33	16051.61	"	1.2	1.1	44	51	49	2	21.802	4847	
"	"	"	"	2.01	2.21	16053.82	"	1.0	0.8	48	54	25	1	21.800	4847	Beams dumped
"	"	"	"	3.42	7.60	16061.42	"	1.6	1.5	40	47	86	2	21.800	4847	
"	"	"	"	2.85	6.01	16067.43	"	1.4	1.3	43	48	68	1	21.800	4847	
"	"	"	"	2.45	5.12	16072.55	"	1.2	1.1	46	49	58	1	21.802	4841	
"	"	"	"	1.99	4.24	16076.79	"	1.0	1.1	48	51	48	0	21.802	4840	
"	"	"	"	1.88	2.65	16079.44	"	0.9	0.9	47	52	30	2	21.802	4840	beams dumped
"	"	"	"	3.25	8.13	16087.57	"	1.4	1.9	42	46	92	2	21.800	4840	
"	"	"	"	2.89	5.74	16093.31	"	1.2	1.3	46	49	65	1	21.800	4839	
"	"	"	"	2.34	6.36	16099.67	"	1.0	1.0	46	50	72	2	21.802	4825	
"	"	"	"	2.25	3.18	16102.85	"	0.8	0.8	46	53	36	0	21.800	4837	Nord 50 busy
"	"	"	"	2.35	0.97	16103.82	"	0.9	0.8	47	58	11	0	21.802	4837	beams dumped
"	"	"	"	4.35	7.69	16111.51	"	1.8	1.5	37	47	87	5	21.802	4837	
"	"	"	"	3.58	9.28	16120.79	"	1.6	1.2	37	47	105	4	21.802	4844	
"	"	"	OFF	3.49	8.22	16129.01	"	1.4	1.1	41	49	93	3	21.800	4844	
"	"	"	"	2.56	5.71	16134.22	"	1.2	0.9	44	51	59	7	21.802	"	
"	"	"	"	2.16	3.36	16137.58	"	1.1	0.8	46	55	38	0	21.802	"	beams dumped
"	"	"	"	3.95	8.83	16146.41	"	2.3 / 1.6	2.0 / 1.4	37	48	100	0	21.800	4844	

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ. $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{LG} > 6$ GeV	T_2 Bit 17 $2T\text{-}E_4 \geq 2TR$

60

18:30 Injection started. The leak in the arc between RF North and JADE has not been found. The vacuum groups activated some pumps in that region, which were off before.



PROCESSORS ON/OFF N50	MIP	TOF	FAMP	$\langle L \rangle$ $10^{30}\,cm^{-2}s^{-1}$	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ EXP. ENERGY	IBM TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ONLINE REJ. SUM MIPROC T_2-%	ONLINE REJ. NORD-50 T_1 & T_2 %	Σ Bhabha	MH	E_{BEAM}	Mag. Field -1 x Gauss	Remarks

61

22.9.85

00:00 Glasser & Darvill on shift

IBM busy very frequent, WHY?

H.V. voltage errors reported; already for previous shifts. Supply is definitely on. Controller is not communicating

00:20 Gas check done.

Hodgecock & Schmidt on shift.

3:30 Gas check done; ok.

3:30 IBM busy very frequente IBM called. A Job was killed at the IBM by the operator ⇒ ok

14:05 NORD 50 BUSY Run 23052 stopped → ABOOD-N50 ⇒ Run 23053 started.

16:00 Kawagoe & Swolik on shift

16:10 Gas check done

16:40 MUON CRATE MISSING (12) very frequently.

16:57 TOF Rate ~ 3 T, call PKR

18:52 ID & UTX ch. soft trip.

19:40 back ground very high (TOF rate ~ 4 T), due to the vacuum problem.

19:45 The muon crate 12 cannot be reset any more.
could not reach Jan Chrin. → phoned P. Warming; he will come in his convenient time. (~22:00 or tomorrow morning)

20:40 Utx ch. trip, due to the change of the beam energy.

21:30 could reach Jan Chrin, he will come in 20 minutes.

22:00 Cleaned crate 12 contacts. Now O.Kay. JC.

22:50 Standard Histograms made.

23.9.85
0:00 Haidt & Krehbiel on shift

On Colour Display there is a cryptic flashing message "ISPLAY SEARCHING FOR OLD RUN". Decided not to worry about

Gas check done

0:25 Beams dumped. ZDAS restarted to remove the memotekel

0:50 IBM PC halted with Run-time error.

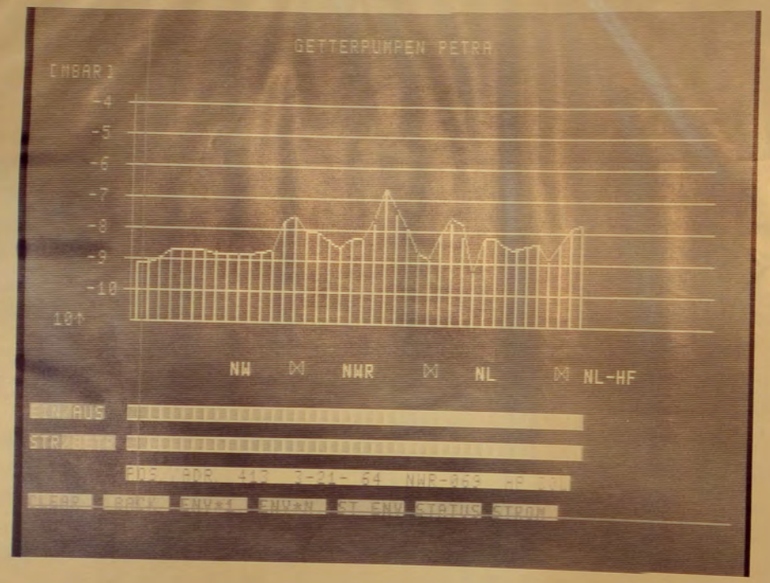
8:00 Mick Feist on shift

Gas check completed Ok

START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ. $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{LG} > 6$ GeV	T_2 Bit 17 $2T\text{-}E_4 \geq 2TR$

Injection started. The leak in the arc between RF North and JADE has not been found. The vacuum groups activated some pumps in that region, which were off before.

21.9.85, 22^{00}



PROCESSORS ON/OFF N50	MIP	TOF	FAMP	$\langle L \rangle$ $10^{30}\,cm^{-2}s^{-1}$	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ EXP. ENERGY	IBM TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ONLINE REJ. SUM MIPROC T_2-%	ONLINE REJ. NORD-50 T_1 & T_2 %	Σ Bhabha	MH	E_{BEAM}	Mag. Field -1.x kauss	Remarks

22.9.85

61

00^{00} Glasser & Darvill on shift

IBM busy very frequent, WHY?

Hv voltage errors reported: already for previous shifts. Supply is definitely on. Controller is not communicating

00^{20} Gas check done.

ρ00 Hadgecock & Schmidt on shift.

ρ^{30} Gas check done; ok.

ρ^{30} IBM busy very frequent. IBM called. A Job was killed at the IBM by the operator ⇒ ok

14^{05} NORD 50 BUSY Run 23052 stopped → ABORD -N50 ⇒ Run 23053 started.

16:00 Kawagoe & Swolik on shift

16:10 Gas check done

16:40 MUON CRATE MISSING (12) very frequently.

16 57 ToF Rate ~ 3 V, call PKR

18 52 ID & UTXch. soft trip.

19 40 back ground very high (TOF rate ~ 4 V), due to the vacuum problem.

19 45 The muon crate 12 cannot be reset any more.
could not reach Jan Chrin. → phoned P. Warming; he will come in his convenient time. (~22:00 or tomorrow morning)

20 40 Vtx ch. trip, due to the change of the beam energy.

21 30 could reach Jan Chrin, he will come in 30 minutes.

22 00 Cleaned crate 12 contacts. Now O.Kay. PK.

22 50 Standard Histograms made.

23.9.85 0 00 Haidt & Krehbiel on shift

On Colour Display there is a cryptic flashing message "ISPLAY SEARCHING FOR OLD RUN". Decided not to worry about

Gas check done

0 25 Beams dumped. ZDAS restarted to remove the menetekel

0 50 IBM PC halted with Run-time error.

ρ^{00} Mills Feist on shift

Gas check completed Ok

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ. $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{LG}>6$GeV	T_2 Bit 17 $2T\cdot E_4 \geq 2$TR
23060	23/9/85	18^{44}	19^{25}	5.70	5.69	34.3	2248	8002	4411	584	200	3816	5079	1282	30
23061	"	19^{25}	20^{01}	4.98	4.99	35.8	2165	8002	4384	563	201	4479	4837	1459	23
23062	"	2002	2040	4.27	4.29	22.7	2286	8002	4235	595	134	4636	5002	1449	24
23063	"	20^{43}	20^{59}	3.70	3.73	18.2	791	2515	1342	206	37	1491	1564	473	8
23064	"	21^{27}	22^{05}	6.29	6.16	44.0	2381	8001	4422	593	261	3448	5149	1087	23
23065	"	22^{05}	22^{43}	5.50	5.39	31.5	2253	8002	4307	586	185	3870	5014	1272	29
23066	"	22^{43}	23^{22}	4.86	4.76	23.5	2325	8002	4265	605	142	4168	5103	1321	26
23067	"	23:23	0:04	4.30	4.21	19.4	2476	8001	4094	644	125	4333	5146	1352	30
23068	23/9/85	00.04	0:24	3.81	3.73	16.5	1144	3439	1742	298	49	1894	2234	558	13
23069	"	0^{49}	1^{31}	6.54	6.42	39.8	2292	8002	4527	596	237	3618	5332	1108	23
23070	"	1^{21}	2^{02}	5.66	5.58	29.7	2281	8002	4516	593	175	3936	5336	1213	24
23071	"	2^{10}	2^{50}	4.99	4.93	23.8	2385	8001	4448	620	148	4189	5433	1341	22
23072	"	2^{51}	3^{33}	4.40	4.35	19.2	2521	8001	4252	656	126	4333	5448	1344	17
23073	"	3^{34}	3^{50}	3.88	3.85	27.6	872	2412	1253	227	63	1342	1592	385	6
23074		4:15	4:53	6.61	6.55	38.2	2267	8002	4632	590	225	3760	5285	1796	43
23075	"	4^{53}	5:32	5.76	5.73	30.0	2314	8001	4478	602	181	4014	4188	1223	28
23076	"	5^{33}	6:12	5.06	5.05	23.0	2364	8002	4461	616	141	5317	5247	1249	30
23077	"	6^{12}	6:53	4.47	4.46	21.9	2405	8001	4307	626	137	4293	5394	1314	30
23078	"	6:53	7:18	3.94	3.94	18.8	1465	4643	2445	381	72	2591	3059	753	21
23079	"	7^{41}	8^{22}	6.46	6.18	31.5	2228	8002	4580	579	182	3890	5115	1184	37
23080	"	8^{23}	8^{53}	5.59	5.35	25.0	542	2009	1110	141	35	1012	1270	279	12
23081	"	8^{37}	8^{42}	5.34	5.17	18.5		2005	2005						
23082	"	8^{43}	8^{52}	5.21	4.94	14.1		2017	2017						
23093		8^{53}	9^{34}	5.04	4.93	24.2	2395	8002	4218	623	150	4281	5224	1237	28
23086	"	9^{43}	10^{10}	4.20	4.02	27.5	1430	5076	2716	371	102	2964	3186	831	24
23085	"	12^{17}	12^{57}	6.43	5.96	30.6	2299	8002	4292	597	182	3441	5253	1115	24
23086	"	12^{58}	13^{38}	5.54	5.17	23.8	2384	8002	4257	620	147	4144	5259	1134	17
23087	"	13^{38}	13^{51}	4.86	4.44	18.9	731	2431	1264	190	36	1294	1543	374	10
23088	"	13^{51}	13^{57}	4.65	4.29	25.7	390	1019	532	83	21	589	577	154	1
23089	"	13^{58}	14^{04}	4.56	4.20	21.8	330	1016	534	86	19	560	631	177	2
23090	"	14^{04}	14^{09}	4.47	4.12	16.0	304	1018	521	79	13	576	624	146	2
23091	"	14^{11}	14^{16}	4.37	4.03	19.4	312	1015	513	81	16	558	644	148	0
23092	"	14^{17}	14^{23}	4.29	3.95	15.2	319	1022	539	83	13	582	630	170	2
23093	"	14^{24}	14^{30}	4.20	3.87	18.2	331	1013	517	86	16	578	612	157	2
23094	"	14^{30}	15^{01}	4.12	3.78	14.7	1834	5272	2581	477	70	2937	3484	747	24

PROCESSORS ON/OFF NSO	MIP	TOF	FAMP	$\langle \mathcal{L} \rangle$ 10^{30} cm^{-2} s^{-1}	Bhabha $\int \mathcal{L}dt$ nb^{-1}	$\int \mathcal{L}dt$ EXP. ENERGY	IBM TAPE OUTPUT	AT RUN START ID (μA)	AT RUN START TOF (V)	ONLINE REJ. SUM MIPROC T_2 %	ONLINE REJ. NORD-50 T_1&T_2 %	Σ_{Bhabha}	MH	E_{BEAM}	Mag. Field -1=Gauss	Remarks
ON	ON	ON	OFF	3.24	7.51	16153.92	IBM	1.6	1.4	38	48	85	0	21.802	4844	
"	"	"	"	2.49	5.30	16159.22	"	1.45	1.4	44	48	60	2	"	"	
"	"	"	"	2.14	5.92	16165.14	"	1.2	1.4	46	50	67	2	"	"	
"	"	"	"	2.09	1.15	16166.29	"	1.0	1.1	49	50	13	2	21.800	4841	Beams Dumped
"	"	"	"	3.51	6.63	16172.92	"	2.4	2.1	36	48	75	0	21.802	4844	
"	"	"	"	3.23	8.04	16180.96	"	1.8	1.4	38	49	91	3	21.802	"	
"	"	"	"	2.66	5.65	16186.61	"	1.5	1.25	40	50	64	0	21.800	"	
"	"	"	"	2.24	5.92	16192.53	"	1.3	1.0	43	52	67	1	21.802	4847	
"	"	"	"	2.24	2.12	16194.65	"	1.15	0.8	44	53	24	1	21.802	4845	Beams dumped
"	"	"	OFF	3.89	8.22	16202.87	"	2.25	1.7	39	46	93	5	21.802	4845	
"	"	"	"	3.58	7.42	16210.29	"	1.5	1.6	42	46	84	1	"	4844	
"	"	"	"	2.86	6.63	16216.92	"	1.3	1.3	44	47	75	2	"	"	
"	"	"	"	2.44	5.83	16222.75	"	1.0	1.0	45	50	66	1	21.800	"	
"	"	"	"	1.66	1.77	16224.52	"	1.0	1.0	47	51	20	0	"	"	beams dumped
"	"	"	OFF	3.92	8.84	16233.36	"	1.6	1.7	39	45	100	3	21.802	4845	
"	"	"	"	3.30	6.98	16240.34	"	1.4	1.5	42	47	79	1	"	4	
"	"	"	"	2.91	6.18	16246.52	"	1.2	1.4	43	47	70	3	21.800	5	
"	"	"	"	2.28	5.04	16251.56	"	1.1	1.4	45	49	57	3	"	4	
"	"	"	"	1.97	3.36	16254.92	"	1.0	1.1	46	50	38	1	21.802	5	Beams dumped
"	"	"	"	4.17	9.72	16265.64	"	1.6	1.6	40	45	110	1	21.802	4844	
"	"	"	"	4.68	1.69	16267.32	"	1.5	1.4	39	48	19	2	"	"	
"	"	"	"	4.03	2.10	16269.42	"	1.4	1.25	?	0			"	"	N-50 dummy
"	"	"	"	3.99	2.12	16271.54	"	1.4	1.25	?	0			"	"	No N-50 (20ASD)
"	"	"	"	3.14	7.07	16278.61	"	1.3	1.2	43	50	80	1	"	"	JAM by...
"	"	"	"	3.02	2.47	16281.08	"		2.5	48	49	28	0	"	"	beams dumped
"	"	"	"	4.33	9.63	16290.71	"	1.7	1.7	39	49	109	2	21.802	-4843	
"	"	"	"	3.86	9.28	16299.99	"	1.5	1.4	41	50	105	1	21.802	4841	
"	"	"	"	3,27	2.92	16302,91	"	1.3	1.1	41	51	33	0	"	-4842	
"	"	"	ON	2,80	0,88	16303, 79	"	1,2	1,0	38	52	10	0	"	- 4840	
"	"	"	"	3,25	0,80	16304, 59	"	1,2	1,0	42	51	9	0	"	"	Pump slave 2 not on!
"	"	"	"	3,36	0,80	16305, 39	"	1,15	1,0	44	52	9	0	"	-4841	" " 1,2 " " (only 3)
"	"	"	"	3,17	1,15	16306, 54	"	1,10	1,0	45	53	13	0	"	-4840	" " 2 only.
"	"	"	OFF	2,85	0,88	16307, 38	"	1,1	0,95	44	51	10	0	"	"	
"	"	"	ON	2,40	0,44	16807, 82	"	1,05	0,9	42	52	5	1	"	"	all 3 slaves
"	"	"	OFF	2.50	5.12	16372.94	"	1,0	0.9	45	54	58	0	21.802	4.841	beams dumped

RUN	DATE	START	STOP	AT RUN START I+	AT RUN START I-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL ×10⁶	TØ REJ ×10⁶	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 E_{LG}>6GeV	T_2 Bit 17 $2T\cdot E_4\cdot \geq 2TR$

Tests made on source of deadtime

Made in middle of a good fill but with fairly high trigger rate (~5 Hz raw).
All runs ~ 2000 events into N10 (after TT-16 rejection).

Run	Dead time	Comments
23080	25%	Normal
23081	18.5%	ZDAS1 but dummy N-50 program
23082	19.1%	ZDASØ (1 buffer, no N-50)
23083	21.7%	Normal

What does this prove? Given these running conditions the overheads of driving the N-50 in addition to ZDASØ are negligable. The difference between dummy N-50 & analysis is small - may be a few %. For this cost we have monitoring, significant event filtering and event classification.

It would seem that the main source of deadtime lies elsewhere – such as time taken for actual readout (CAMAC time, waiting for Q_S) and possibly buffering. HMen

Just as run 23093 ends the TOF rate ⇒ 3σ & Jet & BP chambers trips. - Optics wrong.
LG HV read problems - Call Hawagoe - he not yet in.

9^{62} soft trip search, BPCH

Short break. magnet ⇒ 1000A
11^{43} magnet true to ~500 A, injekt
11^{55} Beams lost whilst optimising. Short break.
12^{17} New beams
12^{19} BP-CH hard trip

16^{00} Darvill & Magnussen on shift.
16^{12} gas check done
16^{05} VTch soft trip
16^{47} — u
16^{54} beams lost ; all chambers tripped
17^{24} new fill ready
17^{25} beams lost, all ch. tripped

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	<L> 10^{30} cm^{-2}s^{-1}	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ EXP. ENERGY	IBM TAPE OUTPUT	At Run Start ID (μA)	TOF (V)	ONLINE REJ. SUM MIPROC T_2 %	NORD-50 T_1 & T_2 %	Σ_{Bhabha}	MH	E_{BEAM}	Mag. Field -1.6 Gauss	Remarks

17^{40} We have a short break, so I call CELLO to find out what's wrong, then PKR to see if we should run the magnet down. They say not yet. They don't expect the break to be long.
17^{46} Injection begins.
18^{15} Cello informs us that PETRA will be off for 1 hour to repair a power-supply of a Quadrupole Magnet → 1000 A
22^{40} The quadrupole magnet power supply is now cured - they believe - but now there is a LINAC problem. Experts are on the way.
23^{20} Trouble with LINAC 1 ; RESTART CA. 2.00 AM ; appears on screen

24.9.85

0^{00} Ramcke on shift (Komamiya later)
Break Restart not before 2.00 AM
0^{15} Gas check ok
2^{20} Komamiya arrived, same time Beams are ready at the
2^{30} VTX ch trip (due to high background) several times HV 1475→1450→1425 Run 23098
2^{55} ID + VTX trip VTX ch. voltage reduced HV 1475→1450 Run 23099
3^{30} VTX. trip
4^{00} VTX ch voltage increased HV = 1475 Run 23100
4^{15} VTX ch + ID. trip (TOF-Rate ≠ 6V)
6^{40} VTX ch trip (due to high background)
PKR said it is due to bad vacuum. We do not believe it. Since it was acceptable condition in the beginning of this filling, why the vacuum gets worse?
6^{45} VTX ch HV = 1425 V Run 23104 HV→1450

8^{00} S Castwright on shift (+ Bob Glasser, in theory, but no sign of him)
8^{20} Gas check done
8^{50} CELLO phone to say that (since there has been a SHORT BREAK for the last 1½ hours) PKR suggest that the planned access should take place now not this p.m. Ergo, no beam for hours. Switch off magnet.
9^{00} Magnet off. Cannot reach Herr Felst. "Still no Glasser. PETRA "Wiederbeginn ca 1700"

RUN	DATE	START	STOP	AT RUN START I⁺	AT RUN START I⁻	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL ×10⁶	TØ REJ ×10⁶	T₁ ACC SUM	T₂ ACC SUM	T₁ Bit2 E_LG>6GeV	T₂ Bit17 2T·E_H ≥ 2TR
23095	23.9.85	16⁵⁵	16⁵⁹	6.83	6.74	31.9	1098	3835	2099	285	91	1821	2585	478	10
23096	"	17²⁴	17²⁵	6.79	6.99	37.1	34	190	114					27	0
23097	"	18⁰⁹	18¹¹	6.69	6.68	43.1	69	277	167					35	0
23098	24.9.85	2²⁹	3¹⁴	6.18	6.25	35.8	2349	8002	4299	611	219	3772	5710	1014	28
23099	"	3²⁰	4⁰⁰	5.15	5.29	28.4	2384	8002	4390	620	176	3609	5579	1003	29
23100	"	4⁰³	4⁵⁰	4.43	4.62	23.5	2419	8002	4058	630	148	4039	5275	1073	26
23101	"	4⁵⁶	5⁴³	3.58	3.76	15.9	2741	8002	3834	713	113	4107	5599	1058	28
23102	"	5⁴⁴	6⁰¹	3.13	3.29	14.5	1008	2841	1384	262	38	1504	1959	442	7
23103	"	6³⁰	7⁰⁹	6.30	6.36	45.2	2323	8002	4212	605	273	3424	5684	987	30
23104	"	7¹⁰	7¹⁴	5.40	5.47	44.2	264	967	476	69	30	427	596	118	7
23105	25.9.85	4¹⁵	4¹⁶	only pedestals DDAS problems											
23106	"	4²¹	4²²												
23107	"	5⁰¹	5³⁵	6.14	6.19	48	1421	5198	3062	370	179	2491	3194	826	27
23108	"	6⁰⁰	6³³	6.37	6.08	48	1721	6072	3458	448	215	2806	3866	929	24
23109	"	7⁰³³	8¹¹	6.31	6.13	65.1	2251	8002	4185	586	381	2818	5211	869	22
23110	"	8¹¹	8⁴⁸	5.36	5.21	47.0	2193	8002	4479	570	268	4013	5024	1250	25
23111	"	8⁴⁹	9¹⁹	4.60	4.48	27.5	1624	5865	3239	422	116	3169	3741	1012	21
23112	"	9⁴⁹	10¹³	6.47	6.25	49.5	1385	5033	2817	360	179	2340	3088	713	18
23113	"	10¹⁵	10⁵²	5.82	5.33	39.1	2156	8002	4500	561	219	4133	4900	1359	30
23114	"	10⁵³	11³⁰	5.03	4.53	27.5	2223	8002	4314	579	159	4199	5150	1347	27
23115	"	11³¹	12¹⁰	4.34	3.91	21.8	2331	8002	4134	606	132	4405	4999	1359	24
23116	"	12¹¹	12⁵⁵	3.72	3.38	16.7	2649	8002	3870	689	145	4496	5327	1402	24
23117	"	12⁵⁵	13⁴⁵	3.19	2.93	13.6	2959	8002	3830	770	105	4719	5330	1410	25
23118	"	13⁴⁵	14³⁴	2.70	2.54	13.6	2909	8002	3638	757	103	4882	5268	1481	24
23119	"	14³⁵	15³⁰	2.27	2.18	11.5	3253	8002	3430	847	97	4997	5181	1492	33
23120	"	15²⁹	16³⁰	1.89	1.87	11.1	3513	8002	3387	914	102	5070	5285	1463	31
23121	"	16³¹	16⁴⁰	1.59	1.59	93	340	832	343	88	8	530	477	160	0
23122	"	18²³	18³²	5.75	6.09	28.2	406	1502	820	106	30	700	922	196	4
23123	"	18³²	19¹⁰	5.59	5.92	24.3	2290	8001	4444	596	145	4004	5114	1234	33
23124	"	19¹¹	19⁵¹	4.88	4.90	19.3	2432	8001	4240	633	122	4416	5066	1340	26
23125	"	19⁵¹	20³⁷	4.26	4.29	15.4	2675	8002	4118	696	111	4470	5300	1422	25
23126	"	20³⁷	21²²	3.70	3.74	13.7	2674	7373	3561	695	94	4281	4825	1293	25
23127	"	22⁰³	22⁴³	5.61	5.61	21.0	2445	8002	4248	636	133	4098	5232	1165	26
23128	"	22⁴⁵	23²⁸	4.87	4.91	17.8	2552	8002	4112	664	118	4242	5142	1318	30
23129															

PROCESSORS ON/OFF NSO	MIP	TOF	FAMP	⟨L⟩ 10³⁰ cm⁻² s⁻¹	Bhabha ∫L dt nb⁻¹	∫L dt EXP. ENERGY	IBM/TAPE OUTPUT	AT RUN START ID (μA)	AT RUN START TOF (V)	ONLINE REJ. SUM MIPROC T₂ %	ONLINE REJ. NORD-50 T₁&T₂ %	Σ Bhabha	MH	E_BEAM	Mag. Field ±1 Gauss	Remarks
ON	ON	ON	OFF	6.14	4.86	16317.80	IBM	1.7	1.6	37	48	55	ø	21.82	4844	beams lost
"	"	"	"	5.73	0.44	16318.24	"	1.8	1.6			5	8	21.802	4841	beams lost
"	"	"	"	3.43	0.27	16318.51	"	1.8	2.0	39	45	3	ø	21.82	4842	beams lost
"	"	"	"	4.01	8.66	16327.17	"	1.8	2.2	40	48	98	3	"	4860	VTXCHV = 1450
"	"	"	"	3.47	8.30	16335.47	"	1.7	1.8	39	48	94	5	"	4859	VTXCHV = 1430
"	"	"	"	2.57	5.74	16341.21	"	1.6	1.3	41	52	65	6	"	"	VTXCHV = 1475
"	"	"	"	1.89	5.83	16347.04	"	1.3	1.2	45	55	66	2	"	"	-"-
"	"	"	"	1.61	2.12	16349.96	"	1.2	0.9	45	55	24	1	21.800	"	-"- Beams dumped
"	"	"	"	3.61	8.13	16357.29	"	2.2	2.0	38	49	92	4	21.802	"	~~Beams lost~~ HV 1450/1475
"	"	"	"	3.14	0.62	16357.91	"			37	54	7	0	21.800	"	Beams lost HV 1450
"	"	"	"	2.77	4.51	16362.42		2.0	3.0	39	44	51	0	21.802	4847	VTXCHV = 1450 Beams lost
"	"	"	"	3.03	5.12	16367.54		1.8	2.5	~~48~~	46	58	1	21.800	4845	VTXCHV = 1450 Beams lost
"	"	"	"	1.95	4.77	16372.31	"	2.3	3.0	41	49	54	0	21.800	4847	VTXCHV = 1450
"	"	"	"	2.22	3.45	16375.76	"	2.5	3.2	43	47	39	1	21.800	4844	VTXCHV = 1450 *) comm shower
"	"	"	"	2.27	4.33	16380.09	"	1.4	1.7	43	48	49	(1)*)	21.800	4844	VTXCHV = 1450 Beams lost
"	"	"	"	3.40	4.68	16384.77	"	1.8	2.3	38	47	53	1	21.802	4846	VTXCHV = 1450
"	"	"	"	2.96	7.07	16391.84	"	1.7	2.2	41	47	80	3	21.802	4845	VTXCHV = 1475 normal
"	"	"	"	2.50	5.57	16397.41	"	1.4	1.4	43	49	63	0	21.800	4845	
"	"	"	"	2.48	5.57	16402.98	"	1.4	1.2	44	51	63	0	21.802	4844	
"	"	"	"	1.94	4.15	16407.13	"	1.2	0.9	46	54	47	2	21.802	4847	
"	"	"	"	1.50	4.33	16411.46	"	1.0	0.7	49	55	49	0	"	"	
"	"	"	"	0.98	2.83	16414.29	"	0.8	0.6	50	57	32	0	21.800	4847	
"	"	"	"	0.69	1.59	16415.88	"	0.7	0.5	51	60	18	0	21.800	4847	
"	"	"	"	0.54	1.33	16416.41	"	0.5	0.5	53	60	15	0	21.800	"	
"	"	"	"	0.40	0.09	16416.50	"	0.4	0.34	49	61	1	-	21.802	"	beams ~~fell~~ dumped
"	"	"	OFF	4.60	2.19	2.19	"	1.5	1.4	37	49	25	0	21.77	"	
"	"	"	ON	4.24	9.74	11.93	"	1.5	1.4	41	47	111	1	21.725	"	
"	"	"	"	3.45	8.69	20.62	"	1.3	1.1	44	50	99	1	"	4846	
"	"	"	"	2.73	6.93	27.55	"	1.1	0.8	47	51	79	1	21.727	"	
"	"	"	"	2.15	6.40	33.95	"	0.9	0.6	47	55	73	0	21.725	4845	beams dumped.
"	"	"	"	3.95	8.25	42.20	"	1.6	1.2	41	50	94	2	"	"	
"	"	"	"	3.16	6.84	49.04	"	0.9 → 1.1	1.2 → 0.7	42	52	78	0	21.727	"	

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{LG}>6GeV$	T_2 Bit 17 $2T\cdot E_4 \geq 2TR$

16.00 Diekmann and Kado on shift
16.48 gas check done
17.20 "Injection" . Our Magnet on FAULT (Pumpenausfall) . Call MK1

18.00 IBM down

25/09/85

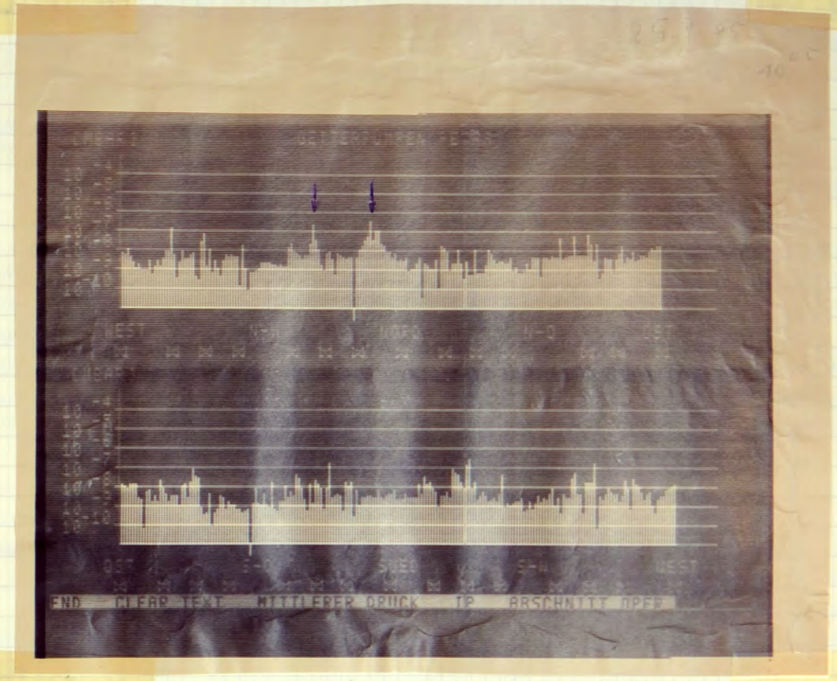
0⁰⁰ Heinzelmann & Kawagoe on shift
0¹⁰ Gas Check Done.
0³⁰ PKR " VAKUUM TROUBLE , RESTART CA. 7.00 AM"
We decided to share the shift 0³⁰ → 4¹⁵ Kawagoe . 4¹⁵ → 8⁰⁰ Heinzelmann.
2⁵⁰ RESTART C.A. 3.00 AM
3¹⁰ Injection starts
3⁴³ Beams ready. TOF rate ~ 4V . PKR said this is due to the bad vacuum condition near our experimental site.
Set VTXCH HT to 1450. Try to start run. Funny messages: NORD50 hung, No events ....
Restart 3DAS ⇒ seems ok but meanwhile beams lost 4:25
4:50 NF ready, 5:00 start run with VTXCH HT at 1450 V.
5:15 only 9-chamber alarm
5:34 beams lost
5:55 NF ready VTXCHV = 1450 V. /6:05 VTXCH-trip /6:33 beams lost
7:25 NF ready — " —

8⁰⁰ P. Warming and H. Rieseberg on shift.
8¹⁰ Gas check OK

Still beam conditions are very bad. We are running with a trigger rate of 10 Hz and 65% dead time (currents are 5.4/5.2 mA) . Specific Luminosity is 13×10^{28} only. (uncorrected for dead time)
TOF rate is >3V . Beam life time ~ 4h.
PKR: Mr. Lennige says: He is trying to reduce the background. The bad vacuum in the Nord is still there. Leak is not yet found. A few pumps are not working properly. May be that the vacuum is not the only problem!. Our collimators cannot be operated from the PKR, but it is expected that they would not improve the situation much.
The beam losses of last night were produced by Sonderausfall.
8⁵¹ VTXC + ID soft trip
9²⁰ Beams lost, all chambers tripped

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	$\langle L \rangle$ 10^{30} cm^{-2}s^{-1}	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ EXP. ENERGY	IBM TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ONLINE REJ. SUM MIPROC T_2-%	ONLINE REJ. NORD-50 T_1 & T_2 %	Σ_{Bhabha}	MH	E_{BEAM}	Mag. Field ~1 x Gauss	Remarks

9⁴⁶ NF ready . Improved background conditions : TOF rate 2.2 V, Trigger rate 7 ± 8 (Herr Riesel is in the PKR)
Run # 23112 started : Read Error, LG mainframe 15 no response.
10¹⁵ Set VTXCH HT to 1475 V . Run 23113 started.



No improvement of vacuum since 21.9.85 (compare page 60)

10⁵⁰ J. Olsson runs RI-HB (LG HV reset) Program
Error flag 3 in Rng 26-T and 6E . Reason May be interference with YVOLTS . Repeat during next filling : He also pulls the CAMAC cables
11⁰³ Muon Crate 12 trips ///
~ 11¹⁵ During Run 23114 still problems with LG HV :
No Response from Mainframe 15.
Distributors 0-7 and 18 wrong voltages
K. Kawagoe was on night shift ; N. Magnussen can not be reached
1¹⁵⁰ N. Magnussen here to check on the LG-HV Problems: (Program TSTHV (LBZ))
Conclusion : All voltages OK, only read out error ; cured by cleaning of cable contacts

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{LG}>6$GeV	T_2 Bit 17 $2T\cdot E_4 \geq 2$TR

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	$\langle L \rangle$ 10^{30} cm^{-2}s^{-1}	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ EXP. ENERGY	IBM TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ONLINE REJ. SUM MIPROL T_2 %	ONLINE REJ. NORD-50 T_1 & T_2 %	Σ_{Bhabha}	MH	E_{BEAM}	Mag. Field ~1.6 kGauss	Remarks

12^{15} Call from CELLO : Refilling is not possible , problems with DESY

14^{40} Z-chamber trip

14^{44} Vtx dr. Valve failure , pushing button PCS did not help , I had to open Valve V14 for 1 sec.

15^{10} Injection to PETRA still not possible . We are taking data with currents 2/2 mA , $\mathcal{L} \approx 40 \times 10^{28}$, $L \approx 0.7 \cdot 10^{30}$

Darg Run 23119 Problems mit Missing Muon Crate # 12 . P.W. ~~exchanges~~ pushes cards in and out

At Start of R 23120 again : No response from L6 - Mainframe 15 . N.M. is coming

15^{36} Z-chamber trips

Note : The first bin of the z-chamber Mean $A^+ + A^-$ is high since this morning . Susan C. has seen this before.

16^{00} J. Chrin & U. Schneekloth on shift

gas check done

16^{40} beams dumped

18^{23} new fill ready , started RUN 23122 different energy $E_b = 21.727$ GeV

18^{35} After a good deal of testing, the conclusion on FAMP is that the new spare slave (Nr ?) is different from the others and is the cause of excessive deadtime. From R23123, FAMP is on, with only slaves 1, 3 working. If shift crews suspect that FAMP is causing excessive deadtime also in this running mode, they may switch off (F15, F9, 3, F1) and thus try without. Please consult with me, 3.0., in daytime. J.O.

22^{03} new fill , started RUN 23127

23^{14} Z ch. hard trip

26.9.85

00^{00} Heinzelmann & Darvill on shift.

00^{10} Gas check done. O.K.

Z-chamber trip

00^{45} we have had 3 occurences in this run i.e. ½ hour of IDAS ERROR 73 - CAMAC access fail branch 1 crate 7 : Beampipe chamber

02^{40} Z-chamber trip.

8^{00} Cartwright, Hagemann

8^{15} Gas check done, OK

11^{53} IDAS readout error 73: CAMAC access fail br 1 cr 7 BPC again 12^{14}, 13^{37}, 13^{51}, 14^{06}, 14^{21}, 14^{55}

16^{00} K. Kawagoe and H. Rieseberg on shift , NF ready

At start of Run # 23148 : VTXC-Processor cannot be started , IDVX = 0. Reload → o.k.

17^{25} TOF - Rate →>10 V . ID + VTXC soft trips , Vacuum problem near to JADE , not the old leak in the North

Beam lifetime ½ h ,

18^{10} VAKUUM PROBLEME , RESTART SOBALD ALS MÖGLICH

18^{30} Vacuum problem not yet understood . The sharp (water) spear near to JADE (see page 69) did not increase . Magnet → 1500 A

PKR très near filling

19^{05} NF - ready with low currents 4.8/4.8 mA

Before start of Run Valve failure alarm and "Sender störung" then smooth runs

20^{20} During Run 23152 several times Muon Crate # 12 missing , reset

21^{30} NF ready

22^{00} During Run 23154 , Muon Crate # 12 is missing very often We have to reset every minute J. Chrin is coming

22^{15} Reform Job submitted.

23^{00} ID & VTXC soft trip

23^{50} Run 23157 high dead time by IBM busy

27.9.85

0:00 Schmidt & Smolik on shift

0:12 Gas check O.K.

1:05 VTXC soft trip

2:05 Jet + VTXC soft trip

2:10 NORD hang up.

6:56 VTXC hard trip

8:00 Komamiya & Chrin on shift

9:25 beam lost - short break. Re-start 10:30 (Transmitter failure).

11:46 New Fill . Vtx hard trip ,

16.00 ~~Kleinwort~~ + Narodzka Heinzelmann

16:20 Gas check done

19.40 ID soft trip , parts of beam lost .

Petra wants new injection dump .

20.00 PETRA short break: Vacuum leak in a transmitte.

Power JADE magnet.

28.9.85 Schneeblok + Warming on shift

gas check done , OK

2^{37} without any action from the shift personal the JETC Wire maps appeard on the Tektronix screen and went on to the gould plotter — magic ? —

4^{15} we agreed to have a new fill but PKR has problems with positrons , so we continue present run

4^{39} IDAS readout error 73 - Camac access failed branch 1 crat 7 (Vtxd)

5^{50} LinacII broken ; experts have to be called in (after 7:00 ?), so we have to keep this fill

Lumi run slowly transforms into a cosmic run .

RUN	DATE	START	STOP	AT RUN START I+	AT RUN START I-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL ×10⁶	TØ REJ ×10⁶	T1 ACC SUM	T2 ACC SUM	T1 Bit 2 $E_{LG}>6$GeV	T2 Bit 17 $2T\cdot E_\gamma \geq 2TR$
23129	25.9.85	23:29	00:15	4.26	4.31	14.5	2768	8001	3859	720	104	4472	5234	1268	26
23130	26.9.85	00:16	00:46	3.71	3.77	13.8	1726	4609	2192	449	62	2716	2878	771	14
23131	~	01:13	01:55	6.13	6.60	32.4	2503	8002	4298	651	211	3683	5191	1119	28
23132	~	01:55	02:35	5.26	5.35	23.4	2368	8002	4225	621	145	3963	5100	1197	30
23133	~	02:36	03:21	4.59	4.68	17.1	2599	8002	4079	676	116	4211	5201	1270	34
23134	~	03:21	03:40	3.98	4.08	14.7	1136	3322	1640	296	43	1764	2187	528	4
23135	"	04:18	4:58	6.39	6.33	25	2338	8002	4417	608	152	3843	5204	1112	23
23136	"	4:59	5:04	5.55	5.51	21	306	1039	561	80	17	507	665	137	3
23137	"	5:37	6:19	6.26	6.17	21.7	2525	8002	4345	657	142	4037	5390	1194	36
23138	"	6:20	7:03	5.44	4.63	17.3	2615	8002	4197	681	118	4163	5396	1131	28
23139	"	7:04	7:51	4.74	4.01	14.8	2824	8002	4052	735	109	4393	5265	1195	22
23140	"	7:52	8:00	4.10	3.46	13.0	441	1177	598	115	15	634	783	162	5
23141	"	9:14	9:56	5.58	6.33	20.3	2525	8001	4509	657	133	3985	5306	1067	25
23142	"	9:56	10:41	4.81	5.31	16.5	2687	8001	4292	699	115	4290	5324	1196	31
23143	"	10:41	11:30	4.14	4.59	14.8	2893	8001	4049	753	112	4455	5340	1182	17
23144	"	11:30	12:22	3.55	3.97	13.2	3104	8002	3903	807	107	4572	5588	1236	28
23145	"	12:23	13:01	3.01	3.40	12.1	2289	5587	2641	595	72	3324	3753	874	19
23146	"	13:35	14:17	4.70	6.35	21.7	2474	8002	4519	644	140	4034	5547	1145	33
23147	"	14:17	14:46	4.03	5.43	18.0	1676	5198	2767	436	79	2777	3577	761	18
23149	"	16.06	16.46	5.40	5.71	22.4	2436	8002	4388	635	142	4116	5349	1062	43
23150	"	16:47	17:26	4.66	4.94	18.7	2338	7116	3732	609	114	3854	4912	994	27
23151	"	19:16	20:05	~~3.71~~ 3.91	4.45	14.9	2881	8002	4185	760	112	4232	5676	1053	30
23152	"	20:06	20:59	3.70	3.85	13.6	3183	8002	3999	829	113	4418	5618	1124	35
23153	"	20:59	21:11	3.18	3.32	12.1	663	1634	830	173	21	932	1151	228	5
23154	"	21:33	22:12	6.29	6.41	26.2	2344	8001	4492	610	160	3773	5189	1063	22
23155	"	22:13	22:54	5.46	5.57	20.4	2463	8001	4438	641	131	3958	5294	1111	32
23156	"	22:54	23:44	4.74	4.85	19.0	2810	8001	4145	731	139	4318	5383	1166	23
23157	"	23:44	0:32	4.04	4.14	19.2	2828	7170	3523	735	140	3921	4865	975	21
23158	27.9.85	1:03	1:43	6.72	6.55	29.6	2380	8002	4460	618	183	3537	5304	1013	26
23159	"	1:43	2:04	5.84	5.70	24.8	1183	3965	2116	308	76	1817	2615	524	13
23160	"	Junk ~~~~~~~~~~				~0 nanb									
23161	"	2:16	3:00	5.22	5.03	19.0	2587	8001	4230	673	128	4068	5412	1105	28
23162	"	3:01	3:49	4.55	4.43	16.9	2861	8002	4086	744	125	4247	5447	1102	17
23163	"	3:49	4:34	3.95	3.86	14.9	2701	6988	3587	703	104	3885	4703	946	26

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	<L> 10^{30} cm⁻² s⁻¹	Bhabha $\int L\,dt$ nb⁻¹	$\int L\,dt$ Exp. Energy	IBM/TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ONLINE REJ. SUM MIPROL T_2 %	ONLINE REJ. NORD-50 T_1&T_2 %	Σ_{Bhabha}	MH	E_{BEAM}	Mag. Field ~1 a Gauss	Remarks
ON	ON	ON	ON	2.43	5.70	54.74	IBM	1.1	0.7	44	55	65	1	21.727	4844	
"	"	"	"	1.86	3.25	57.99	"	0.9	0.6	46	55	37	1	21.725	4844	Beams dumped.
"	"	"	"	4.51	11.41	69.40	"	1.8	1.2	35	49	130	2	21.725	4844	
"	"	"	"	3.86	7.55	76.95	"	1.7	1.1	37	50	86	5	21.725	4847	
"	"	"	"	3.01	7.98	84.93	"	1.4	0.85	40	52	91	2	21.725	4846	
"	"	"	"	2.75	2.90	87.83	"	1.2	0.75	42	53	33	1	21.725	4847	Beams dumped.
"	"	"	"	5.16	10.44	98.27	"	1.6	1.2	37	48	119	0	21.725	4844	
"	"	"	"	4.46	1.40	99.67	"	1.4	>1.	36	50	16	0	21.727	4844	Beams lost
"	"	"	"	4.63	12.90	112.57	"	1.5	1.2	40	49	147	4	21.725	4844	
"	"	"	"	3.36	7.28	119.85	"	—	—	42	51	83	2	21.727	4843	
"	"	"	"	2.68	7.20	127.05	"	1.1	0.7	43	52	82	5	21.727	4844	
"	"	"	"	2.85	0.79	127.84	"	1.0	0.6	44	53	9	0	21.727	4842	Beams dumped
"	"	"	"	5.14	12.63	140.47	"	1.4	1.1	39	46	144	5	21.725	4843	
"	"	"	"	3.65	11.06	151.53	"	1.2	0.9	44	49	126	2	21.727	4844	
"	"	"	"	2.82	7.55	159.08	"	1.1	0.75	45	52	86	3	21.725	"	
"	"	"	"	2.10	6.67	165.75	"	1.0	0.9	48	54	76	4	"	"	
"	"	"	"	1.58	3.51	169.26	"	0.8	0.55	48	55	40	2	"	4846	Beams dumped
"	"	"	"	4.09	10.70	179.96	"	1.4	1.25	43	46	122	5	"	4847	
"	"	"	"	3.24	5.53	185.49	"	1.2	1.05	44	50	63	1	"	4845	Beams dumped
"	"	"	"	4.27	9.21	194.70	"	1.3	1.1	41	48	105	5	21.727	4846	Run 23148 only for Bhabhatrig
"	"	"	"	3.14	7.02	201.72	"	1.2	1.0	43	50	80	3	21.725	4846	Beams dumped.
"	"	"	"	2.65	7.81	209.53	"	1.1	0.85	44	50	89	0	"	4844	
"	"	"	"	2.04	7.11	218.64	"	1.0	0.65	46	53	81	2	21.727	4847	
"	"	"	"	1.85	1.49	218.13	"	0.8	0.55	50	53	17	1	21.725	4847	beams dumped
"	"	"	"	5.07	11.58	229.71	"	1.7	1.2	35	47	132	3	21.725	4833	
"	"	"	"	4.08	10.00	239.71	"	1.5	1.0	40	48	114	2	21.727	4832	
"	"	"	"	2.94	7.63	247.34	"	1.3	0.85	43	51	87	4	21.725	4850	
"	"	"	"	2.10	5.18	254.36 (8.49.19 midnight)	"	1.1	0.65	49	54	53	0	21.725	4845	beams dumped
"	"	"	"	4.25	11.23	265.59	"	1.8	1.2	35	47	128	2	21.727	4844	
"	"	"	"	3.83	3.86	269.45	"	1.6	1.05	36	48	44	0	21.727	4846	Nip hang up.
"	"	"	off	3.12	7.19	276.64	"	1.4	0.8	41	50	82	0	21.725	4844	
"	"	"	on	2.39	5.61	282.25	"	1.2	0.8	43	52	64	2	21.725	4844	
"	"	"	"	1.78	4.12	286.37	"	1.0	0.65	45	51	47	2	21.725	4844	beams dumped

RUN	DATE	START	STOP	AT RUN START I⁺	AT RUN START I⁻	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL ×10⁶	TØ REJ ×10⁶	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{LG}>6GeV$	T_2 Bit 17 $2T\cdot E_4\cdot \geq 2TR$
23164	27.9.85	5:16	5.57	6.90	7.00	31.8	2415	8001	4298	629	200	3396	5372	948	24
23165	"	5:57	6:38	5.99	6.09	26.3	2413	8002	4333	629	165	3710	5347	1066	18
23166	"	6:38	7:21	5.22	5.33	19.8	2561	8002	4219	667	132	3920	5530	1078	33
23167	"	7.21	8 09	4.55	4.66	18.4	2815	8001	4129	732	134	4017	5554	1031	31
23168	"	810	844	3.93	4.05	13.7	2039	5492	2650	531	73	2931	3835	747	13
23169	"	922	926	6.26	6.21	24,6	210	711	393	54	13	342	437	82	2
23170	"	1146	12.28	5,99	6,00	22.2	2511	8001	4308	653	145	3618	5373	924	23
23171	"	1229	1313	5,25	5,27	18,6	2648	8002	4216	688	127	3964	5397	1031	20
23172	"	1313	1401	4,58	4,60	15,1	2822	8001	4058	733	110	4191	5398	1108	29
23173	"	1401	1453	3,97	3,99	13.4	3052	8001	3973	794	106	4469	5397	1119	23
23174	"	1453	1511	3.43	3.45	12.2	1024	2513	1233	286	32	1443	1734	350	7
23175	"	16:35	17:25	4.36	4.43	14	2999	8002	4060	780	110	4209	5663	1090	17
23176	"	17:25	18:17	3.73	4.25	13	3108	8001	3882	809	103	4495	5501	1175	22
23177	"	18:18	18:36	3.19	3.67	12	1077	2778	1330	281	35	1591	1876	400	7
23178	"	19.01	19.42	6.60	6.60	28.1	2344	8002	4448	610	171	3691	5203	1140	24
23179	"	22:18	23:15	5.04	4.54	27	3389	8002	4217	881	233	4144	5611	1098	34
23180	"	23:15	0:06	4.26	3.82	13.8	2991	8002	3840	778	107	4455	5472	1242	23
23181	29.9.85	0:06	0:34	3.70	3.31	12.6	1681	4302	2065	437	55	2488	2905	685	16
23182	"	0:56	1:35	6.41	6.49	26.6	2344	8001	4372	610	162	3755	5103	1136	31
23183	"	135	217	5.53	5.63	20.5	2460	8002	4283	640	131	3948	5259	1275	24
23184	"	3527	303	4.80	4.89	21.5	2764	8002	4111	719	154	4252	5310	1341	29
23185	"	303	351	4.13	4.22	14.2	2845	8002	3956	740	105	4481	5321	1398	16
23186	"	3:51	4:43	3.57	3.66	12.8	3074	8002	3783	800	102	4617	5339	1373	19
23187	"	4:43	5:40	3.09	3.17	11.2	3374	8001	3634	878	98	4788	5275	1395	26
23188	"	540	639	2.64	2.73	10.6	3511	8002	3423	914	97	4936	5348	1482	18
23189	"	640	736	2.28	2.36	9.8	3372	7267	3044	878	86	4658	4778	1325	19
23190	"	809	849	6.26	6.15	23.0	2362	8002	4365	615	141	3714	5282	1140	20
23191	"	849	931	5.38	5.34	19.0	2479	8001	4289	646	123	4103	5274	1291	22
23192	"	9.31	10.16	4.68	4.65	15.2	2698	8002	4130	702	106	4326	5269	1296	23
23195	"	1020	1109	4.02	3.59	13.6	2925	8002	3564	762	104	4474	5348	1347	26
23196	"	1109	1134	3.47	3.45	23.3	1476	3353	1593	384	89	1962	2170	591	11
23197	"	1159	1240	6.82	6.33	28.2	2446	8001	4389	636	179	3803	5313	1127	24
23198	"	1240	1330	5.71	5.47	32.0	2821	8002	4498	734	235	4171	5208	1295	24
23199	"	13.30	1415	4.80	4.58	16.4	2666	8001	4233	694	114	4393	5141	1302	21

RUN	PROCESSORS ON/OFF N50	MIP	TOF	FAMP	$\langle\mathcal{L}\rangle$ $10^{30}\,cm^{-2}s^{-1}$	Bhabha $\int\mathcal{L}dt$ nb^{-1}	$\int\mathcal{L}dt$ EXP. ENERGY	IBM/TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ONLINE REJ. SUM MIPROC T_2-%	ONLINE REJ. NORD-50 T_1 & T_2 %	Σ Bhabha	MH	E_{BEAM}	Mag. Field −1 = Gauss	Remarks
23164	ON	ON	ON	ON	4.91	9.91	296.28	IBM	2.0	1.25	34	49	113	3	21.725	4849	
23165	"	"	"	"	3.91	8.77	305.05	"	1.8	1.2	37	49	100	0	21.727	4847	
23166	"	"	"	"	3.04	8.77	313.82	"	1.6	0.95	39	50	100	3	21.725	4845	
23167	"	"	"	"	2.34	4.47	318.29	"	1.3	0.78	41	52	51	3	"	4844	
23168	"	"	"	"	1.82	3.95	322.24	"	1.2	0.65	44	55	45	0	21.727	"	Beams dumped
23169	ON	ON	ON	ON	5,44	1.40	323,64	"	1,8	1.1	37	49	16	0	21.727	4844	kramslet
23170	"	"	"	"	4.33	9.13	332.77	"	2,0	1,05	36	49	104	5	"	4849	
23171	"	"	"	"	3,61	8,69	341,46	"	1.5	0.9	39	51	99	4	21725	4850	
23172	"	"	"	"	3,78	9,56	351,02	"	1,2	0,75	42	52	109	3	"	4850	
23173	"	"	"	"	2.15	7.02	358,04	"	1,0	0,65	45	53	80	3	"	"	
23174	"	"	"	"	1.91	1.58	359.62	"	0.9	0.57	49	54	18	0	"	"	Beams dumped
23175	"	"	"	"	3.38	9.83	369.45	"	1.2	0.7	44	52	112	3	21.727	4853	
23176	"	"	"	"	2.54	9.12	378.57	"	1.0	0.6	46	55	104	1	21.725	4851	
23177	"	"	"	"	1.91	2.63	381.20	"	0.8	0.5	48	55	80	0	21.725	4853	dumped
23178	"	"	"	"	5.21	12.46	393.66	"	1.8	1.3	37	47	142	1	"	4851	dump afkoplos
23179	"	"	"	"	3.00	10.79	404.45	"	1.2	0.8	44	50	123	4	21.727	4854	
23180	"	"	"	"	2.69	7.37	411.82	"	1.0	0.7	46	55	84	1	"	4854	
23181	"	"	"	"	2.14	2.46	414.28	"			49	55	28	0	"	4840	beams dumped
23182	"	"	"	"	5.50	12.98	427.26	"	1.75	1.2	37	48	148	3	21.725	4844	
23183	"	"	"	"	4.46	10.71	437.97	"	1.5	1.0	40	49	122	2	21.727	"	
23184	"	"	"	"	3.38	913	447.10	"	1.3	0.8	44	51	104	3	"	4847	
23185	"	"	"	"	2.68	6.93	454.03	"	1.1	0.7	45	53	79	1	"	"	
23186	"	"	"	"	2.11	7.55	461.58	"	0.7	0.6	47	55	86	3	21.725	4844	
23187	"	"	"	"	1.65	5.09	466.67	"	0.75	0.5	48	57	58	2	21.727	4847	
23188	"	"	"	"	1.21	377	470.44	"	0,65	0.4	51	54	43	1	"	"	
23189	"	"	"	"	0.89	333	473.77	"	0.5	0.35	52	60	38	0	"	"	beams dumped
23190	"	"	"	"	5,24	12.37	486.14	"	1.6	1.2	37	48	141	1	21.725	"	
23191	"	"	"	"	4.22	10.97	497.11	"	1.4	0.9	41	49	125	3	"	4847	
23192	"	"	"	"	3.27	6.32	503.43	"	1.2	0.75	44	51	72	3	21.727	4847	23193,4 2 events! each
23195	"	"	OFF	"	2.58	7.11	510.54	"	1.0	0.60	46	51	81	4	21.725	"	
23196	"	"	"	"	1,78	2.98	513.52	"	0.9	0.55	48	55	34	3	21.727	"	beams dumped
23197	"	"	ON	"	5.01	10.70	524.22	"	1.7	1.25	38	48	122	4	21.725	4847	
23198	"	"	"	"	3.61	10.35	534.57	"	1.5	0.95	42	46	118	1	21.725	4847	dump jol ran ~5000 ev
23199	"	"	"	"	3,12	8.77	541.34	"	1.2	0.80	43	50	100	1	"	"	

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ. $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{LG}>6$GeV	T_2 Bit 17 $2T\cdot E_4\cdot \geq 2$TR

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	$\langle L \rangle$ $10^{30}\,cm^{-2}s^{-1}$	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ EXP. ENERGY	IBM TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ONLINE REJ. SUM MIPROC T_2-%	ONLINE REJ. NORD-50 T_1 & T_2 %	Σ Bhabha	MH	E_{BEAM}	Mag. Field -1 = 6 kGauss	Remarks

28/9/85

6:02 JDAS readout error 73 Camac access failed br 1 or 7 (vtrch)

6:42 f-wak 5 missing after run start, reset OK

7.50 Warning (old shift) does gas check

New shift: Kawagoe + Naroska does nothing. Infektion.

8.00 Kawagoe + Naroska

gas check done

The shift crews are kindly asked not only to note down some numbers for the gas check but also to give a thought to the validity and internal consistency of those numbers. Today I found Aethan 17.1 cm ≙ 102 e/h } this is inconsistent
17.0 cm ≙ 103 e/h }

knowing that the flow increases with the number on the scale. This was wrong since 22/9 and has been copied from line to line since then. Nobody noticed it until now. PH

10.20 Trying to start run 23193 → TOF AC 2099 (B2, C3) NO RESPONSE.
SWITCH OFF TOF MIPROC.

11.40 Reload TOF-MIPROCS after wiggling Start cable. In test-run they now work.

12.00 New filling ↯ VTXC trips
TOF MIPROC WORKS AGAIN

13.00 ID Soft trip

14.40 Reform Job submitted. For first ~200 ev. in run 23202
Message: NO LATC BANK appeared on Col. TV. But Latch bank is there!

This is the end of Kiyotomo Kawagoe's last shift for JADE! (# 78 in 1985)!

16.00 R. Felst and H. Riesberg on shift.

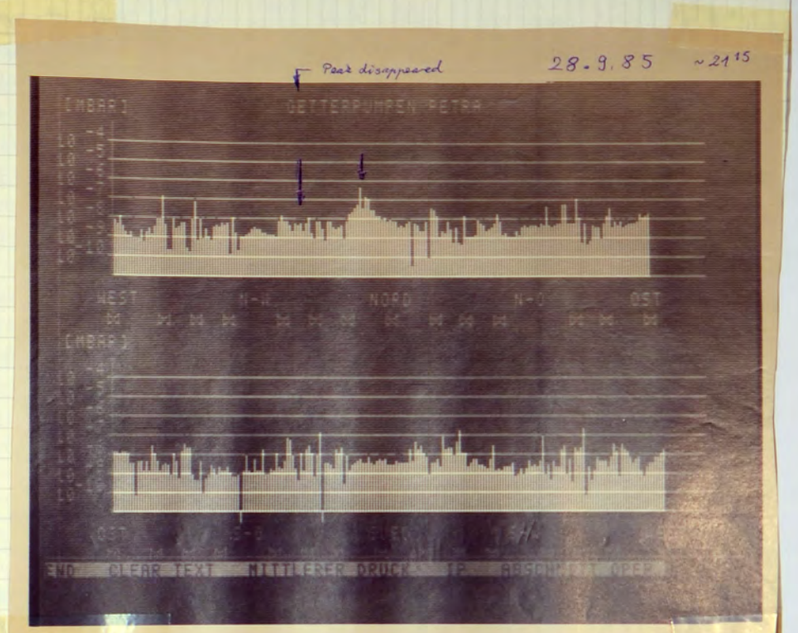
16.20 Gas check done, ok.

17.19 Regular event display: Found one Barrel Bhabha Event without any VTXC hits, rφ and rz wise ok. This was a single case. All other events looked normal. May be display problem?

18.23 JDAS Error 73: CAMAC access fail B1 C7: Beampipe chamber

19.10 Beams dumped

19.30 New filling ready
Run # 23207 started. VTXC Monitor program is not working ↯ PC Run-time Error 01 at 1746. PC = 21638
BC = AB7A
J. Hagemann will come at midnight. Check frequently in the Runbook for valve failures



21.48 IBM Busy → increased dead time

22.14 VTXC + ID slow trip.

22.21 Stop for beam dumps.

22.40 New Filling ready.
the 28.9. yields a new 85 record: 228 nb⁻¹/day

0.00
29/9/85 J.E. Olsson & J. Hagemann on shift

0.16 Gas check done, OK.

2.57 Beams lost, all chambers trip

3.00 3.00 – 9.00 on IBM and Petra Screen. We wait for a suitable 1 hour break!

4.30 Petra has still problems. Now Camac Qlock and N10 reset to 3.30

8.00 Henschenmacher + Menke

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{LG}>6$ GeV	T_2 Bit 17 $2T \cdot E_4 \cdot \geq 2$ TR
23200	28/9/85	14^{16}	15^{03}	4.16	3.97	14.0	2854	8002	4054	743	104	4505	5352	1277	21
23201	"	15^{04}	15^{20}	3.60	3.43	12.7	959	2586	1324	250	32	1488	1661	428	11
23202	"	1544	16^{24}	6.74	6.69	30.4	2329	8002	4680	606	184	3649	5158	1130	25
23203	"	16^{24}	17^{04}	5.76	5.79	23.6	2363	8002	4436	615	145	3999	5321	1216	20
23204	"	17^{05}	1747	5.00	5.04	18.6	2519	8001	4415	657	122	4259	5376	1263	29
23205	"	1748	18^{34}	4.33	4.37	16.1	2734	8001	4224	712	114	4464	5287	1299	16
23206	"	18^{34}	19^{10}	3.72	3.77	13.7	2135	5806	3027	555	76	3333	3885	935	22
23207	"	19^{37}	20^{16}	6.72	6.78	30.9	2351	8002	4575	611	188	3667	5253	1103	29
23208	"	20^{17}	20^{56}	5.79	5.86	24.1	2378	8002	4503	619	149	4001	5238	1212	25
23209	"	20^{57}	21^{40}	5.01	5.08	19.3	2577	8002	4473	671	130	4187	5459	1209	22
23210	"	2141	22^{21}	4.33	4.40	17.6	2189	6263	3296	569	100	3402	4254	936	31
23211	"	22^{44}	23^{24}	6.70	6.75	36.8	2383	8002	4586	619	228	3374	5342	989	37
23212	"	23^{24}	00^{04}	5.70	5.81	24.5	2364	8002	4590	614	150	3993	5280	1169	29
23213	29/9/85	0^{04}	0^{48}	4.91	5.03	17.4	2611	8002	4299	679	118	4341	5355	1248	26
23214	"	0^{49}	1^{37}	4.20	4.31	14.4	2911	8002	4184	757	109	4534	5417	1223	21
23215	"	1^{38}	1^{46}	3.57	3.68	12.4	478	1242	625	124	15	716	815	189	3
23216	"	2^{15}	255	6.05	6.09	30.0	2336	7773	4524	608	189	3572	5131	1015	209
23217	"					Only Pedestals !									
23218	"	428	511	6.43	6.39	23.3	2508	8001	4593	653	152	3731	5447	985	30
23219	"	511	5^{56}	5.50	5.53	21.6	2680	8002	4410	697	151	4015	5426	1068	28
23220	"	5^{56}	6^{44}	4.72	4.75	14.6	2842	8002	4262	740	108	4263	5586	1114	32
23221	"	6:44	7:36	4.04	4.09	13	3068	8002	4036	799	103	4520	5535	1141	17
23222	"	7:36	7:58	3.46	3.51	12.5	956	2467	1197	249	31	1438	1632	331	6
23223	"	8:42	9:24	6.33	6.52	22.7	2467	8002	4472	642	146	3791	5456	1014	25
23224	"	9:24	10:04	5.45	5.64	17.5	2668	8001	4356	693	121	4118	5563	1117	21
23225	"	10:09	10:57	4.68	4.85	15.0	2873	8002	4300	747	112	4355	5501	1104	20
23226	"	10:58	11:50	3.99	4.16	13	3119	8002	3972	811	103	4535	5560	1180	15
23227	"	11:54	11:59	8.36	3.51	12	282	711	841	73	9	405	463	97	5
23228	"	13:52	14:34	6.54	6.53	22	2522	8001	4455	656	142	3837	5483	1010	25
23229	"	14:35	15:19	5.60	5.63	18	2620	8002	4410	682	123	4081	5473	1111	23
23230	"	15:19	1605	4.83	4.86	15.4	2816	8002	4142	732	113	4313	5469	1146	32
23231	"	16^{06}	16^{57}	4.14	4.17	13.4	2990	8001	4044	777	103	4454	5448	1139	24
23232	"	16^{57}	1716	3.55	3.59	11.9	1077	2723	1343	280	33	1596	1804	398	7

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	$\langle L \rangle$ $10^{30}\,cm^{-2}s^{-1}$	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ EXP. ENERGY	IBM/TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ONLINE REJ. SUM MIPROC T_2 %	ONLINE REJ. NORD-50 T_1&T_2 %	Σ Bhabha	MH	E_{BEAM}	Mag. Field -1×gauss	Remarks
ON	ON	ON	ON	2.21	7.81	549.15 +2	IBM	1.0	0.7	46	52	89	0	21.727	4847	
"	"	"	"	1.97	2.28	551.43 +2	"	0.85	0.6	46	52	26	0	21.725	"	beams dumped
"	"	"	"	5.10	12.11	563.54 +2	"	1.7	1.25	37	44	138	1	21.725	4848	
"	"	"	"	3.98	9.92	573.46 +2	"	1.7	1.1	40	47	113	3	21.727	4847	
"	"	"	"	3.21	7.72	581.18 +2	"	1.2	0.9	43	47	88	1	21.727	4847	
"	"	"	"	2.46	5.62	586.80 +2	"	1.0	0.75	44	50	64	3	21.727	4847	
"	"	"	"	1.94	3.51	590.31 +2	"	0.9	0.65	47	50	40	3	21.725	4847	beams dumped
"	"	"	-	4.68	10.79	601.10 +2	"	1.8	1.25	37	46	123	3	21.727	4847	
"	"	"	+	3.83	9.74	610.84 +2	"	1.6	1.1	39	47	111	2	21.725	4844	
"	"	"	"	2.95	5.61	618.45	"	1.3	0,95	43	47	64	5	21.725	4844	
"	"	+	-	2.37	5.09	623.54	"	1.1	0.8	45	50	58	3	21.725	4844	beams dumped
"	"	"	"	3.61	7.90	631.44	"	2.0	1.3	35	46	90	2	27.725	4844	
"	"	"	"	4.06	9.38	640.83	"	1.6	1.0	40	45	107	2	27.727	4844	
"	"	"	"	3.54	7.98	648.81	"	1.2	0.8	44	49	91	1	21.725	4844	
"	"	"	"	2.53	7.90	656.71	"	1.0	0.7	47	50	90	1	21.725	4844	
"	"	"	"	2.34	1.23	657.94	"	0.8	0.6	47	53	14	0	21.725	4844	beams dumped
"	"	"	"	3.22	7.37	665.31	"	1.7	1.2	36	45	84	2	"	"	Beams lost
"	"	"	"				"	1.8	1.1							Famp error, neglect
"	"	"	OFF	5.56	12.46	677.77	"	"	"	38	45	142	8	21.725	4844	
"	"	"	"	4.00	9.48	687.25	"	1.4	0.9	41	47	108	2	21.727	4844	
"	"	"	"	3.13	8.51	695.76	"	1.2	0.8	45	49	97	3	21.727	4845	
"	"	"	"	2.37	7.63	to 3.39	"	0.9	0.6	47	52	87	2	21.725	4844	
"	"	"	"	2.12	1.75	705.14	"	0.8	0.5	47	54	20	1	21.725	4845	beam dumped
"	"	"	601	5.32	13.16	718.30	"	1.6	1.1	38	47	150	3	21.727	4844	
"	"	"	"	4.24	10.35	728.65	"	1.4	0.9	43	48	118	6	21.725	4846	
"	"	"	"	3.44	8.34	736.99	"	1.18	0,75	45	49	95	2	21.727	4846	
"	"	"	"	2.70	10.09	747.08	"	1.0	0.6	48	53	115	2	21.725	4847	
"	"	"	"	2.04	0.61	747.69	"	0.9	0.5	48	56	7	0	21.725	4847	beams dumped
"	"	"	"	5.66	13.25	760.94	"	1.5	1.2	39	47	151	6	21.727	4847	
"	"	"	"	4.49	10.71	771.65	"	1.3	0.9	42	47	122	6	21.727	4847	
"	"	"	"	3.48	10.00	781.65	"	1.1	0.7	44	57	114	3	21.725	4847	
"	"	"	"	2.59	7.11	788.76	"	1,0	0,6	46	52	81	2	21.725	4847	
"	"	"	"	2.06	2.02	790.78	"	0,8	0,55	47	53	23	0	"	"	beams dumped

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{LG}>6$GeV	T_2 Bit 17 $2T\cdot E_\gamma \geq 2$TR

- the flashing green disco light is already ~~on~~ permanently on while HV of chamber is ramping up !!
- JDAS readout error 74- wrong CAM branch 1 crate 1 : beampipe chamber

12:30 Break Restart 13:30 Problems with LINAC

16⁰⁰ J. Christ + Komamiya

16¹⁵ Gas check done. Primary Ethan pressure reading is low (~20 kg/cm²). Ethan bottles have to be changed first thing tomorrow morning.

17⁵⁵ HV wrong : Tagging MFR=63 channel 0–10 voltage = 0 [for Run 23233]
Reset HV power supply ⟶ looks O.K
according to the K. Heier's procedure (listed on the wall above the system console (type with))

19³² Vtx + ID + Z chambers all trip !

23⁰⁰ Standard histograms look O.K.

30.9.85

0⁰⁰ Diechmann + Warming on shift
gas deck OK
TASSO coordinating experiment for a fortnight starting today

1⁴⁰ frequently IBM busy (due to JADDUMP) causing high deadtime (≈80%)

3¹⁸ soft trip ID & Vtx dr.

3⁵⁵ JDAS readout error 73 – missing LAM br 3 cr 4 (z-ch part 1)
" " " 4 " " 2 3 TOF1 "
PAUSE/CONT. ~~helped~~ ~~didn't~~

4²⁰ TASSO phoned to report that there is a vakuum leak in LINAC I, therefore no new electrons for some time ; we have to continue with the present fill.

6⁴⁰ finally new fill ready

6⁴⁸ soft trip (ID + vtx dr)

8⁰⁰ ~~J. Spitzer~~ ~~Adolf~~ + Feist on shift

8⁴⁰ refilled the plotter with paper, took the last pack available in the counting house (this is not true, there is more underneath the IBM terminals)

(11⁴¹ Nord 50 memory out of range used mit Howards help & reloading the N 50)

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	<L> 10^{30} cm^{-2}s^{-1}	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ EXP. ENERGY	IBM / TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ONLINE REJ. SUM MIPROS T_2-%	ONLINE REJ. NORD-50 T_1 & T_2 %	Σ_{Bhabha}	MH	E_{BEAM}	Mag. Field -1 x Gauss	Remarks

11⁵² Nord 50 "memory out of range" stop run, program reloaded.

13³⁰ Muon crate 14 mummy, can't reset it, called for expert

16⁰⁰ R. Hedgecock and H. Riesberg on shift.
Reset unnoticed Valve failure of VTXC gas.
Initialize ~~PE~~ VTX Monitor program which died at 14⁵⁹
Gas check completed. All looks normal.

16³⁵ We complain at PKR. Since Optimizing Background for TASSO our luminosity decreased by 20% ! and VTXC current increased from (60 to 80) × Range
Now Piggo back to old file : SL increases from 25 to 32 × 10^{28}.

17²³ Beampipe Chamber hard trip – 17²⁶

Beampipe Chamber current is unstable 65 → 95

18³⁵ Stop for refilling

19¹⁵ New filling ready. We have to reload the VTXC-Processor.

20⁴⁴ One beam lost.

21²⁰ New filling ready

22⁵⁹ ID + VTXC soft trip.

23⁰⁵ Stop for beam dump.

23³⁵ New filling ready

1st October 1985 0⁰⁰ H. Mills + N. Magnusson on shift

→0⁰⁹ Two trips of PETRA transmitters. – causes JETCH/BPCH trips

Camac access fail branch 1 crate 7 : BPCH (JDAS readout error 73)

0⁸⁰ After 3rd trip beams were dumped (~~without~~ no PETRA TV message came without warning by phone).

3¹⁵ Reform job submitted.

3³⁰ JDAS READOUT ERROR 73 – Camac access fail branch 1 crate 7 : Beampipe chamber

6⁵² – " –

7⁵⁰ At start run 23283 TOF1 AC2099 B2 Cr3 would not respond. Run lost (2 events)
Turned TOF mipros OFF.
Reform job submitted

8:00 Hagemann & Sudek on shift

8:12 Gas deck done, Ok 8⁵² New dead LG-channel : 19 – W – 12

10.10 TOF AC2099 running again (bad connection in lemo cable)

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{LG}>6$GeV	T_2 Bit 17 $2T\text{-}E_4\cdot \geq 2$TR
82															
23233	29/9/85	1753	1834	6.35	6.51	22.9	2450	8001	4559	638	146	3779	5382	1208	29
23234	"	1834	1918	5.54	5.61	19.4	2578	8002	4424	671	130	4127	5439	1152	29
23235	"	19^{18}	20^{09}	4.69	4.84	15.4	2788	8001	4220	725	111	4344	5510	1170	24
23236	"	20^{09}	2058	3.97	4.11	13.8	2868	8002	4245	746	103	4357	5314	1143	30
23237	"	2058	2110	3.43	3.40	12.7	~~2217~~ 688	1801	951	178	23	1053	1186	312	5
23238	"	21^{38}	22^{19}	6.15	6.75	23.1	2428	8002	4636	631	146	3867	5327	1141	29
23239	"	22^{19}	2301	5.24	5.86	19.8	2435	8002	4536	633	125	4034	5215	1158	34
23240	"	2301	2346	4.53	5.11	16.4	2694	8002	4222	700	115	4417	5349	1276	26
23241	"	2347	0^{36}	3.89	4.42	13.9	2961	8002	4173	770	107	4559	5382	1273	18
23242	30.9.85	0^{32}	0559	3.32	3.80	12.7	1313	3448	1706	342	43	2012	2259	558	11
23243	"	1^{23}	207	6.58	6.57	30.2	2646	8002	4570	688	208	3882	5219	1161	19
23244	"	2^{07}	2^{50}	5.56	5.58	18.7	2536	8002	4441	660	123	4214	5360	1283	25
23245	"	250	3^{38}	4.78	4.81	15.8	2727	8001	4213	709	112	4335	5371	1241	18
23246	"	338	428	4.07	4.11	14.3	2970	8002	4152	772	110	4567	5407	1297	21
23247	"	4:30	5:25	3.47	3.51	11.8	3288	8002	3813	855	101	4741	5340	1198	24
23248	"	5:25	6:16	2.95	2.99	10.9	3023	7068	3286	787	85	4228	4722	1057	16
23249	"	6.43	7.26	6.63	6.55	23.5	2380	8002	4517	618	145	3864	5158	1119	24
23250	"	726	8.08	5.63	5.64	19.9	2507	8002	4430	652	129	4071	5361	1167	22
23251	"	8^{09}	9^{54}	4.93	4.90	16.0	2704	8002	4279	704	112	4357	5325	1216	37
23252	"	8^{54}	9^{44}	4.25	4.22	13.5	2966	8002	4058	771	103	4579	5321	1233	30
23253	"	945	10^{31}	3.62	3.60	12.2	2743	6927	3323	714	87	4085	4703	1033	16
23254	"	11:22	11:41	6.61	6.27	24.3	1098	3737	2176	286	69	1809	2147	517	17
23255	"	11^{46}	12^{27}	6.05	5.75	20.3	2446	8002	4530	637	129	4141	5199	1184	27
23256	"	12:28	13:11	5.21	4.95	17.6	2594	8001	4510	675	118	4221	5375	1197	25
23257	"	13^{12}	13^{59}	4.49	4.25	14.8	2807	8002	4300	731	108	4441	5435	1236	25
23258	"	13^{59}	14^{40}	3.85	3.65	13.6	600	1634	823	156	21	949	1086	243	6
23259		just pedestal - cyclone started before HV was OK													
23260	"	14^{45}	15^{07}	6.37	6.61	25.0	1295	4280	2501	337	84	2086	2825	600	11
23261	"	15^{41}	16^{22}	6.34	6.34	25.6	2411	8002	4616	628	161	3825	5496	1081	24
23262	"	16^{22}	17^{05}	5.50	5.51	20.0	2495	8001	4528	650	130	4117	5408	1126	15
23263	"	17^{05}	17^{51}	4.57	4.72	15.4	2736	8002	4264	713	109	4371	5487	1155	27
23264	"	17^{52}	18^{34}	3.88	4.04	13.4	2507	6726	3492	653	88	3860	4586	1030	26
23266	"	19^{19}	19^{59}	6.45	6.25	24.3	2417	8002	4562	628	152	3881	5389	1120	35
23267	"	20^{00}	20^{43}	5.51	5.36	19.2	2518	8002	4458	655	126	4153	5475	1187	31
23268	"	20^{43}	20^{44}	4.70	4.58	—	~~19~~ 102	102	64	—	—	—	—	—	—

RUN	PROCESSORS ON/OFF N50	MIP	TOF	FAMP	$\langle L \rangle$ 10^{30} cm^{-2}s^{-1}	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ EXP. ENERGY	IBM TAPE OUTPUT	At Run start ID (mA)	At Run start TOF (V)	ONLINE REJ. SUM MIPROL T_2 %	ONLINE REJ. NORD-50 T_1 & T_2 %	Σ Bhabha	Σ MH	E_{BEAM}	Mag. Field -1 = 6 gauss	Remarks
83																	
	ON	ON	ON	ON	2.18	14.57	805.35	IBM	1.6	1.1	39	46	166	1	21.727	4847	← TALKING HV WAS WRONG
	"	"	"	"	3.98	10.26	815.61	"	1.4	0.9	~~43~~ 43	47	117	4	21.725	4847	
	"	"	"	"	3.14	9.48	825.29	"	1.2	0.8	45	50	108	1	21.725	4846	
	"	"	"	"	2.39	6.93	832.22	"	1.0	0.65	44	50	79	2	21.725	4846	
	"	"	"	"	1.79	1.58	833.80	"	0.8	0.55	48	50	18	0	21.725	4844	Beams dumped
	"	"	"	"	5.10	10.44	844.24	"	1.6	1.1	39	45	119	3	21.727	4844	
	"	"	"	"	3.94	8.60	852.84	"	1.3	0.9	39	46	98	2	21.727	4844	
	"	"	"	"	3.17	7.81	860.65	"	1.1	0.8	45	50	89	4	21.727	4844	
	"	"	"	"	2.71	7.90	868.55	"	1.0	0.65	46	50	90	3	21.725	4846	
	"	"	"	"	2.16	3.42	871.97	"	0.8	0.55	46	53	39	0	"	4845	Beams dumped
	"	"	"	"	5.36	13.25	885.22	"	1.6	1.2	39	46	151	3	21.727	4844	
	"	"	"	"	4.46	12.72	897.94	"	1.4	0.9	43	47	145	2	21.725	"	
	"	"	"	"	3.46	8.69	906.63	"	1.15	0.75	43	50	99	1	21.727	4845	
	"	"	"	"	2.58	6.84	913.47	"	0.95	0.6	47	51	78	3	"	4844	
	"	"	"	"	1.86	5.18	918.65	"	0.7	0.5	48	55	59	1	"	4847	
	"	"	"	"	1.40	4.65	923.30	"	0.7	0.45	49	56	53	1	21.725	4846	Beam dumped
	"	"	"	"	5.12	11.93	935.23	"	1.7	1.3	38	46	136	1	"	4844	
	"	"	"	"	4.11	10.30	945.53	"	1.4	1.0	41	48	121	4	21.727	4844	
	"	"	"	"	3.28	8.42	953.95	"	1.2	0.8	44	49	96	6	"	4847	
	"	"	"	"	2.77	8.42	962.37	"	1.0	0.7	46	52	96	0	"	"	
	"	"	"	"	2.00	5.56	966.93	"	0.8	0.6	48	54	52	1	"	4847	Beam dumped
	"	"	"	"	5.96	7.63	974.56	"	1.5	1.2	38	44	87	0	"	"	N50 wrong at off range
	"	"	"	"	5.21	12.17	986.75	"	1.3	1.0	40	46	139	5	21.725	"	
	"	"	"	"	3.75	8.77	995.52	"	1.2	0.8	43	47	100	1	21.727	4848	
	"	"	"	"	2.81	8.25	1003.77	"	1.0	0.8	46	49	94	2	"	"	
	"	"	"	"	2.75	1.05	1004.82	"	0.9	0.7	48	53	12	1	21.725	"	beams dumped
									1.5	1.2							
	"	"	"	"	6.06	7.81	1012.63	"	1.5	1.2	38	44	89	3	21.725	4847	beam lost
	"	"	"	"	4.21	9.12	1021.75	"	1.5	1.2	40	45	104	5	21.725	4847	
	"	"	"	"	4.16	10.27	1032.02	"	1.2	1.0	42	46	117	2	21.725	—"—	
	"	"	"	"	3.19	6.76	1038.72	"	1.05	0.8	45	49	77	3	21.725	4849	
	"	"	"	"	2.46	5.53	1044.31	"	0.9	0.7	48	51	63	0	21.727	4848	Beams dumped Run # 23265 missing
	"	"	"	"	5.22	12.81	1057.12	"	1.5	1.2	39	46	146	1	21.727	4841	
	"	"	"	"	4.27	11.67	1068.79	"	1.3	1.0	43	47	133	2	—"—	4840	
	"	"	"	"	—	—	—										BEAM LOST

RUN	DATE	START	STOP	AT RUN START I+	AT RUN START I−	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL ×10⁶	TØ REJ ×10⁶	T₁ ACC SUM	T₂ ACC SUM	T₁ Bit 2 E_LG>6GeV	T₂ Bit 17 2T·E_T·≥2TR
23269	30.9.85	21²³	22⁰³	6,50	6.30	24.6	2398	8001	4653	623	154	3880	5528	1132	29
23270	"	22⁰³	22⁴⁵	5.53	5.38	20,4	2473	8002	4475	643	131	4141	5397	1146	21
23271	"	2246	2306	4.74	4.61	17,4	993	3084	1657	258	45	1594	2089	423	11
23272	"	23³⁸	0⁰³	6.51	6.55	23.3	2629	8002	4605	693	159	3956	5590	1117	36
23273	1.10.85	0³⁹	0³⁹	3.32	5.32	14.3	43	172	91	11	1	91	83	27	1
23274	"	1¹³	1⁵⁴	6.20	6.46	24.0	2395	8001	4667	623	149	3927	5440	1123	34
23275	"	1⁵⁴	2³⁶	5.27	5.55	21.5	2433	8002	4573	632	135	4042	5507	1197	26
23276	"	2³⁶	3²⁰	4.53	4.80	17.8	2594	8002	4343	676	120	4196	5545	1221	28
23277	"	3²⁰	4⁰²	3.89	4.14	15.2	2496	7193	3811	649	98	3942	5059	1093	22
23278	"	4⁰³	4¹⁸	3.38	3.61	14.0	877	2403	1265	228	31	1310	1723	349	11
23279	"	4⁴⁹	5²⁸	6.18	6.36	28.5	2346	8001	4717	610	174	3735	5455	1113	31
23280	"	5³⁷	6¹⁵	5.19	5.36	22.2	2446	8002	4502	636	141	4023	5589	1177	27
23281	"	6¹⁵	6⁵⁹	4.46	4.62	18.2	2607	8002	4404	678	123	4234	5588	1250	21
23282	"	6⁵⁹	7⁴⁹	3.93	3.91	13.9	2753	8001	4108	769	106	4529	5568	1259	30
23284	"	7⁰³	7⁵⁵	3.22	3.36	10.5	109	276	164	28	3	158	148	45	1
23285	"	8³³	8³⁹	6.38	6.28	16.6	353	1096	678	92	15	591	809	208	1
23286	"	8⁴⁰	9²³	6.17	6.08	23.3	2524	8002	4830	656	153	3766	5181	1184	33
23287	"	9²³	10⁰⁸	5,25	5.19	18.7	2656	8002	4564	691	129	4011	5308	1195	22
23288	"	10¹¹	1012	4.44	4.39	15.9	36	176	109						
23289	"	1013	1059	4.41	4.36	16.0	2759	8001	4340	603	115	4313	5447	1226	25
23290	"	1100	1149	3.78	3.74	13.8	2965	8001	4517	772	107	4517	5591	1273	31
23291	"	1150	1200	3.24	3.21	13.1	613	1605	1489	159	21	911	1117	224	6
23292							2367	8002							
23293	"	12⁵⁴	13³⁴	6.43	6.34	27.3	~~8002~~	~~4789~~	4789	616	168	3901	5363	1218	36
23294	"	13³⁴	14¹⁶	5.44	5.45	21.8	2417	8001	4668	629	143	4104	5470	1259	29
23295	"	14¹⁷	14⁵⁷	4.67	4.70	19.6	2407	7850	4486	626	123	4193	5075	1280	26
23298	"	16:48	17:30	6.17	6.11	23.6	2429	8001	4688	632	149	3836	5368	1073	27
23299	"	17:30	18:11	5.30	5.30	20.6	2454	8001	4478	638	131	4071	5227	1277	39
23300	"	18:12	18:56	4.59	4.61	17.7	2646	8002	4334	688	122	4212	5356	1306	36
23301	"	18:56	19:46	3.86	3.88	14.3	2842	8002	4174	739	105	4551	5339	1374	31
23302	"	19:47	20:17	3.35	3.38	13.2	1801	4823	2462	468	62	2842	3217	848	18
23303	"	20.44	21:23	6.57	6.40	29.4	2334	8002	4756	607	178	3804	5176	1188	27
23304	"	21:23	22:02	5.64	5.52	24.8	2322	8002	4666	603	149	4048	5097	1321	37
23305	"	22:02	22:44	4.90	4.80	19.7	2478	8001	4502	645	127	4328	5188	1383	27

PROCESSORS ON/OFF NSO	MIP	TOF	FAMP	⟨L⟩ 10³⁰ cm⁻² s⁻¹	Bhabha ∫L dt nb⁻¹	∫L dt EXP. ENERGY	IBM / TAPE OUTPUT	AT RUN START ID (μA)	AT RUN START TOF (V)	ONLINE REJ. SUM MIPROC T₂ %	ONLINE REJ. NORD-50 T₁&T₂ %	Σ Bhabha	MH	E_BEAM	MAG. FIELD ~1 x Gauss	REMARKS
ON	ON	ON	ON	5.58	13.51	1082.30	IBM	1.5	1.2	40	44	154	2	21.727	4840	
"	"	"	"	4.36	10.79	1093.09	"	1.3	1.0	42	47	123	1	21.725	4841	
"	"	"	"	3.23	2.90	1095.99	"	1.1	0,85	42	49	33	1	21.727	4840	Beams dumped
"	"	"	"	4.43	11.93	1107.92 end of fill	"	1.5	1.25	41	45	136	5	21.725	4840	
"	"	"	"	3.64	0.18	1108.12	"	—	—	32	52	2	0	"	"	Beams dumped
"	"	"	"	5.58	13.78	1121.90	"	1.4	1.1	40	44	157	3	"	4838	only 1 MH real !
"	"	"	"	4.13	10.98	1132.78	"	1.2	1.0	43	45	124	5	"	4840	
"	"	"	"	3.09	7.11	1139.89	"	1.1	1.0	45	48	81	1	"	4836	
"	"	"	"	2.60	5.61	1145.50	"	0.9	0.8	48	50	64	1	"	4840	Nord-50 memory error
"	"	"	"	2.12	0.61	1146.11	"	0.8	0.7	49	50	7	0	21.727	4837	Beams dumped
"	"	"	"	5.14	12.81	1158.92	"	1.4	1.4	40	44	146	6	"	4838	
"	"	"	"	3.94	9.39	1168.31	"	1.2	1,1	44	47	107	3	"	4840	
"	"	"	"	3.00	7.11	1175.42	"	1.0	0.9	46	48	81	3	21.725	4840	
"	"	"	"	2.29	6.32	1181.74	"	0.85	0.70	49	51	72	4	"	"	
"	"	OFF	"	1.90	0.18	1191.92	"	—	—	42	45	2	0	"	"	Beams dumped
"	"	"	"	6.63	2.90	1184.82	"	1.5	1.3	43	40	33	1	"	4841	VTXC OFF
"	"	"	"	5.14	14.04	1198.86	"	1.4	1.2	37	43	160	2	21.727	4840	VTXC ON
"	"	"	"	3.83	8.51	1207.37	"	1.4	1.0	40	46	97	2	21.725	4841	
"	"	ON	"	2.94	0.44	1207.81	"	1.1	~~1.0~~ 0.8			5	0	21.727	4842	y IBMPC task error, run stopped
"	"	ON	"	2.90	7.11	1214.92	"	1.1	0.8	45	49	81	2	21.725	4843	
"	"	"	"	1.96	4.74	1219.66	"	0.9	0.7	48	52	54	1	21.725	4844	
"	"	"	"	1.73	1.14	1220.80	"	0.7	0.6	49	54	13	0	21.727	4844	Beams dumped
		"														Run 23292 only 2 events TOF processor no response
"	"	OFF	"	4.91	12.55	1233.35	"	1.4	1.2	41	43	143	5	21.725	4844	
"	"	"	"	3.67	7.98	1241.33	"	1.2	1.1	43	45	91	2	"	"	VTXC HV 1472/1438/1475
"	"	"	"	2.68	6.67	1248.00	"	1.0	1.0	44	46	76	2	21.727	4845	Beams dumped
"	"	OFF	"	4.41	10.26	1258.26	"	1.4	1,3	40	45	117	1	21.725	4844	Runs 23296 & 23297 only 2 genuine events read (TOF not in system)
"	"	"	"	3.50	8.92	1268,18	"	1.2	1.0	42	47	103	2	21.725	4840	
"	"	"	"	2.71	7.11	1275.29	"	1.0	0.9	44	49	81	2	21.725	4841	
"	"	"	"	2.08	4.56	1279.85	"	0.9	0.8	47	51	53	1	21.727	4841	
"	"	"	"	1.84	2.81	1282.66	"	0.8	0.6	50	52	32	0	21.725	4841	Beams dumped
"	"	"	"	4.75	10.62	1293,28	"	1.5	1.4	38	44	121	1	21.725	4840	
"	"	"	"	3.77	9.83	1303,11	"	1.3	1.1	41	45	112	4	21.725	4840	
"	"	"	"	2.83	7.30	1311.01	"	1.1	0.95	44	47	90	3	21.727	4841	

RUN	DATE	START	STOP	AT RUN START I+	AT RUN START I-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL ×10⁶	TØ REJ ×10⁶	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 E_{LG}>6GeV	T_2 Bit 17 2T-E_t·≥2TR

12^{48} TOF1 AC2099 (B2,C3) NO RESPONSE ⇒ run 23292 stopped after 2 events
↓ checking of lemo cables and new attempts didn't help ⇒ switched off TOF micros

14^{15} Call from TASSO: 1 hour break from 15^{00} to 16^{00}, repair of a "Siepluft" pipe
15^{10} Magnet to 2000 Amps.
15^{51} Magnet to 7500 A
16^{00} Chrin & Schmoll on shift
16^{05} gas check done
16^{30} TOF1 AC2099 (B2, C3) no response. Runs 23295 and 23297 stopped after 2 events.
TOF micros is switched off.
21^{00} JOAS error 73 - CAMAC access fail branch 1 crate 7 : Beampipe Chamber several times.

2.10.85
0:00 Kleinwort + Ramcke on shift
0:10 gas check ok.
2:40 VTXC - Processor from Crate 7 placed in Crate 8 (hope: redux of JOAS-ERROR 73 - rate) C.K.
3:00 ask PKR to improve over dead time : 40% → 30%

8.00 Mills, Narodka
8.10 Gascheck ok.
run 23320 lost due to TOF miprocs ~~failed~~ failing - previous run was Ok
9.30 Hard trip at JETCH, RZ ch 4 BPCh. No loss of beam
10.44 Nord-50 memory error. STOP run, AB-N50 & start new run.
12.04 TOF MIPROCS NO RESPONSE: FIRST TIME RELOADING HELPED AND WORKED FOR 1 RUN.
AFTERWARDS NO RELOADING NOR CABLE WIGGLING HELPED. SO LEAVE IT OFF.

12.23 Found Primary Power Supply LG Barrel 6 off due to overcurrent.
Switched it on again.
14.18 Beams lost. Short break ring ⇒ low.
15.40 Petra Injection → raise magnet.

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	<L> 10^{30} cm⁻² s⁻¹	Bhabha ∫L dt nb⁻¹	∫L dt EXP. ENERGY	IBM / TAPE OUTPUT	At Run Start ID (μA)	TOF (V)	ONLINE REJ. SUM MIPROC T_2-%	NORD-50 T_1 & T_2 %	Σ Bhabha	MH	E_{BEAM}	Mag. Field ~1.6 Gauss	Remarks

16^{00} W. Bartel and H. Rieseberg on shift
16^{10} Gas check done, O_2
16^{20} New filling ready with low currents
~~Beate Naroska cannot switch on the TOF Miproc : Leave TOF-Miprocs off~~ see above

17^{20} Magnet fluctuates to 7528 A, turned down.
I complain at PKR because of the low specific luminosity of $25 \cdot 10^{28}$. He knows and tries to improve, but something is fluctuating

17^{30} To all shift crews:
Some of the distributor channels loose their bit settings if switched off and on (i.e. between fills). To write the correct settings again, the program (LG2) RI-HB should be run at the beginning of each new fill.
Procedure: Logon at a Textronix under USER LG2; Type RI-HB. You are prompted for first & last ring # = position: TYPE 1, 40, E. Wait until program has finished. Logoff again. Don't worry if a "LG distributor n primary HV = xxxx, should be yyyy" errors occurs afterwards (interference problem), as long as xxxx > 0.001. In case of xxxx = 0. the main supply will be off; please switch it on again. N. Magnussen

17^{42} Beams lost. All chambers trips. TOF rate to 10V during (relatively slow) loss.
Reset unnoticed Valve Failure
17^{52} SHORT BREAK
Vacuum problems. People have to go into the ring. JADE-Magnet to 1500 A
18^{01} BREAK : VAKUUM LECK
18^{40} "Neue Füllung nicht vor 21 Uhr"
20^{40} Vacuum people have sealed a porous welding at a getter pump at position 34
21^{08} Injection starts. Magnet up
21^{28} New filling is ready, currents 4.4/4.3 mA. TOF rate 9V
21^{34} Now TOF rate is 6V, also at TASSO the background is a factor 5 higher than normal
Beams can only be used for vacuum baking (10^{-1} mbar/h) not for data taking.
22^{00} J. Olsson comes and switches the TOF-Miproc on. Test run is OK.
22^{00} 2 requests for wake up calls accepted so far.
22^{38} New filling: TOF rate is 4.5 V. Still no measurement possible
23^{05} TOF-rate down to 3 Volts. We try to switch on the chambers. Current is tolerable. Run # 23332
Many LG read errors. DVM cannot issue data. Wachsel kontaktl. Run RI-HB program

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit2 $E_{LG}>6$GeV	T_2 Bit17 $2T\cdot E_t\cdot \geq 2TR$
23306	1.10.85	22:44	23:28	4.23	4.15	15.8	2638	8002	4325	577	108	4439	5151	1405	31
23307	"	23:28	23:31	3.66	3.60	13.3	406	328	118	28	4	181	209	70	3
23308	2.10.85	23:55	0:35	5.91	5.96	29.3	2393	8001	4896	622	182	3841	5244	1198	24
23309	"	0:36	1:16	5.10	5.16	22.9	2409	8002	4672	626	143	4138	5325	1297	23
23310	"	1:17	1:59	4.43	4.49	18.7	2553	8001	4499	664	124	4319	5456	1280	29
23311	"	2:00	2:29	3.85	3.92	17.3	1742	5307	2958	453	79	2964	3534	932	20
23312	"	2:53	3:32	6.45	6.40	33.4	2336	8002	4895	607	203	3716	5212	1220	27
23313	"	3:33	4:14	5.54	5.51	25.9	2411	8002	4978	627	162	3975	5261	1271	35
23314	"	4:11	4:57	4.80	4.78	19.6	2535	8002	4506	659	129	4334	5406	1335	37
23315	"	4:57	5:28	4.15	4.15	15.6	1838	5315	2884	478	75	2976	3708	842	15
23316	"	5:39	6:40	5.65	4.44	22.8	2446	8002	4696	636	145	4128	5399	1234	53
23317	"	6:40	7:23	4.95	3.87	19.9	2519	8001	4720	655	130	4231	5383	1283	32
23318	"	7:23	7:40	4.34	3.37	17.4	943	3154	1831	245	43	1711	2022	527	16
23319	"	8:53	9:35	6.07	5.87	24.0	2447	8002	4763	637	153	3977	5599	1164	30
23321	"	9:36	10:22	5.25	5.08	20.5	2475	8002	4609	644	132	4250	5362	1284	31
23322	"	10:22	10:45	4.48	4.35	16.3	1295	3946	2200	337	55	2147	2691	643	14
23323	"	10:45	11:27	4.15	4.03	15.2	2533	7459	4201	659	100	4190	5075	1210	35
23326	"	12:02	12:22	6.33	6.23	32.3	1146	3824	2390	298	96	1775	2551	607	12
23327	"	12:21	13:02	5.87	5.79	26.8	2355	8002	4831	613	164	4044	5316	1268	36
23328	"	13:01	13:44	5.07	5.03	22.3	2477	8002	4669	645	143	4210	5364	1315	41
23329	"	13:44	14:19	4.34	4.36	16.9	1958	5964	3291	509	86	3270	4006	1026	15
23330	"	16:22	17:05	5.42	5.42	22.5	2516	8001	4712	655	147	3864	5459	1189	38
23331	"	17:06	17:41	4.69	5.18	18.9	2115	6426	3589	551	104	3300	4504	1041	28
23332	"	23:10	23:46	5.02	3.97	37.1	2118	8002	4417	551	204	4559	5025	1375	23
23333	2/10/85	23:47	0:24	4.24	3.34	23.2	2227	8001	4211	579	134	4783	5220	1495	35
23334	3/10/85	0:24	1:13	3.64	2.85	16.4	2573	8002	4059	669	120	4888	5304	1485	25
23335	"	1:14	2:03	3.07	2.39	13.1	2945	8002	3871	767	101	4956	5320	1471	17
23336	"	2:04	2:42	2.64	2.04	12.2	416	1751	535	108	13	730	757	211	3
23337	3/10/85	2:55	3:34	5.59	4.77	28.7	2266	8001	4489	589	169	4149	5780	1252	24
23338	"	3:35	4:14	4.84	4.11	22.2	2324	8002	4322	605	134	4472	5311	1348	33
23339	"	4:14	4:46	4.20	3.55	21.1	1898	5766	3065	494	104	3401	3779	1044	17
23340	"	5:23	5:26	6.49	6.51	43.5	170	678	396	44	19	315	421	102	2
23341	"	6:36	7:02	6.03	6.23	25.5	1214	4332	2525	315	77	2310	2923	693	9

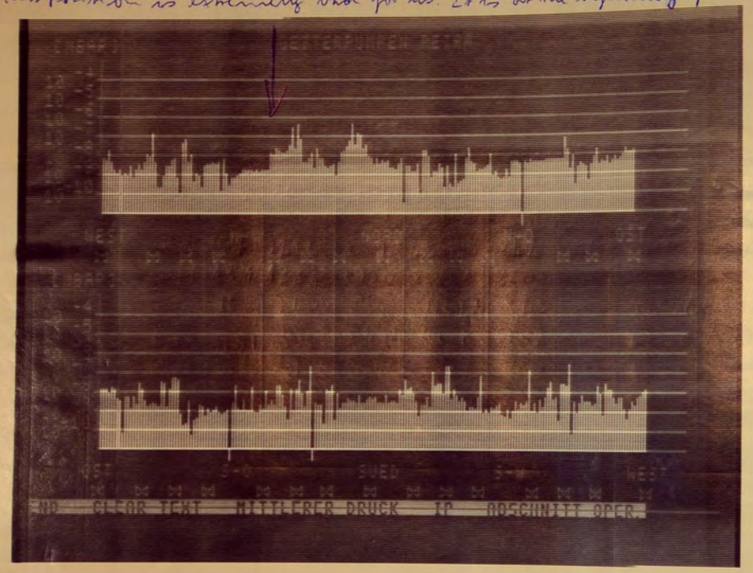
PROCESSORS ON/OFF N50	MIP	TOF	FAMP	<L> 10^{30} cm^{-2} s^{-1}	Bhabha $\int L dt$ nb^{-1}	$\int L dt$ EXP. ENERGY	IBM / TAPE OUTPUT	AT RUN START ID (μA)	TOF (V)	ONLINE REJ. SUM MIPROL T_2 %	NORD-50 T_1 & T_2 %	Σ Bhabha	MH	E_{BEAM}	MAG FIELD ~1.6 Gauss	Remarks
ON	ON	OFF	ON	2.28	4.74	1315.75	IBM	0.9	0.8	41	49	54	2	21.727	4840	
"	"	"	"	2.13	0.26	1316.01	"	0.8	0.7	48	51	3	0	21.725	4825	beams dumped
"	"	"	"	3.89	8.69	1324.70	"			40	42	99	2	21.727	4832	
"	"	"	"	3.08	8.86	1333.56	"	1.2	1.15	43	44	101	1	"	4854	
"	"	"	"	2.50	5.70	1339.26	"	1.0	1.0	45	47	65	0	"	4837	
"	"	"	"	1.97	3.95	1343.21	"	0.85	0.9	47	48	45	2	"	4838	beams dumped
"	"	"	"	4.22	9.83	1353.14	"	1.5	1.5	38	42	112	2	"	4837	
"	"	"	"	3.37	8.33	1361.47	"	1.3	1.3	41	41	95	1	"	"	
"	"	"	"	2.81	5.88	1367.35	"	1.05	1.0	46	47	67	2	"	"	
"	"	"	"	2.28	3.07	1370.42	"	0.8	0.8	49	49	35	4	21.725	4840	beams dumped
"	"	"	"	2.97	8.69	1379.11	"	1.3	1.3	43	44	99	1	21.727	4837	
"	"	"	"	2.24	5.61	1384.72	"	1.0	1.05	45	44	64	1	21.723	4838	
"	"	"	"	1.91	1.49	1386.21	"	0.85	.95	45	45	17	0	"	4839	beams dumped
"	"	ON	"	4.25	10.44	1396.65	"	1.4	1.4	42	43	119	3	"	4838	
"	"	OFF	"	3.30	7.02	1403.67	"	1.1	1.0	45	45	80	1	"	"	run : 3320 lost(roof HV)
"	"	"	"	2.75	3.51	1407.18	"	0.9	0.9	46	47	60	1	"	"	stop due to NORD-50 memory error
"	"	"	"	2.32	5.26	1412.44	"	0.9	0.8	48	47	60	0	"	"	Beams dumped
"	"	OFF	"	4.34	4.91	1417.35	"	1.4	1.5	35	41	58	3	"	4843	U partially off
"	"	"	"	4.16	10.44	1427.79	"	1.2	1.3	43	43	119	3	"	4844	
"	"	"	"	2.99	6.93	1434.72	"	1.1	1.25	45	45	79	5	"	4843	
"	"	"	"	2.62	4.56	1439.23	"	0.9	0.9	46	48	52	2	"	"	Beams lost
"	"	"	"	3.42	7.90	1447.18	"	1.2	1.2	41	45	90	4	"	4840	
"	"	"	"	2.93	5.70	1452.88	"	1.1	1.05	45	47	65	1	"	4853	Beams lost
"	"	ON	"	2.14	5.18	1458.06	"	1.4	3	46	47	59	3	"	4841	
"	"	"	"	1.87	4.12	1462.18	"	1.0	1.75	51	50	47	2	21.727	4840	
"	"	"	"	1.56	4.48	1466.66	"	0.8	1.3	52	52	51	2	"	4842	
"	"	"	"	1.12	2.98	1469.64	"	0.6	0.8	52	54	34	1	21.725	4841	
"	"	"	"	0.93	0.35	1469.99	"	0.5	0.6	53	56	4	0	"	4840	beams dumped
ON	ON	ON	ON	2.92	5.79	1475.78	IBM	1.4	1.6	42	47	66	1	21.725	4840	
"	"	"	"	2.49	6.67	1482.45	"	1.2	1.4	46	49	76	1	21.727	4840	
"	"	"	"	1.89	3.72	1486.22	"	1.0	1.2	44	44	43	1	21.725	4841	beams dumped
"	"	"	"	4.63	0.97	1487.19	"	1.5	1.8	34	44	11	1	21.727	4840	beams lost
"	"	"	"	4.53	4.75	1491.93	"	1.4	1.6	42	46	54	2	"	4841	beams dumped / memory NOR-50

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{LG}>6$GeV	T_2 Bit 17 $2T\cdot E_H\cdot \geq 2$TR

~ 21^{50} 2.10.85

Here was the leak 10^{-4} torr

this position is extremely bad for us. It is at the beginning of the straight section



23^{30} At beam currents 4.5/3.5 the chamber currents are ID = 1.2 μA/cell, VTXC = 60 $\frac{S}{cm}$ → 08, but TOF rate 2V and high TOF multiplicity. Trigger rate 7.5 → dead time 40%
TASSO cannot measure. Beam life time 2.7 h

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	<L> 10^{30} cm^{-2}s^{-1}	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ EXP.	IBM / TAPE OUTPUT	At Run Start ID (μA)	TOF (V)	ONLINE REJ. SUM MIPROC T_2-%	NORD-50 T_1 & T_2 %	Σ_{Bhabha}	MH	E_{BEAM}	Mag. Field −1.6 Gauss	Remarks

3/10/85

0.00 Hellenbrand and Kado on shift
0:30 gas check done
4:04 U.H. Hellenbrand replaced by J. Spitzer
6:37 VTXC soft trip
6:40 " " "
6:42 again " " ", and again and again (at least 100 times) finally beam dumped

Not once, but again,
and again and again,
and again and again and again.

8^{00} Yamada & Krelbiel on shift.
9^{30} Injection started. PETRA does orbit corrections. Ramp up a singe e$^-$ bunch.
10^{30} Beams up again
up to 17^{30} several Vtx Ch-Trips Called expert (Kleinwort)
10^{45} Gas check done.

16^{00} Drechsmann & Stephan on shift
16^{15} gas check done Kreyslau: a bit low so adjust the Ethan
16^{50} Tasso ask for new fill and say the energy will be 19.140
TOF μproc ON
17^{45} New Energy 19.140 GeV
18.35 Start run #23352 stops after 2 events TOF μproc turned off again.
" #23353 OK.

19:40 Magnet trip. called MK1 10 300 Amp. fuse blown.
20:50 H. Larsen finished fuse exchange. Magnet run up. OK.

4/10/85

00:00 Schneekloth & Chrin on shift.
00:15 gas check done
07:50 short break
8:00 Rules and Warning on shift
8:20 Injection starts again
8:45 soft trip
8:50 gas check done
14:08 Watchdog system crate message, came continuously: 23374 run terminated and new one started
14:45 HV-wrong: we have reloaded the NORD computer; we suspected some HV reference values to be screwed up. ☒ possibly not
2-chambers tripped.

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	T0 REJ. $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{LG}>6$GeV	T_2 Bit 17 $2T\cdot E_t\cdot \geq 2TR$
23342	3/10/85	10:32	11:12	6.13	6.10	25.1	2320	8002	4509	604	152	4132	5882	1249	37
23343	"						This is an	an	2 unrun						
23344	"	11:12	11:53	5.22	5.26	23.1	2361	8002	4394	614	142	4251	5438	7316	30
23345							This is an	unrun							
23346	"	11 54		4.49	4.54	19.6	2433	8002	4304	633	124	4320	5247	1408	29
23347	"	12:40	13:24	3.84	3.90	16.9	2533	8002	4155	660	111	4613	5110	1465	21
23348	"	13:25		3.33	3.39	17,5	84	358	195						
23349	"	14:48	15:26	4.75	5.28	27.0	2273	8001	4544	592	160	4291	5196	1390	28
23350	"	15:~~57~~ 25	16:07	4.05	4.55	19.6	2408	8001	4329	626	122	4542	5295	1472	24
23351	"	16:07	16:49	3.67	3.93	15.9	2483	7751	4012	646	103	4655	4844	1545	25
23352	"							stopped	after	2	events	due	TOF	μPROC	
23353	"	18:35	19:18	5.33	5.48	15.7	2466	8001	4507	642	101	4918	5583	1725	24
23354	"	19:19	19:40	4.62	4.76	13.1	1232	3750	2040	320	42	2320	2496	799	13
23355	"	21:30	22:13	6.05	7.04	16.0	2680	8002	4673	645	104	4739	5740	1468	29
23356	"	22:16	22:55	5.23	6.15	15.1	2508	8002	4473	652	98	4897	5521	1658	38
23357	"	22:56	23:41	4.52	5.38	13.6	2709	8002	4269	705	96	4936	5424	1632	27
23358	"	23.40	0:30	3.92	4.71	11.9	2910	8001	4209	757	90	5073	5400	1587	33
23359	4/10/85	0:30	1:22	3.40	4,13	10.8	3084	8002	4049	803	86	5198	5382	1672	25
23360	"	1:22	2:05	2.97	3,64	9.8	2608	6548	3136	679	67	4200	4309	1321	14
23361	"	2:35	3:17	6.63	6.89	16.5	2385	8002	4768	621	102	4680	5819	1558	26
23362	"	3:16	3:58	5.76	6.01	16.0	2436	8002	4590	634	102	4847	5770	1642	24
23363	"	3:58	4:32	5.05	5.29	15.0	1882	5912	3331	489	73	3555	4298	1222	21
23364	"	5:03	5:47	5.82	5,79	14.8	2538	8001	4663	660	97	4737	5745	1532	26
23365	"	5:47	6:33	5.10	5.09	16.1	2652	8002	4492	690	111	4846	5619	1583	32
23366	"	6:34	7:20	4.48	4.48	13.5	2770	8002	4258	720	89	4996	5589	1635	30
23367	"	7:20	7:35	3.96	3.96	11.6	852	2359	1222	221	25	1465	1607	472	12
23368	"	8:39	9:25	6.55	6.37	15.5	2629	8002	4590	684	106	4687	5709	1486	19
23369	"	9:28	10:14	5.03	5.44	13.1	2756	8002	4433	718	94	4930	5602	1561	25
23370	"	10:15	11:03	4.34	4.73	11.7	2884	8002	4189	751	86	5065	5272	1570	24
23371	"	11:04	11:46	3.76	4.13	10.7	2547	6605	3360	663	871	4272	4433	1389	27
23372	"	12:21	13:05	6.24	6.31	14.3	2635	8002	4681	685	98	4926	5624	1567	27
23373	"	13:05	13:50	5.36	5.45	13.7	2665	8002	4499	694	95	4992	5295	1655	22
23374	"	13:56	14:09	4.57	4.66	12.8	710	2037	1046	185	24	1296	1345	440	2
23375	"	14:10	14:45	4.38	4.47	11.7	2073	7611	2988	540	63	3736	3837	1241	17
23376 77	not	exis	ting	!											

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	<L> 10^{30} cm^{-2}s^{-1}	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ EXP. ENERGY	IBM TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ONLINE REJ. SUM MIPROC T_2 %	ONLINE REJ. NORD-50 T_1 & T_2 %	Σ_{Bhabha}	MH	E_{BEAM}	Mag. Field ~1.6 Gauss	Remarks
ON	ON	ON	ON	4.06	9.74	1501.67	IBM	1.2	1.6	42	45	111	2	4.842	21.725	many VAC-trips
"	"	"	"				"	1/25	1.3							TOF μ fail
"	"	OFF	"	3.76	7.46	1509.13	"	1/20	1.3	44	48	75	0	4841	"	
								—	—							TOF μ fail
"	"	"	"	2.36	5.88	1515.01	"	1.05	1.15		45	49	3	4844	"	
"	"	"	"	1.86	4.21	1519.22	"	0.96	1.00	47	51	48	0	4844	"	
				1.50	0	1519.22						0	0			beams lost. ID VC trip.
"	"	OFF	"	3.35	7.63	1526.85	"	1.2	1.3	44	46	87	2	4847	"	
"	"	"	"	2.39	6.41	1533.26	"	1.00	1.25	49	49	73	3	4827	"	
"	"	"	"	2.09	5.18	1538.44	"	0.8	0.9	49	51	59	1	4823	21.725	beam dumped.
		problem	ON					0.2	1.5							19.140
"	"	OFF	"	4.12	10.62	10.62	"	0.2	1.4	54	45	156	5	4843	"	
"	"	"	"	3.52	4.09	14.71	"	0.2	1.0	52	47	60	0	4843	"	Magnet tripped
"	"	"	"	5.27	13.42	28.13	"	0.25	1.3	52	43	197	2	4842	"	
"	"	"	"	4.65	12.33	40.46	"	0.2	1.0	53	46	181	5	4843	"	
"	"	"	"	3.55	10.21	50.67	"	0.2	0.8	52	48	150	4	4844	"	
"	"	"	"	2.76	9.40	60.07	"	0.18	0.7	54	49	138	2	"	"	
"	"	"	"	1.93	7.01	67.08	"	0.1	0.6	56	51	103	3	"	"	
"	"	"	"	1.58	4.22	71.30	"	<0.1	0.55	54	54	62	1	"	"	beam dumped
"	"	"	"	5.77	15.32	86.63	"	0.25	1.3	52	42	225	6	"	"	
"	"	"	"	4.48	12.67	99.30	"	0.15	1.1	53	44	186	2	"	"	
"	"	"	"	3.53	8.79	108.09	"	0.1	0.9	53	45	129	0	"	"	beam dumped
"	"	"	"	4.29	12.05	120.14	"	0.1	1.2	52	43	177	4	4843	19.141	
"	"	"	"	3.14	9.60	129.74	"	0.1	0.9	52	46	141	1	4844	19.140	
"	"	"	"	2.48	8.31	138.05	"	0.15	0.85	54	49	122	1	"	19.141	
"	"	"	"	1.95	1.91	139.96	"	0.1	0.8	53	50	28	0	4841	19.140	beam dumped
"	"	"	"	4.86	13.76	153.72	"	0.3	1.4	52	44	202	5	4844	"	
"	"	"	"	4.03	11.78	165.50	"	0.25	1.	53	46	173	7	"	"	
"	"	"	"	3.41	11.03	174.53	"	0.2	0.65	53	50	162	1	4846	"	
"	"	"	"	2.68	7.63	182.16	"	0.1	0.6	55	51	112	0	4845	"	
"	"	"	"	5.42	15.53	197.69	"	0.3	1.2	54	43	228	3	4847	19.141	
"	"	"	"	4.55	11.26	209.95	"	0.2	0.85	52	45	180	5	4847	"	~~run was stuck, te~~
"	"	"	"	3.47	2.72	212.67	"	0.15	0.65	53	50	40	0	4847	"	run was stuck, terminated
"	"	"	"	3.28	7.49	220.16	"	0.1	0.62	54	51	110	1	4847	"	~~run was stuck, terminated~~

RUN	DATE	START	STOP	AT RUN START I+	AT RUN START I−	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL ×10⁶	TØ REJ ×10⁶	T₁ ACC SUM	T₂ ACC SUM	T₁ Bit 2 E_LG>6GeV	T₂ Bit 17 2T·E_t≥2TR
23378	4/10/85	14 53	15 14	3.87	3.96	10.9	1329	3218	1645	320	35	2062	2208	667	16
23379	"	15 49	16 30	6.75	6.78	17.4	2429	8002	4707	631	109	4635	5673	1513	33
23380	"	16 31	17 12	5.81	5.83	15.9	2471	7990	4523	643	102	4772	5539	1639	21
23382	"	17 45	18 25	6.83	6.81	17.8	2383	8002	4828	619	110	4516	6102	1502	20
23383	"	18 26	19 06	5.88	5.88	17.6	2396	8002	4645	513	109	4637	6065	1629	225
23384	"	19 07	19 53	5.12	5.13	16.9	2753	8002	4413	716	121	4947	5672	1692	29
23385	"	19 54	20 14	4.42	4.43	13.4	1165	3330	1707	303	41	2104	2170	727	6
23386	"	20 52	21 37	6.94	6.92	27.8	2684	8002	4759	699	195	4722	5827	1606	33
23387	"	21 37	22 22	5.93	5.92	25.0	2649	7999	4645	691	172	4788	5813	1717	22
23389	"	22 23	23 07	5.01	5.03	13.3	2639	8001	4366	687	91	4883	5617	1625	25
23389	"	23 07	23 50	4.40	4.42	11.8	2526	7140	3719	657	77	4633	4664	1632	15
23390	5/10/85	0:34	1:16	6.99	6.98	15.6	2524	8001	4729	656	102	4707	5866	1551	16
23391	"	1:17	1:58	6.03	6.04	15.9	2472	8002	4716	642	102	4726	5818	1613	23
23392	"	1:59	2:04	5.27	5.29	13.5	295	956	529	76	10	572	633	182	4
23393	"	2:08	2:53	5.12	5.10	13.1	2715	8002	4378	706	93	4992	5571	1637	15
23394	"	2:55	3:44	4.44	4.47	11.0	2944	7773	3962	766	84	5016	5145	1612	27
23395	"	4:12	4:53	6.91	6.84	16	2456	8001	4840	639	105	4667	5850	1499	31
23396	"	4:54	5:18	6.00	5.95	17	1444	4833	2778	376	64	2771	3619	929	23
23397	"	6:57	7:42	6.77	5.83	13.7	2662	8001	4751	692	95	4554	5665	1379	28
23398	"	7 42	8 29	5.15	4.39	13.2	2773	8002	4437	722	95	4911	5541	1537	33
23399	"	8 29	09 20	5.14	4.37	12.4	2835	8002	4266	738	91	4916	5485	1550	19
23400	"	09 20	09 42	4.45	3.76	11.4	1090	3059	1633	284	32	1898	2063	619	15
23401	"	10 11	10 52	6.94	6.89	17.6	2447	8002	4835	636	112	4602	5700	1464	27
23402	"	10 52	11 34	6.03	6.00	17.6	2467	8002	4641	642	113	4534	5886	1447	29
23403	"	11 34	12 18	5.25	5.21	14.5	2638	8002	4444	686	99	4786	5633	1526	21
23404	"	12 18	13 04	4.56	4.52	12.2	2918	8002	4248	760	93	4985	5393	1575	32
23405	"	13 08	14 00	3.95	3.91	11.4	3103	8002	4021	807	92	5045	5462	1535	23
23406	"	14 23	14 58	6.71	6.69	14.9	1847	5403	3017	481	71	3012	4170	1077	19
23407	"	14 58	15:32	5.96	5.93	15.2	1999	6241	3702	520	79	3740	4604	1217	14
23408	"	15 33	16:14	5.31	5.29	13.8	2711	8007	4445	706	97	4983	5577	1584	16
23409	"	16:14	17:03	4.58	4.56	11.6	2482	6889	3665	645	75	4373	4586	1344	10
23410	"	17:30	18:20	6.85	6.92	22.3	2900	7786	4778	—	—	—	—	—	—
23411	"	18:35	19:14	5.33	5.56	27.2	2316	8002	5027	603	184	4442	5860	1559	36
23412	"	19:14	20:03	4.70	4.91	11.6	2930	8002	4221	762	89	4943	5567	1483	24
23413	"	20:03	20:25	4.03	4.26	10.9	1199	3237	1648	312	34	2071	2100	631	9

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	<L> 10^{30} cm^{-2} s^{-1}	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ EXP. ENERGY	IBM/TAPE OUTPUT	AT RUN START ID (μA)	AT RUN START TOF (V)	ON LINE REJ. SUM MIPROC T_2 %	ON LINE REJ. NORD-50 T_1 & T_2 %	Σ_{Bhabha}	MH	E_{BEAM}	Mag. Field −1.6 Gauss	Remarks
ON	ON	~~OFF~~	ON	2.72	3.95	224.11	IBM	0.1	0.60	55	51	58	1	19.141	4848	
"	"	OFF	"	6.18	17.84	241.95	"	0.3	1.2	51	43	262	11	"	4844	
"	"	"	"	5.05	13.01	254.96	"	0.2	1.0	51	45	191	4	19.140	"	beams lost
"	"	"	OFF	5.91	14.64	269.60	"	0.4	1.25	52	41	215	1	"	"	~~23381 ignore~~
"	"	"	OFF	4.74	11.92	281.52	"	0.3	0.90	53	44	175	3	"	"	
"	"	"	ON	3.87	11.31	292.83	"	0,35	0,75	53	46	166	2	19.141	4841	
"	"	"	"	3.15	3.75	296.58	"	0.2	0.6	52	51	55	2	"	"	beams lost
"	"	"	"	5.08	12.02	313.60	"	0.3	1,25	52	42	250	8	19.140	"	
"	"	"	"	4.37	12.53	326.13	"	0.2	1.0	53	43	184	7	"	"	
"	"	"	OFF	3.86	10.08	336.21	"	0.2	0.9	53	47	148	3	"	4840	FAMP turned OFF
"	"	"	"	3.05	8.04	344.25	"	0.2	0.7	58	50	118	2	"	4839	Beams dumped
"	"	"	"	6.07	15.73	359.98	"	0.3	1.3	53	43	231	6	"	4838	
"	"	"	"	4.64	12.80	372.78	"	0.3	0.9	52	43	188	6	"	4837	
"	"	"	"	4.22	1.98	374.76	"	0.2	0.75	51	47	29	0	19.141	4837	CAMAC error We stopped run.
"	"	"	"	3.62	11.65	386.41	"	0.2	0.75	54	47	171	3	19.141	4836	
"	"	"	"	2.90	9.67	396.08	"	0.2	0.6	54	51	142	2	19.140	4838	Beams dumped
"	"	"	"	5.70	14.16	410.24	"	0.3	1.2	53	41	208	4	19.140	4837	
"	"	"	"	4.55	7.49	417.73	"	0.3	1.0	52	44	110	4	19.141	4837	Beams dumped
"	"	"	"	5.30	15.12	432.85	"	0.3	1.2	053	42	222	7	19.141	4840	
"	"	"	"	4.20	12.53	445.38	"	0.2	0.8	53	46	184	7	19.141	—"—	
"	"	"	"	3.31	10.15	455.53	"	0.2	0.75	52	49	149	6	—"—	—"—	
"	"	"	"	2.93	3.95	459.48	"	0.2	0.65	52	48	58	1	19.140	4841	Beams dumped
"	"	"	"	6.07	15.66	475.14	"	0.5	1.1	50	41	230	10	—"—	4844	
"	"	"	"	5.00	12.05	487.19	"	0.45	0.95	51	44	177	8	—"—	4844	
"	"	"	"	4.15	12.19	499.38	"	0.40	0.80	52	46	179	7	—"—	—"—	
"	"	"	"	3.29	10.76	510.14	"	0.30	0.70	52	49	158	3	19.141	—"—	
"	"	"	"	2.43	7.97	518.11	"	0.25	0.60	53	52	117	3	19.140	4839	Beams dumped
"	"	"	"	—	12.46	530.57	"	0.4	1.1	52	46	183	5	19.140	4838	tagging MF off 63
"	"	"	"	4.45	11.10	541.67	"	0.3	0.9	52	43	163	3	19.141	4839	JDAS err. (UTX ch.)
"	"	"	"	4.05	12.87	554.54	—"—	0.2	0.8	54	46	174	4	19.141	4838	
"	"	"	"	3.22	9.06	563.60		0.2	0,65	53	49	133	4	19.140	4837	beams dumped
"	"	"	"	5.93	9.74	573.34	"	0.6	1.6	—	—	—	—	19140	4837	Nord crashed (no run summary)
"	"	"	"	3.36	9.74	583.08	"	0.6	1.6	49	39	143	5	19141	4837	
"	"	"	"	3.52	10.42	593.50	"	0.18	0,65	53	49	153	4	19140	"	
"	"	"	"	2.77	4.49	597.99	"	0.12	0,58	52	51	66	0	19141	4836	Beams dumped

RUN	DATE	START	STOP	AT RUN START I⁺	AT RUN START I⁻	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL ×10⁶	TØ REJ ×10⁶	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 E_{LG}>6GeV	T_2 Bit 17 $2T\text{-}E_t \geq 2TR$	PROCESSORS ON/OFF NSO	MIP	TOF	FAMP	⟨L⟩ $10^{30}\,cm^{-2}s^{-1}$	Bhabha ∫L dt nb^{-1}	∫L dt EXP. ENERGY	IBM TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ONLINE REJ. SUM MIPROC T_2-%	ONLINE REJ. NORD-50 T_1 & T_2 %	Σ Bhabha	MH	E_{BEAM}	Mag. Field ~1.6 kauss	Remarks

4/10/85

15⁵⁰ at run start LG power supply #6 failed with over current; reset and o.k.
Beate said, our LG HV-message could be due to an interference of RI-H8 with ZDAS. She was not very fond of starting RI-H8 after each new fill.
The messages of last run did not show up this run (first of new fill, no RI-H8)

16⁰⁰ H. Mills & R. Meinke on shift
Gas system Ok.

With this energy the hits in the inner detector due to synchrotron radiation have dropped from about 150 hits/event to 70 hits/event.

17⁴⁵ run 23381 lost, because of software improvement by J. Olsson

≈ 2130 periods of high deadtime. These seem to be caused by the IBM connection since I observe the IBM event count trailing for periods.

After end of run 23387 turned FAMP OFF. Deadtime went from 25% to 13%.
Thus leave FAMP OFF HSM

Std hists taken. There is 1 REFORM job outstanding but NO cpu time left.
I notice that for many runs there have been a large number of events with single large LG blocks set (these are killed at reconstruction). Usually the number of these events is low (≈ 10/run).

5/10/85

0:00 Heinzelmann and Bowdery on shift

2:08 TV display error! While drawing the standard histograms, a message about 'displaying histograms from old run' appeared in the wrong place.

CAMAC error soon after (any connection?) caused data taking to stop. We restarted ZDAS.

5:18 Beams dumped to allow repair of a water leak in PETRA.
6:30 Lowering the magnet to 500A.
6:41 Starting this operation had the desired effect - PKR announce that injection will recommence!

08⁰⁰ Holzcak & Becker

08⁵⁵ - All detectors tripped off.
09²⁰ - All detectors trip again. On last occasion, there appear no loss of beam.

14²⁶ - HV error TAG MF 61 Switched on manually.
14⁵⁵ Noticed TAG MF 63 was off. Switched on manually.

16.00 Krehbiel and Krado on shift

16.19 gas check done
16.55 Vtrack + Jetch Soft Trip.
18:20 NORD crashed the following lamps on Nord front panel were on:
Interrupt / Paging / Protect Ring 1, 2, 3 flashing / active levels 1, 3, 13, 14 flashing /
Nord reloaded and new run started → OK.
19:05 TOF rate went up to 1.5 / 1.6 V
after PKR did some orbit corrections, the TOF-rate went down to 0.5 V
23.44 Suddenly high background. Chambers trip softly. PKR cannot see anything. Since Tasso wanted a new fill anyhow, we go "DOWN" I must be the fog

6 Oct '85

0.00 Stephens & Glasser on shift.
0.12 Run # 23418 started. Background bad + D.T. High - ask for improved conditions.
0.30 Gas leak OK.
1.45 "Illegal JETC data" appear almost permanently on screen.
check JETC wire map and find "hole" for wires 712-719.
call Spitzer → he'll come in.
2.00 message disappears and hole in histogram starts to fill!!
2.30 Spitzer arrives (by which time effect had gone → just as well because there are no spares (DL8's)!!
5:30 ILLEGAL JET DATA reappears, just as beams were dumped. contacts of DL8-89 cleaned
4:30 ILLEGAL JET DATA reappears DL8 #89 again shows but there is no "hole" in wire map.
5:15 JOAS Reading error 33 Missing CAM branch 7 crate 6 : I9 ring 3 < pl
7-45 we've had no more "Illegal JETC data" but there is still an occasional entry in the "DL8-before-bad" histogram even though there has been no "hole" in the JETC wire map.

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	$T\emptyset$ REJ $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{LG} > 6$GeV	T_2 Bit 17 $2T \cdot E_4 \cdot \geq 2TR$
23414	~~05/10/85~~ 06/10/85	20:53	21:37	6.70	6.55	15.8	2540	8002	4838	660	105	4714	5645	1508	27
23415	06/10/85	21:36	22:21	5.81	5.68	14.5	2631	8002	4566	685	100	4836	5607	1484	27
23416	"	22:21	23:08	5.05	4.93	12.4	2808	8002	4509	731	91	4936	5517	1582	23
~~23417~~	"	23:08	23:40	4.39	4.29	11.6	1890	5061	2657	492	57	3217	3454	1001	14
23418	06/10/85	0:13	0:52	6.72	6.77	22.9	2341	8002	4985	609	140	4581	5722	1475	22
23419	"	0:53	1:36	5.85	5.90	16.7	2538	8002	4637	660	110	4555	5707	1442	20
23420	"	1:36	2:20	5.07	5.05	14.1	2608	8002	4606	679	96	4458	5309	1350	12
23421	"	2:20	3:13	4.43	4.47	12.3	3160	8002	4081	522	101	5019	5398	1482	31
23422	"	3:14	3:31	3.80	3.80	12.3	981	2527	1272	255	27	1574	1566	481	8
23423	"	3:58	4:39	6.64	7.04	17.8	2462	8002	4856	635	126	4378	5745	1377	24
23424	"	4:39	5:22	5.75	6.12	18.1	2557	8001	4636	665	121	4504	5747	1418	21
23425	"	5:22	6:09	5.00	5.34	15.2	2824	8002	4392	734	111	4664	5694	1372	24
23426	"	6:10	6:59	4.33	4.64	12.9	2946	8002	4243	766	98	4780	5437	1402	32
23427	"	6:59	7:26	3.77	4.06	11.6	1550	3982	2037	403	47	2443	2673	666	10
23428	"	7:46	8:29	6.79	6.80	18.3	2513	8002	4747	653	119	4371	5715	1373	22
23429	"	8:29	9:16	5.88	5.83	14.3	2692	8001	4493	700	99	4790	5645	1442	19
23430	"	9:17	10:07	5.05	4.98	11.7	3000	8001	4348	780	91	4893	5767	1423	19
23431	"	10:07	10:26	4.34	4.27	11.2	1874	2218	1165	227	25	1384	1475	394	6
23432	"	10:50	11:05	6.73	6.76	20.3	924	3050	1846	240	48	1584	2100	466	14
23433	"	11:06	11:47	6.34	6.35	17.4	2464	8002	4691	641	111	4477	5731	1373	27
23434	"	11:48	12:34	5.49	5.49	13.5	2775	8002	4467	721	97	4763	5698	1446	24
23435	"	12:34	13:23	4.69	4.69	11.5	2916	7644	4060	758	87	4597	5260	1336	25
23436	"	13:54	14:37	6.71	6.73	15.7	2563	8002	4974	667	104	4711	5736	1440	24
23437	"	14:37	15:24	5.75	5.75	13.2	2781	8002	4614	724	96	4842	5632	1456	20
23438	"	15:24	16:14	4.91	4.91	11.6	2994	8001	4199	779	90	4933	5465	1460	26
23439	"	16:14	16:24	4.20	4.20	11.2	564	1464	713	147	16	921	945	259	6
23440	"	16:47	17:31	6.80	6.85	15.6	2590	8002	4705	674	105	4714	5680	1423	27
23441	"	17:31	18:15	5.87	5.92	14.3	2616	8002	4676	681	97	4792	5690	1449	24
23442	"	18:15	19:04	5.05	5.10	12.6	2900	8002	4348	755	95	4957	5507	1389	30
23443	"	19:04	19:30	4.31	4.35	10.2	1476	3486	1881	384	39	2212	2377	691	5
23444	"	20:06	20:56	6.67	6.73	13.3	2907	8001	5039	756	101	4719	5822	1519	26
23445	"	20:56	21:49	5.62	5.68	12.1	3117	8002	4876	811	98	4818	5824	1533	28
23446	"	21:53	22:48	4.65	4.69	10.4	3276	8002	4336	852	88	4958	5650	1417	12
23447	"	22:48	23:00	3.92	3.94	9.5	662	1540	789	172	16.4	1029	1035	306	3

PROCESSORS ON/OFF NSO	MIP	TOF	FAMP	$\langle L \rangle$ 10^{30} cm^{-2}s^{-1}	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ EXP. ENERGY	IBM / TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ONLINE REJ. SUM MIPROC T_2 [%]	ONLINE REJ. NORD-50 T_1 & T_2 [%]	Σ_{Bhabha}	MH	E_{BEAM}	Mag. Field -1.6 gauss	Remarks
ON	ON	OFF	OFF	5.76	14.50	672.49	IBM	0.35	1.25	51	41	273	7	19.140	4.835	
"	"	"	"	4.66	13.76	626.25	"	0.25	0.85	52	45	202	7	19.141	4.836	
"	"	"	"	3.67	11.99	638.24	"	0.2	0.73	53	45	176	2	"	4834	
"	"	"	"	2.87	5.31	643.55	"	0.18	0.62	54	49	78	2	19140	"	Beams dumped (300 nb^{-1} today)
"	"	"	"	4.88	10.42	653.97	"	0.4	1.9	51	40	153	3	19.141	4836	
"	"	"	"	4.62	14.17	668.14	"	0.5	1.0	49	44	208	3	19140	4835	
"	"	"	"	3.72	9.47	677.61	"	0.8	0.8	44	44	139	1	19140	4835	
"	"	"	"	2.84	10.76	688.37	"	0.4	0.65	52	51	158	3	19.140	4834	
"	"	"	"	2.95	4.82	690.89	"	0.25	0.55	47	52	37	3	19140	4834	Beams dumped
"	"	"	"	5.5	12.87	703.76	"	0.6	2.1	48	41	189	3	19140	4835	
"	"	"	"	4.47	13.14	716.90	"	0.6	1.0	44	44	193	7	19141	4834	
"	"	"	"	3.53	9.88	726.78	"	0.6	0.8	50	47	145	5	19141	4834	
"	"	"	"	2.67	7.63	734.41	"	0.5	0.65	50	49	112	4	19140	4834	
"	"	"	"	2.23	3.34	737.75	"	0.4	0.6	51	51	49	0	19140	4835	beams dumped
"	"	"	"	5.39	14.17	751.92	"	0.55	1.5	48	43	208	6	19141	4834	
"	"	"	"	4.60	13.55	765.47	"	0.3	0.9	52	46	199	5	19140	4835	
"	"	"	"	3.52	12.53	778.00	"	0.2	0.7	53	47	184	5	19140	4847	
"	"	"	"	3.26	3.68	781.68	"	0.2	0.6	52	50	54	2	19141	4851	beams dumped
"	"	"	"	6.43	6.74	788.42	"	1.0	1.2	43	42	99	2	19141	4838	watchdog flags → run stopped
"	"	"	"	5.56	15.39	803.81	"	1.0	1.0	49	43	226	5	"	4840	
"	"	"	"	4.63	14.37	818.18	"	0.4	0.75	52	46	211	3	19 140	4841	
"	"	"	"	3.61	9.87	828.05	"	0.3	0.6	51	49	145	6	19140	4840	beams dumped
"	"	"	"	6.01	17.30	845.35	"	0.6	2.1	52	39	254	4	19141	4840	
"	"	"	"	4.58	14.64	859.99	"	0.4	0.8	52	44	215	6	19 140	4841	
"	"	"	"	3.72	12.39	872.38	"	0.3	0.7	52	49	182	1	"	"	
"	"	"	"	2.83	2.11	874.49	"	0.1	0.6	53	54	31	3	---	4841	beams dumped
"	"	"	"	5.42	15.46	889.95	"	0.4	1.1	52	43	227	5	19.140	4840	
"	"	"	"	5.10	15.87	905.82	"	0.35	0.8	52	43	233	3	---	---	
"	"	"	"	4.16	12.39	918.21	"	0.25	0.65	53	47	182	7	---	---	
"	"	"	"	3.61	5.86	924.07	"	0.2	0.55	54	48	86	1	"	"	beams dumped
"	"	"	"	6.51	19.82	943.89	"	0.4	1.1	52	38	291	7	19.141	4838	
"	"	"	"	5.42	16.28	960.17	"	0.3	0.7	53	40	239	11	19141	4840	
"	"	"	"	3.97	14.30	974.47	"	0.2	0.6	53	47	210	3	---	4841	
"	"	"	"	3.42	2.45	976.92	"	0.15	0.5	58	50	36	1	---	4840	Beams dumped.
		MUNICH			1562	992.54										

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{LG}>6$GeV	T_2 Bit 17 $2T\cdot E_\perp \geq 2$TR

PROCESSORS ON/OFF NSO	MIP	TOF	FAMP	$\langle L \rangle$ 10^{30} cm^{-2}s^{-1}	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ EXP.	ENERGY	IBM TAPE OUTPUT	At Run Start ID (μA)	TOF (V)	ONLINE REJ. SUM MIPROC T_2-%	NORD-50 T_1 & T_2 %	Σ Bhabha	MH	E_{BEAM}	Mag. Field ~1 x Gauss	Remarks

8:00 Hagemann and Bowdery on shift

We note with satisfaction that 300 nb^{-1} were collected yesterday.

Our background is higher than yesterday (ID current = 0.8 μA rather than 0.3 μA at start; also VTXC current is higher and JETC synrad hits = 90/event instead of 50/event)

PKR are already working on it.

8:23 Gas check done, OK.
11:05 Watchdog flag error. We stopped run and started a new one.
12:00 164 nb^{-1} so far today.

16^{00} Hedgecock, Schneekloth on shift

16^{15} gas check done
Run 23444 Two channels 16 & 17 on LG indicate -0.001 We go through the reset procedure but errors still persist. The histograms look normal!
Between runs 23445 – 23446 we run down the HV and the two channels still indicate -0.001 Re-turn RI-HB. Now no fault recurs. Magic!!!

7.10.85 Naroska, Schmidt

Gas check ok.
Muon crate 5 missing was cured by R. Hedgecock "shaking" all cards in Rucksack crate.
3.30 New fill
Run RI-HB
Change paper in Gould (what an awkward beast!!)
4.32 Beams lost due to power failure → short break
6.05 new fill
LG-power check: OK

8^{00} H. Wicke + R. Fest on shift

Gas check OK
Illegal JETC data @ 50 events/run – to DL9 89 or 90.
12^{00} Mr. Riesberg is working to cure the active punch
12^{25} new fill and Mr. Riesberg repair work ready
12^{35} LG resetting HV done

Minor modification to YCLRTV to cure funny display messages (timing problem) and to YEDISP to cure the 'missing beampipe chamber data' mystery – FBITPC strikes again!
15^{30} short break magnet → 3000 A
15^{55} injection magnet → 7500 A

16^{00} Rancle + Stephan on shift

Gas check OK.

18^{55} Tasso informs us that PKR have a problem so there will be no fill for at least another half hour.
~19^{05} Message on T.V. "DESY vacuumleck".
~19^{10} " " " " Restart at 19^{30}"
~19^{30} " " " " Restart ca 21^{00}. Desy vacuumleck"
21^{30} short break
22^{35} Run # 23476 started Do LG2 (RI-HB) check.

0^{00} Becker + Komamiya on shift

Gas check o.k.

0^{30} Leadglass HV reset by RI-HB All O.K.

7^{22} Short break (just after dumping the beams)
8^{00} magnet 3000 A
Hagemann and Bowdery on shift

8:10 Magnet to 1000 A
Apparently an 'air pipe' is broken, hence the short break.

8:27 Gas check done, OK.
10:35 Restart 13:00. Magnet off.
11:44 Injection (amazing!)
Magnet to 3000 A → 7500 A

RUN	DATE	START	STOP	AT RUN START I+	AT RUN START I-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL ×10⁶	TØ REJ ×10⁶	T₁ ACC SUM	T₂ ACC SUM	T₁ Bit 2 E_L6 > 6GeV	T₂ Bit 17 2T·E_4 ≥ 2TR
23448	6.10.85	23²¹	0.04	6.69	6.66	15.6	2531	8002	4774	658	102	4642	5731	1365	24
23449	7.10.85	0.04	0.21	5.74	5.63	15.4	840	2806	1659	245	38	1687	2086	484	9
23450	"	0.25	1:12	5.30	5.36	12.6	2844	8002	4571	740	93	4878	5498	1466	23
23451	"	~~1.05~~	2.09	4.57	4.48	10.9	3178	8001	4087	827	89	5119	5509	1455	21
23452	"	2.09	2.23	3.87	3.78	9.3	747	1755	902	194	18	1178	1121	345	4
23453	"	2.50	3.34	6.82	6.84	15.8	2594	8002	4836	674	106	4581	5790	1405	20
23454	"	3.34	4.19	5.86	5.89	14.6	2656	8001	4568	691	100	4698	5790	1411	21
23455	"	4.19	~~5.08~~ 4.32	5.08	5.08	12.6	700	2104	1182	182	23	1274	1380	356	7
23456	"	6.08	6.53	6.79	6.78	13.9	2719	8001	4772	708	98	4578	5704	1256	23
23457	"	6.54	7.42	5.83	5.83	12.8	2871	8001	4541	747	96	4829	5763	1402	28
23458	"	7.42	8.36	5.00	4.99	12.0	3173	8001	4278	826	99	4901	5646	1397	19
23459	"	8.36	8:45	4.26	4.25	10.1	494	1271	667	128	13	807	793	227	4
23460	"	9¹⁵	10⁰²	6.20	6.19	13.9	2814	8001	4589	732	101	4720	5785	1289	29
23461	"	10⁰³	10⁵³	5.32	5.30	11.6	3012	8002	4340	784	90	4937	5643	1328	28
23462	"	10⁵⁴	11⁴⁷	4.54	4.51	10.5	3180	8002	4132	828	86	4952	5407	1348	31
23463	"	11⁴⁷	12⁰⁰	3.88	3.86	9.8	739	1837	1073	192	18	1095	1178	297	6
23464	"	12²⁷	13¹⁶	6.19	6.13	12.9	2879	8002	4594	749	96	4904	5749	1357	32
23465	"	13¹⁶	14⁰⁶	5.30	5.25	11.9	2983	8001	4313	777	92	4860	5501	1309	21
23466	"	14⁰⁶	15⁰²	4.55	4.51	10.6	3302	8002	4139	860	91	5026	5620	1399	25
23467	"	15⁰³	15⁰⁷	3.88	3.85	9.8	251	585	304	65	6	365	392	83	1
23468	"	16¹⁶	16²²	6.68	6.75	15.9	330	1017	645	86	14	581	674	161	3
23469	"	16²²	16²⁸	6.53	6.59	14.0	320	1021	627	83	12	588	680	174	5
23470	"	16²⁴	17¹⁶	6.37	6.44	14.7	2815	8002	4653	733	108	4829	5771	1404	33
23471	"	17¹⁶	18⁰⁶	5.43	5.50	12.9	2985	8002	4450	777	101	4866	5633	1372	23
23472	"	18⁰⁶	19⁰¹	4.60	4.67	10.9	3213	8002	4106	837	91	5097	5541	1367	15
23473	"	19⁰¹	1959	3.91	3.96	9.7	3441	8002	3894	896	87	5128	5442	1372	23
23474	"	1959	21⁰⁰	3.32	3.37	9.0	3626	8002	3684	943	85	5294	5301	1420	26
23475	"	21⁰⁰	21¹¹	2.83	2.88	8.5	610	1298	605	159	14	861	891	223	2
23476	"	21³⁵	23²⁵	6.79	6.72	15.2	2808	8001	4745	730	111	4750	5684	1391	21
23477	"	23²⁶	01³	5.74	5.69	13.7	2863	8001	4451	745	102	4895	5667	1436	24
23478	8.10.85	0:14	1:07	4.83	4.87	11.3	3150	8002	4135	819	93	5058	5529	1432	22
23479	"	1:07	1:16	4.22	4.17	10.5	509	1280	641	132	14	800	871	237	2
23480	"	1:45	2:32	6.43	6.61	15.0	2762	8002	4677	719	108	4768	5877	1417	31
23481	"	2:32	3:21	5.51	5.64	12.7	2941	8001	4343	765	~~765~~ 97	4833	5759	1464	17

PROCESSORS ON/OFF NSO	MIP	TOF	FAMP	⟨L⟩ 10^{30} cm^{-2}s^{-1}	Bhabha ∫L dt nb^{-1}	∫L dt EXP. ENERGY	IBM TAPE OUTPUT	AT RUN START ID (μA)	AT RUN START TOF (V)	ONLINE REJ. SUM MIPROC T₂%	ONLINE REJ. NORD-50 T₁&T₂%	Σ Bhabha	MH	E_BEAM	MAG. FIELD ·1% gauss	REMARKS 103
ON	ON	OFF	OFF	6.53	17.43	994.35	IBM	0.5	1.2	50	42	256	4	19.141	-4841	
"	"	"	"	5.27	4.29	998.64	"	0.3	0.8	50	45	63	2	13.140	-4841	
"	"	"	"	4.62	15.19	1013.83	DDAS 02	0.25	0.7	51	45	223	6	13.141	-4840	
"	"	"	"	3.63	10.83	1024.66	DDAS04	0.2	0.6	55	50	159	5	"	-4841	
"	"	"	"	3.00	2.79	1027.45	IBM	0.2	0.5	56	50	41	0	"	"	beams dumped
"	"	"	"	6.11	17.84	1045.29	"	0.4	1.2	50	41	262	4	19.140	-4840	
"	"	"	"	4.86	13.83	1059.12	"	0.3	0.8	57	44	203	3	19.141	-4841	
"	"	"	"	4.36	3.96	1064.08	"	0.2	0.7	49	46	58	0	13.141	-4840	beams lost
"	"	"	"	6.10	18.18	1082.26	"	0.4	1.1	50	42	257	8	19.140	4840	
"	"	"	"	5.14	17.57	1099.83	"	0.3	0.8	53	45	258	3	13.141	-4838	
"	"	"	"	3.87	13.07	1112.90	"	0.2	0.6	53	48	192	6	"	"	
"	"	"	"	3.20	1.77	1114.67	"	0.1	0.5	50	49	26	0		4850	beams dumped
"	"	"	"	5.46	15.46	1130.13	"	0.4	1.3	52	44	227	6	19.141	4853	
"	"	"	"	4.55	14.64	1144.77	"	0.2	0.7	51	48	215	2	"	"	
"	"	"	"	3.64	12.19	1156.96	"	0.2	0.5	51	50	179	3	13.141	4853	
"	"	"	"	2.80	1.91	1158.87	"	0.1	0.4	42	43	28	1	13141	4841	beams dumped
"	"	"	"	5.42	18.52	1177.39	"	0.4	1.0	53	44	272	5	"	4838	
"	"	"	"	4.26	11.17	1188.56	"	0.3	0.7	51	48	164	7	"	4825	
"	"	"	"	3.32	12.80	1201.36	"	0.2	0.55	54	50	188	5	"	4825	
"	"	"	"	2.88	0.72	1202.08	"	0.2	0.50	56	51	12	0	13140	4844	beams dumped
"	"	ON	ON	7.13	8.38	1204.46	"	0.4	1.0	49	39	35	0	19141	4844	
"	"	"	OFF	7.23	2.72	1207.18	"	0.4	1.0	46	41	4	0	19140	4843	
"	"	"	ON	5.77	17.57	1224.85	"	0.4	0.9	53	43	258	6	19141	4841	
"	"	"	"	4.63	15.53	1240.38	"	0.3	0.7	52	46	228	3	19141	4841	
"	"	"	"	3.75	13.21	1253.59	"	0.2	0.6	54	50	194	1	19140	4841	
"	"	"	"	2.70	9.74	1263.33	"	0.2	0.5	54	53	143	4	19140	4841	
"	"	"	"	2.16	7.63	1271.06	"	0.2	0.4	55	56	112	5	19141	4840	
"	"	"	"	1.78	1.77	1272.83	"	0.1	0.35	58	55	26	0	19140	4840	beams dumped
"	"	"	"	6.20	19.88	1292.71	"	9.4	1.1	51	42	292	6	19140	4838	
"	"	"	"	4.90	15.46	1308.17	"	0.3	0.75	53	46	227	8	19141	4839	
"	"	"	"	3.55	12.67	1320.84	"	0.2	0.65	54	50	186	3	19141	4840	
"	"	"	"	3.13	1.16	1322.00	"	0.2	0.65	52	52	17	0	19140	4839	beams dumped
"	"	"	"	5.50	16.55	1338.55	"	0.4	0.9	53	43	243	3	19.140	4841	
"	"	"	"	4.45	13.83	1352.38	"	0.3	0.7	53	47	203	6	19.141	4840	

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{LG} > 6$ GeV	T_2 Bit 17 $2T \cdot E_4 \cdot \geq 2TR$
23482	8.10.85	3:22	4:16	4.70	4.80	10.9	3214	7974	4038	837	91	5022	5535	1464	25
23483	"	4:40	5:27	6.51	6.55	15.6	2730	8001	4764	711	110	4672	5916	1371	22
23484	"	5:28	6:15	5.54	5.59	14.2	2805	8001	4456	730	104	4818	5801	1454	29
23485	"	6:15	7:06	4.77	4.82	12.2	3035	8002	4280	790	96	4582	5738	1455	19
23486	"	7:06	7:15	4.11	4.15	10.6	470	1166	556	122	13	766	793	210	5
23487	"	14^{43}	14^{38}	5.89	5.94	13.8	1431	3925	2329	373	52	2103	3005	544	10
23488–	"			New trigger test data											
–23492	"			"	"			"	"						
23493	"	15^{09}	16:04	5.00	5.05	11.1	3267	8002	4196	849	94	4821	5858	1328	26
23494	"	16:05	17:02	4.30	4.33	10.1	3432	8002	4302	893	90	4996	5673	1327	17
23495	"	17:02	1805	3.67	3.69	9.4	3762	8002	3814	979	91	5141	5637	1391	22
23496	"	18:07	1812	3.03	3.04	8.9	243	557	243	63	5	340	359	86	1
23497	8/10/85	18:48	19:41	5.47	5.47	11.5	3137	8001	4441	816	94	4930	5627	1322	26
23498	"	19:41	20:35	4.66	4.65	10.9	3205	8002	4237	883	90	4981	5548	1387	24
23499	"	20:34	21:33	3.99	3.97	9.8	3463	8001	3819	901	89	5093	5464	1339	20
23500	8/10/85	22:10	23:00	6.33	6.44	13.8	2713	8001	4616	757	104	4748	5757	1332	18
23501	"	22:59	23:51	5.42	5.53	12.2	3033	8002	4325	788	95	4927	5592	1350	19
23502	"	23:51	0:47	4.63	4.73	10.8	3302	8002	4199	859	93	5064	5600	1368	21
23503	9.10.85	0:47	1:04	3.94	4.02	10.1	997	2400	1168	259	26	1556	1569	415	10
23504	"	1:28	2:16	6.64	6.69	14.2	2866	8002	4616	746	106	4724	5853	1299	24
23505	"	2:17	3:06	5.67	5.73	13.1	2933	8002	4445	763	100	4848	5699	1397	16
23506	"	3:07	4:02	4.88	4.93	10.8	3312	8002	4161	862	93	5009	5644	1267	26
23507	"	4:02	4:34	4.17	4.21	9.9	1858	4317	2099	484	48	2727	3042	682	16
23508	"	4:58	5:47	6.60	6.64	14.1	2892	8002	4685	753	106	4742	5774	1296	29
23509	"	5:47	6:38	5.62	5.66	12.5	3025	8002	4402	787	99	4930	5616	1315	25
23510	"	6:38	7:33	4.81	4.83	10.9	3267	8002	4152	850	92	5031	5531	1312	18
23511	"	7:34	7:47	4.09	4.10	9.7	762	1755	876	198	19	1100	1232	279	5
23512	"	8:16	9:05	6.59	6.57	14.3	2915	8002	4618	758	108	4742	5771	1272	26
23513	"	9:06	9:57	5.60	5.51	12.5	3034	8002	4396	789	98	4879	5741	1255	30
23514	"	9:57	10:08	4.78	4.67	11.9	639	1636	845	166	19	999	1125	247	6
23515	"	12:42	13:14	6.36	6.30	13.9	1861	6399	3541	484	96	4104	4243	1132	23
23516	"	16:24	17:05	6.33	5.64	16.3	2657	8001	4698	691	113	4795	5901	1338	35
23517	"	17:05	17:54	5.41	4.79	13.0	2903	8002	4316	755	98	4968	5773	1339	43
23518	"	17:55	18:43	4.62	4.06	11.4	2920	7431	3820	760	86	4701	5312	1179	22
23519	"	18:44	18:47	3.47	3.47	10.3	130	337	173	34	3.5	203	215	60	12

PROCESSORS ON/OFF NSO	MIP	TOF	FAMP	$\langle L \rangle$ $10^{30}\,cm^{-2}s^{-1}$	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ EXP. ENERGY	IBM TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ONLINE REJ. SUM MIPROC T_2 %	ONLINE REJ. NORD-50 T_1 & T_2 %	Σ_{Bhabha}	MH	E_{BEAM}	Mag. Field -1+6 Gauss	REMARKS
ON	ON	ON	ON	3.30	10.83	1363.21	IBM	0.2	0.7	53	51	159	5	19.140	4840	beams dumped
"	"	"	"	5.81	16.75	1379.96	"	0.4	1.0	51	42	246	8	19.141	4828	
"	"	"	"	4.49	12.67	1392.63	"	0.3	0.90	52	46	186	4	"	4827	
"	"	"	"	3.27	9.74	1402.37	"	0.2	0.75	54	48	143	4	"	4834	
"	"	"	"	2.77	1.16	1403.53	"	0.2	0.65	57	51	17	0	19.140	"	Beams dumped
"	"	"	"	5.23	7.90	1411.43	"	0.4	11	53	43	116	1	19.141	4845	
							"									} don't use in Analysis!
							"									
ON	ON	ON	ON	3.91	14.57	1426.00	"	0.2	0.65	53	50	214	3	19.14	4850	
"	"	"	"	3.37	12.53	1438.53	"	0.1	0.5	54	48	184	5	19.141	4838	
"	"	"	"	2.46	10.96	1449.09	"	0.1	0.4	55	54	135	2	19.141	4841	
"	"	"	"	1.99	0.27	1449.36	"	0.1	0.4	52	60	4	0	19.140	4840	Beams Dumped
ON	ON	ON	ON	4.98	16.96	1466.32	IBM	0.3	0.8	53	46	249	4	19.141	4837	
"	"	"	"	4.07	14.16	1480.48	"	0.2	0.6	52	49	208	3	19.14	4839	
"	"	"	"	3.04	11.71	1492.19	"	0.1	0.5	53	54	172	1	19.141	4839	beams dumped
ON	ON	ON	ON	5.41	18.80	1510.99	IBM	0.4	0.8	51	44	276	6	19.141	4836	
"	"	"	"	4.76	14.64	1525.63	"	0.2	0.63	52	48	215	3	19.140	4838	
"	"	"	"	3.76	13.96	(1517.91) 1529.59	"	0.2	0.57	54	49	205	5	19.141	4840	
"	"	"	"	3.10	3.75	1533.34	"	0.1	0.48	53	53	55	1	19.141	4838	beams dumped
"	"	"	"	5.70	18.39	1551.73	"	0.4	0.85	52	44	270	2	19.140	4839	
"	"	"	"	4.49	16.62	1568.35	"	0.3	0.65	51	46	244	8	19.141	4839	
"	"	"	"	3.69	14.37	1582.72	"	0.2	0.55	54	50	211	5	19.140	4838	
"	"	"	"	3.22	6.33	1589.05	"	0.1	0.48	54	53	93	4	19.140	4840	beams dumped
"	"	"	"	5.77	19.95	1609.00	"	0.4	0.85	51	43	293	5	19.141	4840	
"	"	"	"	4.76	15.39	1624.39	"	0.3	0.65	52	47	226	3	19.140	4841	
"	"	"	"	3.58	13.42	1637.81	"	0.2	0.55	53	50	199	2	19.140	4840	
"	"	"	"	3.11	2.93	1640.74	"	0.18	0.45	53	52	43	1	19.141	4841	beams dumped
"	"	"	"	5.69	19.48	1660.22	"	0.5	0.9	51	42	286	9	19.140	4840	
"	"	"	"	4.64	15.53	1675.75	"	93	0.64	53	47	228	4	19.140	4841	
"	"	"	"	4.00	2.52	1678.27	"	0.2	0.54	50	50	37	2	19.140	4841	beams partially lost
"	"	"	"	5.21	9.60	1687.87	"	0.6	2.0	54	46	141	4	19.140	4841	beams lost
"	"	"	"	5.04	14.71	1702.58	"	0.5	1.7	54	43	216	8	19.141	4841	
"	"	"	"	4.17	13.96	1716.54	"	0.3	1.2	54	48	205	5	19.140	4840	
"	"	"	"	3.32	11.30	1727.84	"	0.2	0.8	55	50	166	2	19.140	4839	
"	"	"	"	3.14	0.75	1728.59	"	0.2	0.6	54	54	11	0	19.140	4841	Beam stopped to change LG module. Also beam was dumped during this time

RUN	DATE	START	STOP	AT RUN START I⁺	AT RUN START I⁻	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL ×10⁶	TØ REJ. ×10⁶	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 E_{LG}>6GeV	T_2 Bit 17 $2T \cdot E_H \cdot \geq 2TR$	PROCESSORS ON/OFF NSO	MIP	TOF	FAMP	<L> 10^{30} cm^{-2}s^{-1}	Bhabha ∫L dt nb^{-1}	∫L dt EXP. ENERGY	IBM TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ONLINE REJ. SUM MIPROC T_2-%	ONLINE REJ. NORD-50 T_1 & T_2 %	Σ Bhabha	MH	E_{BEAM}	Mag. Field −1.6 Gauss	Remarks

8.10

Wolf Glaser & Hellenbrand on shift

Injector not available when we have current of 3.3 so we keep going with current fill (TASSO)

9.10.85

0⁰⁰ L. Smolik and H. Rieseberg on shift.

0⁰⁵ gas check OK.

1⁰⁴ Stop for Refill

1²⁶ New filling, Run 23504, (LG2) RI-HB → 0₂

TOF Mean TDC II, Channel 71 (PM 72) is low since Run 23497. Better after scope observation / cable shaking

4³⁵ Beam dumps

4⁵⁵ New filling ready, Run 23508, RI-HB → 0₂

7⁴⁵ Stop for Refill

8:00 Kuhlen and Bowdery on shift

8:16 New fill ready.

8:27 Gas check done.

10:10 Jet chamber and Vertex chamber soft tripped, I was unable to restart the power up sequence. Alarm Aws I was lit and could not be reset in the hardware room. There were no alarm indications at all in the rackrack. The chambers could not be switched on there either. } run was paused.

→ reason: the cause of the slow trip (TOF > 3v) had not disappeared. Probably continuous slow beam loss or bad beam. As the fill had been partially lost, PKR requested HT off so the problem remains unsolved.

10:20 Short break

11:20 Vacuum leak in PETRA, says TASSO.

12:46 Complained on high TOF-rate (2V instead of 1V) of PKR

15:58 This is my last shift for JADE this year – see you all next year! C.B.

16⁰⁰ Stephens & Magnussen on shift

16¹⁹ New fill ready

16⁴² gas o.k. slight reduction b. Wilhan (Kreuzlang fill)

18⁴³ Run # 23518 ended because of "Watchdog flag error"

This was near the end of fill so that we would finish (as we thought!!) before completion of new fill and hence not miss the higher luminosity!!

21⁰⁰ We stopped taking data at 19⁵⁰ in order to exchange distributor # 11 which lost its HV-settings in less than an hour. At 19⁵⁴ we thought we had finished this task, when the computer told us, that it couldn't address Distr. # 11. I (N.H.) forgot to set the address register of the new module to 11. With luck and slack HV cables we were able to pull out the distributor and set the address without discabling. After this we shed some proud looks onto the back of the new distributor and realized that the number of free channels (i.e. without HV cable connected) was greater than before replacing the distr. We had to invest lots of Gehirnschmalz and a phonecall to S. Kawamiya to figure out what was wrong. While recabling one started at the left side and the other at the right side without taking the two spare distr. channels into account (dead channels and renumbered cables added to the confusion). I (N.H.) believe that everything is o.k. now.

Note: Run # 23520 was taken with wrong ~~[illegible]~~ HV applied to 21 channels of ring # 4 (channels 22 – 42 : 4-W-22 up to 4-W-42).
These are leadglass block # : 675, 707, 739 etc (always + 32).

23⁵⁵ The LG-problem is not cured. Some cards have to be exchanged (guess). Please continue running RI-HB.

0:00 Barth & Kuhlen

0:20 Gas check done

1:20 Short break: Vacuum problems NW

1:55 Magnet down to 2000 Amps

7 to JDAS Error 33 Miss LAM B: 2 C: 5 Leadgl. ADC

8:00 Felst v. Ramcke

8:10 gas check ok.

8:26 ID-Soft trip

12:39 All LG-HV all night, although RI-HB has not been run for some hours. Please don't run RI-HB until tonight. I will check again then. N.H.

16⁰⁰ Stephens & Steffen on Shift.

16⁴⁵ Gas level ok.

17¹⁵ Z chamber trip

18⁰⁰ Shd Histogram shows two spikes in Vertex chamber "Wireside Map". Herrn Hagemann & Kleinwort will investigate when we have next fill.

~1830 Tagging MF61 had to be switched on manually.

RUN	DATE	START	STOP	AT RUN START I⁺	AT RUN START I⁻	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL ×10⁶	TØ REJ. ×10⁶	T₁ ACC SUM	T₂ ACC SUM	T₁ Bit 2 E_LG>6GeV	T₂ Bit 17 2T·E_L·≥2TR
23520	9/10/85	19^{54}	20^{00}	6^{10}	5^{55}	25.6	389	1327	825						
23521	"	20^{57}	21^{47}	4.89	4.07	12.5	3023	8002	4324	786	98	4881	5870	1260	32
23522	"	21^{47}	22^{18}	4.18	3.44	11.1	1801	4443	2218	468	51	2753	3136	669	-25
23523	"	22^{41}	23^{29}	6.09	6.16	13.9	2822	8002	4448	734	102	4826	5648	1279	16
23524	"	23:29	0:18	5.16	5.22	12.2	2935	8001	4274	764	93	4928	5608	1308	20
23525	10/10/85	0:19	1:05	4.39	4.43	11.0	2747	6770	3535	715	79	4296	4737	1074	21
23526	"	3:31	4:13	6.32	6.34	17.9	2470	8001	4549	642	115	4900	5789	1428	29
23527	"	4:14	5:01	5.36	5.36	14.1	2800	8002	4433	729	103	4891	5833	1326	27
23528	"	5:00	5:36	4.53	4.52	12.1	2072	5603	3078	539	65	3549	3843	992	17
23529	"	6:02	6:49	6.60	6.68	15.9	2708	8002	4660	705	112	4743	5958	1308	25
23530	"	6:49	7:36	5.56	5.66	13.9	2762	8002	4461	719	100	4872	5722	1369	24
23531	"	7:35	8^{30}	4.74	4.82	11.7	3056	8002	4240	795	93	4992	5592	1293	27
23532	"	8^{37}	9^{19}	3.96	4.03	10.4	2826	6773	3360	735	76	4312	4834	1088	28
23533	"	9^{52}	10^{42}	6.50	6.76	14.9	2760	8002	4622	718	107	4748	5921	1298	27
23534	"	10^{42}	11^{33}	5.45	5.26	12.1	3014	8002	4298	705	95	4973	5749	1312	20
23535	"	11^{34}	12^{28}	4.61	4.37	10.7	3203	8001	4167	834	89	5163	5474	1387	29
23536	"	12^{28}	13^{12}	3.81	3.68	9.8	2602	5980	2909	677	66	3804	4146	921	15
23537	"	13^{42}	14^{08}	5.74	5.90	12.7	1465	3365	2277	381	49	2364	2883	638	9
23538	"	15^{36}	16^{29}	4.93	5.97	12.3	3113	8002	4586	811	99	4845	5865	1243	27
23539	"	16^{29}	17^{29}	4.14	5.08	11.1	3345	8001	4317	871	96	4949	5904	1243	22
23540	"	17^{29}	18^{05}	3.43	4.26	9.9	2124	4848	2451	553	54	2978	3436	728	15
23541	"	18^{29}	19^{19}	6.03	6.09	13.9	2913	8001	4522	758	106	4728	5796	1214	33
23542	"	19^{20}	20^{10}	5.14	5.17	12.4	3021	8002	4367	786	98	4875	5817	1299	26
23543	"	20^{11}	21^{07}	4.38	4.41	10.8	3339	8002	4066	869	94	4990	5675	1203	26
23544	"	21^{07}	21^{32}	3.72	3.75	9.8	1450	3381	1628	377	37	2136	2364	497	14
23545	"	22^{00}	22^{20}	6.15	6.15	13.1	3051	8001	4488	794	104	4747	5896	1221	29
23546	"	22^{54}	23^{45}	5.19	5.18	11.5	3135	8002	4191	815	94	4989	5594	1285	26
23547	"	$?^{46}$	00^{38}	4.41	4.39	10.4	3095	7483	3667	805	83	4767	5151	1928	25
23548	11/10	1.02	1.50	6.68	6.75	18.3	2875	8002	4686	747	136	4771	5768	1304	19
23549	11/10	1.51	2.40	5.67	5.71	14.9	2959	8001	4313	770	115	4870	5738	1337	30
23550	11/10	2.41	3.34	4.83	4.84	12.1	3161	8002	4237	822	99	5053	5597	1344	24
23551	"	3.34	3.55	4.12	4.12	11.1	1267	3084	1539	336	36	1917	2223	528	5
23552	"	4.21	5.10	6.80	6.75	18.4	2901	8002	4625	755	139	4688	5843	1332	29
23553	"	5.10	6.04	5.76	5.73	21.0	3189	8002	4460	829	174	4821	5804	1402	21
23554	"	6.04	6.58	4.88	4.82	12.1	3194	8002	4184	831	101	5014	5631	1389	19
23555	"	6.58	7.02	4.13	4.09	10.5	153	395	209	40	4.2	239	266	70	3

RUN	PROCESSORS ON/OFF NSO	MIP	TOF	FAMP	⟨L⟩ 10^{30} cm^{-2}s^{-1}	Bhabha ∫L dt nb^{-1}	∫L dt EXP. ENERGY	IBM / TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ONLINE REJ. SUM MIPROC T_LO %	ONLINE REJ. NORD-50 T₁&T₂ %	Σ Bhabha	MH	E_BEAM	MAG. FIELD −1×6 auss	REMARKS
23520	ON	ON	ON	ON	4.56	2.32	1730.91	IBM	0.5	1.9	49	40	34	Ø	19.140	4839	21 LG-channels wrong (Ring 4)
23521	"	"	"	"	3.40	11.03	1741.94	"	0.3	1.8	54	48	162	4	"	"	
23522	"	"	"	"	2.76	5.24	1747.18	"	0.2	0.7	53	52	77	3	19.14	4841	beams dumped
23523	"	"	"	"	5.47	15.66	1763.84	"	0.4	1.2	52	46	230	8	19140	4838	
23524	"	"	"	"	4.55	13.21	1776.05	"	0.25	0.75	52	48	184	4	19140	4839	
23525	"	"	"	"	3.65	10.35	1786.40	"	0.20	0.6	54	49	152	4	19140	4839	beams dumped
23526	"	"	"	"	5.50	15.32	1801.72	"	0.4	1.7	54	45	225	4	19141	4841	
23527	"	"	"	"	4.50	13.62	1815.34	"	0.3	1.2	54	46	200	5	19140	4841	
23528	"	"	"	"	3.88	8.99	1824.33	"	0.2	0.8	54	48	132	2	"	4842	Beams dumped
23529	"	"	"	"	5.59	15.25	1839.58	"	0.5	1.35	53	43	224	8	19140	4840	
23530	"	"	"	"	4.84	15.46	1855.04	"	0.3	1.0	53	46	227	4	"	4828	
23531	"	"	"	"	3.95	12.06	1867.10	"	0.2	0.7	53	49	171	2	19141	4840	
23532	"	"	"	"	3.03	10.56	1877.66	"	0.2	0.6	55	52	155	1	"	"	beam dumped
23533	"	"	"	"	5.90	17.23	1894.89	"	0.6	1.3	52	44	253	8	19140	4828	
23534	"	"	"	"	4.51	13.42	1908.31	"	0.3	0.8	54	48	197	3	19140	4847	
23535	"	"	"	"	3.64	14.10	1922.41	"	0.2	0.6	54	49	207	4	19140	4849	
23536	"	"	"	"	2.75	7.17	1929.58	"	0.2	0.6	54	53	96	1	19141	4852	beams dumped
23537	"	"	"	"	5.34	8.10	1937.68	"	0.4	1.0	52	44	119	0	19.141	4851	pot of beam lost
23538	"	"	"	"	4.77	14.64	1952.32	"	0.4	1.3	53	44	215	3	19141	4853	
23539	"	"	"	"	3.70	12.39	1964.71	"	0.2	0.7	55	48	182	5	19141	4854	
23540	"	"	"	"	2.84	6.40	1971.11	"	0.2	0.55	52	51	94	0	19141	4851	beam dumped.
23541	"	"	"	"	4.49	16.71	1985.82	"	0.5	1.3	52	45	216	6	19141	4850	no tagging MPE61 off for some events at start of run.
23542	"	"	"	"	3.99	14.85	2000.67	"	0.3	0.8	53	47	218	5	19141	4850	
23543	"	"	"	"	3.24	12.19	2012.86	"	0.2	0.65	53	51	174	3	19141	4852	
23544	"	"	"	"	2.81	3.54	2016.40	"	0.2	0.55	53	54	52	1	19140	4851	beam dumped
23545	"	"	"	"	4.90	17.71	2034.11	"	0.5	1.0	52	46	260	9	19141	4844	tagging MPE63 off for first 100 nb⁻¹ or so events.
23546	"	"	"	"	4.24	13.96	2048.07	"	0.25	0.65	53	49	205	7	19141	4844	
23547	"	"	"	"	3.34	10.96	2059.03	"	0.2	0.55	53	52	161	3	19140	4844	beams dumped
23548	"	"	"	"	5.94	17.87	2076.40	"	0.6	1.02	53	43	255	8	19141	4844	
23549	"	"	"	"	4.71 ~~4.72~~	14.23 ~~14.95~~	2090.63 ~~2080.35~~	"	0.3	0.7	52	~~47~~	209	7	19140	4844	
23550	"	"	"	"	3.84	12.89	2103.02	"	0.25	0.6	54	49	182	1	19140	4845	
23551	"	"	"	"	3.12	3.12	2106.14	"	0.2	0.55	54	52	58	3	19140	4844	beams dumped
23552	"	"	"	"	5.55	17.09	2123.23	"	0.6	1.1	51	48	257	6	19141	4844	
23553	"	"	"	"	4.2	14.16	2137.39	"	0.3	0.8	52	46	208	5	190	4844	
23554	"	"	"	"	3.74	11.94	2149.33	"	0.2	0.6	54	49	184	6	19141	"	
23555	"	"	"	"	3.53	0.68	2150.01	"	0.2	0.57	53	51	10	0	"	"	Beams dumped.

RUN	DATE	START	STOP	AT RUN START I+	AT RUN START I-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL ×10⁶	TØ REJ ×10⁶	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 E_{LG}>6GeV	T_2 Bit 17 2T·E_4·≥2TR

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	<L> 10^{30} cm⁻²s⁻¹	Bhabha ∫L dt nb⁻¹	∫L dt EXP. ENERGY	IBM TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ONLINE REJ. SUM MIPROC T_2-%	ONLINE REJ. NORD-50 T_1 & T_2 %	Σ Bhabha	MH	E_{BEAM}	Mag. Field -1.6 Gauss	Remarks

20[20] All LG-HV are still o.k. So, please don't run R1-HB anymore.

21[00] Starting to get "Ite illegal Data" — so far not to frequently. But there are two peaks beginning to show in "DL8 histogram"

21[30] Beams dumped — adjust magnet current from ~7516 → ~7502

22[00] Tagging TR 63 did not come on at switch on. switched on manually.

~23[15] Changed paper in VTF chamber Run recorded (in rucksack)

24[00] Elsen / Olsson Gas check done. This night, TASSO ordered a dump twice, without telling us!

11-10-85

06[30] IBM busy quite often, also after dump

8[00] Riesberg & Chrin on shift.

8[05] Gas check done, o.k.

10[10] Stop for refilling

10[40] New fill ready

13[50] New fill

15[30] z-chamber trips (Run 23566 in progress)

16[00] Glaser and Diekmann on shift

Gas check done.

12/10

0[00] Steffen, Olsson Gas check done

4[00] LG distributor 4+5 off. HV supply switch on again, keeps tripping. We localize error to distributor 5. We spend a couple of hours trying to localize a faulty PM, without success. We are unable to reach Magnusson, no answer on phone.

at same time, synchrotron develops problems, can not ~~be~~ refill. Beams were kept till 7[00], then dumped, in order to save money. Synchrotron will not be available before noon.

7[40] Magnusson calls us! He will come in later and care about our problem.

8[00] Kleinert and Kubler on shift

8[30] Gas check done

14[45] break since begin of shift. Now "trouble with vacuum pump in transmissionsway" on PETRA-TV

15[59] run started; stopped after 14 pulser events because of missing LAM in ID (run 23582)

16[00] P. Yoga - Kleinert + Romaniuk

spi bribed

16[45] beam back & HV on for 3/4 h (high curr.). No LG-overcurrents anymore. (Magic again, or the cnt. is completely dead now). N.h.

17[30] We found DL8 power supply is faulty (Br=7, Cr=1), there are no spairs
We try to exchange Cr=1 and Cr=2.
Now DL8 power supply Cr=2 is faulty
wire # 848 — 879 are out for Run 23583
From Run 23584, we exchanged the
power supply for DL8 Cr=2 Br=7 ⟶ looks O.K.

18[00] Tamp should remain off according to J. Olsson

19[10] Call from J. Olsson try to switch on TAMP. It went off, when the Nord was reloaded by the previous shift.

19[30] Gas check O.K.

It's not written in "JDAS manual."
Appendix A11 is missig

21[10] JDAS readout errors 33 Missig LAM Br=2, Cr=3 TOF1 missig

21[30] Soft trip VTch.t Setch.

23[10] Beam dump — New fill

13/10/85

00[01] Trick + Test on shift

00[26] Gas check done

0[30] Same error as 21[10] — Missing LAM Br=2 Cr=3 TOF1

0[59] All chamber trip (z-chamber only)

2[20] "illegal JETC data" shows up rather frequent (illegal time values in DL8 # 92, 124, disappear in next fill)

3[05] new fill ready

3[50] standard histograms show 1) one TOF mean TJC low, 2) another JETC $A^+ + A^-$ (channel) shows zero

4[15] TOF mean TJC II channel 71 now dead, seems to be of non trivial (cable) origin
leave it for the expert to fix (7[40] it shows hit again as normal, though nothing has been done)

6[41] PETRA TV HASN'T CHANGED FOR AT LEAST 1 HOUR! (NAME TASSO - THEY WILL TELL YOU)

7[14] GTV went 'beep' - but display stays same - TASSO don't ~~under~~ know what it means.

RUN	DATE	START	STOP	AT RUN START I⁺	AT RUN START I⁻	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL ×10⁶	TØ REJ ×10⁶	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 E_{LG} > 6GeV	T_2 Bit 17 $2T \cdot E_4 \geq 2TR$
112															
23556	11/10	7³⁰	8¹⁸	6³³	6⁵²	15.0	2804	8002	4599	730	110	4679	5810	1338	21
23557	"	8¹⁸	9⁰⁹	5.40	5.51	12.2	3053	8001	4274	794	97	4946	5639	1337	18
23558	"	9¹⁰	10⁰⁸	4.58	4.64	10.0	3478	8002	3840	905	90	5158	5421	1289	18
23559	"	10⁰⁹	10¹¹	3.85	3.89	8.9	113	297	141	29	3	187	163	39	1
23560	"	10⁴²	11³⁰	6.55	6.62	14.5	2856	8002	4730	743	107	4670	5881	1336	19
23561	"	11³¹	12²⁰	5.58	5.64	13.1	2926	8002	4412	761	100	4921	5687	1372	28
23562	"	12²⁰	13¹³	4.77	4.83	11.3	3139	8002	4149	816	92	4995	5474	1381	23
23563	"	13¹³	13¹⁷	4.03	4.08	10.8	176	481	248	45	4	293	293	72	4
23564	"	13⁵⁰	14³⁹	6.31	6.48	14.8	2847	8002	4636	741	110	4770	5781	1358	22
23565	"	14⁴⁰	15³⁰	5.34	5.45	12.8	2984	8002	4423	777	100	4987	5546	1387	29
23566	"	15³⁰	16²⁴	4.54	4.62	10.9	3194	8002	4048	831	91	5162	5343	1390	27
23567	"	16²⁴	17²³	3.86	3.89	9.5	3498	8002	4246	907	86	5402	5479	1367	21
23568	"	17²⁵	17²⁷	3.26	3.27	9.4	107	314	140	27	2	183	178	58	2
23569	11/10	17:55	18:43	6.77	6.64	15.5	2812	8002	4563	731	113	4733	5722	1323	34
23570	"	18:43	19:33	5.79	5.69	12.6	2983	8002	4397	776	97	4947	5673	1436	25
23571	"	19:45	20:40	4.78	4.69	11.4	3213	8002	4032	836	95	5068	5016	1349	28
23572	"	20:40	21:04	4.05	3.95	10.0	1383	3208	1594	359	35	2012	2332	548	9
23573	11/10	21:31	22:18	6.69	6.79	16.3	2748	8001	4672	715	116	4662	5736	1916	20
23574	"	22:17	23:07	5.71	5.75	14.3	2918	8002	4513	758	108	4884	5733	1374	28
23575	"	23:07	23:59	4.86	4.85	11.6	3096	8002	4273	805	94	4850	5555	1437	24
23576	"	23:59	12.08	4.13	4.10	11.6	537	1373	714	139	16	873	910	248	4
23577	12/10	0.37	0,47	6.61	6.56	13,1	533	1286	672	139	18	669	1117	167	2
23578	"	0,48	1,36	6.43	6.43	14.9	2870	8002	4592	747	111	4711	5896	1944	80
23579	"	1,36	2,26	5,54	5,49	13,0	2964	"	4394	771	100	4896	5693	1312	17
23580	"	2,26	3,19	4,74	4,70	11,6	3185	"	4334	829	98	4946	5794	1302	36
23581	"	3.19	4.03	3.99	4.03	3.20	3019	6343	3435	786	75	4006	4630	1055	20
23582	"	15⁵⁹	15⁵⁹	6.48	6.54	0.0	—	14	14	[illegible]					
23583	"	17⁴⁰	17⁴⁴	4.65	4.67	11.9%	265	731	482	693	8	435	509	123	4
23584	"	17⁵⁶	18²³	4.41	4.43	11.1	1559	3800	2072	406	45	2357	2834	573	19
23585	"	18²⁵	19²⁷	4.04	4.06	10.0	3521	8001	4064	916	92	4969	5868	1189	19
23586	"	19²⁷	19⁴²	3.34	3.36	9.3	864	1915	934	224	21	1833 1354	1354	279	6
23587	"	20.11	20.57	6.41	6.64	13.9	2790	8001	4729	726	101	4680	5754	1289	37
23588	"	20.58	21.52	5.44	5.63	12.3	3076	8002	4519	800	98	4844	5856	1264	17
23589	"	22.40	23¹⁰	3.93	4.02	10.2	1826	4129	2177	475	49	2600	3001	637	19

RUN	PROCESSORS ON/OFF NSO	MIP	TOF	FAMP	<L> $10^{30}\,cm^{-2}s^{-1}$	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ EXP. ENERGY	IBM TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ONLINE REJ. SUM MIPROC T_2-%	ONLINE REJ. NORD-50 T_1 & T_2 %	Σ_{Bhabha}	MH	E_{BEAM}	Mag. Field −1×Gauss	REMARKS
113																	
23556	ON	ON	ON	ON	5.71	17.43	2167.44	IBM	0.4	0.95	50	44	256	5	19.141	4845	
23557	"	"	"	"	4.52	15.59	2183.03	"	0.3	0.7	52	48	229	3	19.140	4844	
23558	"	"	"	"	3.43	13.21	2196.24	"	0.2	0.45	54	54	194	6	19.140	4845	
23559	"	"	"	"	3.10	0.41	2196.65	"	0.15	0.4	46	56	6	0	19.141	4846	Beams dumped
23560	"	"	"	"	5.79	16.62	2213.27	"	0.4	0.95	51	42	244	2	19.140	4845	
23561	"	"	"	"	4.49	14.10	2227.37	"	0.3	0.75	53	46	207	8	19.141	4847	
23562	"	"	"	"	3.69	12.05	2239.42	"	0.25	0.6	52	50	177	4	19.140	4847	
23563	"	"	"	"	3.23	0.41	2239.83	"	0.2	0.55	48	52	6	0	19.141	4847	Beams dumped
23564	"	"	"	"	5.83	18.32	2258.15	"	0.4	0.95	51	43	269	8	19.140	4847	
23565	"	"	"	"	4.57	13.48	2271.63	"	0.3	0.7	53	46	198	8	19.141	4834	
23566	"	"	"	"	3.57	11.99	2283.62	"	0.2	0.6	54	51	176	4	19.140	4834	
23567	"	"	"	"	2.89	12.67	2296.29	"	0,2	0,6	53	48	186	6	19.140	4848	
23568	"	"	"	"	2.67	0.20	2296.49	"	0,2	0.6	40	59	3	0	19.140	4848	Beams dumped
23569	ON	ON	ON	ON	5.44	15.12	2311.61	IBM	0.4	1.0	51	44	222	3	19.141	4847	
23570	"	"	"	"	4.21	15.66	2327.27	"	0.3	0.7	53	47	230	4	19.141	4847	
23571	"	"	"	"	3.61	11.44	2338.71	"	0.2	0.6	54	51	168	5	19.140	4848	
23572	"	"	"	"	2.91	4.34	2344.55	"	0.2	0.5	55	52	71	0	19.141	4847	Beams dumped
23573	ON	ON	ON	ON	6.04	17.64	2362.19	IBM	0.4	1.0	50	43	237	3	19.141	4844	
23574	"	"	"	"	4.94	14.03	2376.22	"	0.4	0.8	52	45	206	3	19.141	4846	
23575	"	"	"	"	3.92	12.60	2388.82	"	0.3	0.6	51	48	185	2	19.140	4845	
23576	"	"	"	"	3.30	1.77	2390.57	"	0.2	0.55	58	50	83	—	19.141	4846	
23577	on	on	on	on	0.77	0,41	2390.98	"	0,4	1.0	53	50	6	0	"	4844	beams collided only at end!
23578	"	"	"	"	5,14	15,60	2406,58	"	0,4	0,85	52	44	229	4	"	"	
23579	"	"	"	"	4,32	14,10	2420.68	"	0.3	0,7	52	47	207	5	"	4845	
23580	"	"	"	"	3.49	11.13	2431.81	"	0,2	0,65	54	48	183	2	19,140	4844	
23581	"	"	"	"	2.80	8.51	2440,32	"	0.2	0.6	56	48	125	3	"	+4846	This run with part LG off.
23582																	only 14 Records in
23583	"	"	"	off	3.97	1.77	2448.09	"	0.2	0.7	52	47	26	0	19.140	+4844	
23584	"	"	"	"	3.82	6.13	2448.22	"	0.2	0.7	55	47	90	1	19.141	4844	
23585	"	"	"	"	2.87	8.92	2457.14	"	0.2	0.7	54	51	131	4	19.140	4844	
23586	"	"	"	"	2.26	3.06	2460.20	"	0.15	0.5	55	53	45	0	19.141	4844	beam dumped 19⁴⁰
23587	"	"	"	"	5.87	17.50	2477.70	"	0.4	0.9	50	42	257	6	19.140	4843	
23588	"	"	"	"	4.64	16.07	2493.77	"	0.3	0.8	53	45	236	2	19.141	4845	
23589	"	"	"	"	2.91	6.67	2500.44	"	0.3	0.7	55	49	98	2	19.141	4844	beams dumped

RUN	DATE	START	STOP	AT RUN START I+	AT RUN START I−	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL ×10⁶	TØ REJ ×10⁶	T₁ ACC SUM	T₂ ACC SUM	T₁ Bit 2 E_Lab > 6GeV	T₂ Bit 17 2T·E_t ≥ 2TR
114															
23590	12/10/85	23:38	0:27	6:36	6:38	13·0	2956	8002	4735	769	100	4737	5920	1257	23
23591	13/10/85	0 25	1 23	5:39	5:39	12·9	3164	8002	4416	823	106	4890	5885	1259	21
23592	"	1 23	2 18	4:51	4:51	11·0	3276	8002	4147	852	93	4863	5870	1207	29
23593	"	2 19	2 41	3.82	3.81	10.2	1291	2947	1573	335	34	1859	2240	459	8
23594	"	3 11	3 56	6.70	6.58	15·3	2715	8002	4837	706	107	4489	6105	1247	25
23595	"	3 57	4 45	5·76	5·63	17·2	2851	8002	4610	742	100	4675	6110	1266	25
23596	"	4 46	5 37	4·45	4·83	12·3	3092	8001	4689	805	99	4720	6286	1242	35
23597	"	5 38	5 40	4.25	4.13	10·9	147	387	209	38	4	225	274	53	0
23598	"	7 24	8 17	—	—	11.9	3180	8002	4501	819	97	4745	6070	1149	30
23599	"	8 19	9 15	—	—	11.0	3357	8002	4249	873	96	4833	5976	1168	28
23600	"	9 17	10:16	—	—	9.9	3516	8002	4133	915	90	4957	5751	1130	22
23601	"	10 16	10 19	—	—	9.1	121	305	151	32	3	180	200	36	0
23602	"	10 49	10 50	—	—	12,3	44	165	108	11	1	89	82	23	1
23603	"	11 20	11 41	—	—	10.0	1253	3268	1832	326	33	2000	2523	532	16
23604	"	11:44	12:37	-	-	11.8	3180	8001	4487	827	98	4903	5772	1192	21
23605	"	12:37	13:37	-	-	11.3	3559	8002	4115	925	105	5022	5847	1123	22
23606	"	13:37	13:48	3.87	3.83	9.3	649	1424	713	169	16	898	1028	204	6
23607	"	14:11	15.01	6.67	6.64	13.5	2984	8002	4916	776	105	4785	5936	1272	23
23608	"	15 01	15 54	5.61	5.59	12.3	3145	8002	4351	818	100	4931	5935	1304	24
23609	"	15 54	16 48	4,73	4,70	10,5	3200	7556	4152	832	87	4708	5422	1129	13
23610	"	17 13	18 06	5,59	6,44	12,5	3121	8002	4565	812	101	4780	5899	1253	20
23611	"	18 06	19 02	4,66	5,40	11,0	3331	8002	4191	866	95	4987	5759	1289	21
23612	"	19 02	19 15	3.89	4.52	10.5	740	1765	905	193	20	1103	1255	254	4
23613	"	20 26	21 17	6.38	6.42	14.2	2987	8002	4664	777	110	4713	6128	1211	27
23614	"	21 17	22 09	5,39	5.38	12.4	3111	8002	4437	809	100	4838	5861	1203	29
23615	"	22 09	22 50	4,55	4,51	10.7	2393	5710	3023	622	66	3447	4233	802	25
23616	"	23 25	0 19	6,39	6,09	15.4	2950	8002	4717	767	118	4623	6155	1243	26
23617	14/10/85	0 20	1 12	5.34	5.04	13.0	3100	8002	4494	806	105	4723	6054	1253	30
23618	"	1 12	2 07	4.52	4.23	11.8	3279	8002	4211	852	100	4896	6017	1233	25
23619	"	2 07	2 33	3.81	3.55	12.9	1533	3939	2159	399	51	2336	2936	402	16
23620	"	3 03	3 50	6.61	6.68	17.6	2761	8002	4729	718	127	4602	6006	1274	30
23621	"	3:50	4:40	5.57	5.67	16.8	2994	8001	4540	648	131	4434	6209	1778	17
23622	"	4:41	5:32	4.48	4.66	14.4	3072	8002	4552	799	119	4547	6074	1207	31
23623	"	5:33	5:37	3.62	3.95	15.7	247	647	333	64	10	350	441	85	0
23624	"	6:06	6:53	6.41	6.51	17.0	2862	8002	4894	745	127	4608	6145	1228	36

PROCESSORS ON/OFF NSO	MIP	TOF	FAMP	⟨L⟩ 10³⁰ cm⁻²s⁻¹	Bhabha ∫L dt nb⁻¹	∫L dt EXP. ENERGY	IBM/TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ONLINE REJ. SUM MIPROC T₂ %	ONLINE REJ. NORD-50 T₁&T₂ %	Σ Bhabha	MH	E_BEAM	Mag. Field −1 = 6 kauss	Remarks
115																
ON	ON	ON	OFF	5·56	17.23	2517·67	IBM			52	42	253	4	19.14	4844	
"	"	"	"	4.21	13.89	2531.56	"	0·2	0·75	54	46	204	3	19.141	4838	
"	"	"	"	3·10	11.85	2543.41	"	0.2	0.70	52	50	174	4	"	4840	
"	"	"	"	2.66	3.44	2546.85	"	0·1	0.6	57	50	62	0	"	4842	beams dumped
"	"	"	"	5·32	14.44	2561.29	"	0·5	1.3	50	41	212	6	"	4844	
"	"	"	"	4·07	11·58	2572·87	"	0·3	1·1	53	44	170	4	"	4821	
"	"	"	"	3·14	11·24	2584.11	"	0·2	0·9	54	43	165	2	"	4847	
"	"	"	"	2·12	0.34	2584.45	"	0·2	0·8	50	49	5	0	"	4844	beams dumped
"	"	"	"	5.11	17.78	2602.23	"	0·3	0·9	52	45	261	7	"	"	PETRA clock down
"	"	"	"	4.02	14.64	2616.87	"	0.2	0.7	53	48	215	8	"	4844	"
"	"	"	"	2.95	11.24	2628.11	"	0.15	0.6	53	50	165	2	"	"	"
"	"	"	"	2.54	0.48	2628.59	"	0.1	0.5	49	54	7	0	"	4844	" beams dumped
"	"	"	"	5.77	0.41	2629.00	"	0.4	0.95	53	40	6	0	"	"	"
"	"	"	"	4.95	6.27	2635.27	"	0.35	0.75	53	45	92	1	"	"	" without VTXC Readout
"	"	"	"	3.97	13.21	2648.48	"	0.3	0.7	53	45	194	5	"	4843	VTXC on
"	"	"	"	2.96	12.19	2660.67	"			55	50	179	1	19.140	4844	PETRA LINK up
"	"	"	"	2.51	1.84	2662.51	"			55	52	27	1	19.140	4844	beams dumped
"	"	"	ON	5.38	16.48	2678.99	"	0.45	1.0	52	40	242	2	19.141	4844	
"	"	"	"	4.25	14.64	2693.63	"	0.3	0.7	54	47	215	6	19.140	4844	
"	"	"	"	3.39	12.80	2706.43	"	0.25	0.6	53	47	188	4	19.140	4844	beams dumped
"	"	"	"	5.02	17.84	2724.27	"	0,4	0,95	51	44	262	6	19.140	4852	
"	"	"	"	3.91	14.98	2739.25	"	0,25	0,65	54	49	220	3	19.140	4831	
"	"	"	"	3.49	3.41	2742.66	"	0,2	0,55	54	51	50	1	19.141	4842	beams dumped
"	"	"	"	5.30	17.20	2759.86	"	0.2	1.2	53	43	252	0	19.141	4844	
"	"	"	"	4.37	13.21	2773.07	"	0,3	0,8	53	46	194	4	19.140	4844	
"	"	"	"	3.69	8.74	2781.86	"	0,2	0,65	53	49	129	3	19.141	4844	beams dumped
"	"	"	"	4.23	14.03	2795.89	"	0,45	1,1	52	43	206	2	19.140	4844	
"	"	"	"	3.86	12.74	2808.63	"	0.4	0.85	53	45	187	6	19.141	4844	
"	"	"	"	3.04	11.24	2819.87	"	0.2	0.75	54	49	165	9	"	4845	
"	"	"	"	2.33	4.90	2824.77	"	0.2	0.65	32	47	72	0	"	4844	beams dumped
"	"	"	"	5.07	14.23	2839.00	"	0.5	1.4	51	43	209	3	19.140	"	
"	"	"	"	3.54	10.49	2849.49	"	0.4	0.8	50	45	154	4	19.141	4843	
"	"	"	"	2.25	6.82	2856.31	"	0.6	1.0	50	45	100	1	19.140	4844	
"	"	"	"	1.87	0.34	2856.65	"	0.5	0.8	50	52	5	1	"	4845	beams dumped
"	"	"	"	5.09	15.19	2871.84	"	0.55	1.4	52	40	223	4	19.140	4844	

RUN#	DATE	START	STOP	AT RUN START I+	AT RUN START I-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL ×10⁶	TØ REJ ×10⁶	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 E_{LG}>6GeV	T_2 Bit 17 $2T \cdot E_4 \cdot \geq 2TR$

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	<L> 10^{30} cm⁻² s⁻¹	Bhabha $\int L\,dt$ nb⁻¹	$\int L\,dt$ EXP. ENERGY	IBM TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ONLINE REJ. SUM MIPROC T_2 %	ONLINE REJ. NORD-50 T_1 & T_2 %	Σ_{Bhabha}	MH	E_{BEAM}	Mag. Field ~1.6 kGauss	Remarks

07[19] Chaos reigns (PETRA) TV goes beeps forlornly but display doesn't change. Everyone rings everyone else eventually (as I guessed) message gets through from HV! so I do!

07[21] No PETRATV or PETRA CLOCK so cannot put E^+E^- current onto it. Decide to put arbitrary 5.00 in. – SHOULD HAVE BEEN 5000 (μA)! oh well

07[23] Jet chamber beeps (PETRA) TV now totally blank.

7[40] PKR trying to fix the computer. Ignore messages from the screen + loudspeaker. PKR is going to communicate via phone.

8[00] P. Warming and H. Rieseberg on shift.
gas check done, OK.
histograms checked, all seem OK

10[17] Stop for new filling

10[45] New fill ready

10[50] JOAS error 50: CAMAC crate offline in B1. Power Supply of crate 5 is down
New power supply shows over current. H. Kado will come

11[20] Start Run without VTXC

11[40] VTXC back in business again (+6V on power pack needs adjustment) (HK)

11[47] PETRA beams is up

12[30] JOAS readout error 33 Missing Lam br 2 cr 3 (TOF 1)

12[48] frequently: IBM BUSY due to jobdump – job being active, this caused higher deadtime

13[48] Stop for refilling 13.47 IBM PC sounded alarme because of "low paper" of the vtx-dc-current-recorder, but when following the paper-reloading-instructions, it turned out, that the paper was not low, maybe it was stuck only. I reversed the paper flow back to almost its previous position and switched the control back to run-mode. Works fine again now.

14[08] New fill ready

14[10] Start Run 23607 with FAMP ON call to f.o.

14[20], 15[00] Paper Alarm

Please make a note in the Logbook if this happens again – may be the monitoring circuit is a bit too sensitiv. (HK)

16[00] Weber & Chrin on shift.
gas check done, O. Kay.

20.27 new fill, started run 23613, TOF voltage reads 1.2, but sometimes goes off scale: PKR says they are running with one transmitter less than before;

23.55 all chambers trip hard

14.10.85 Kleinwort and Kado on shift

0[00] gas check done

4[28] JOAS ERR 33 – missing LAM br 2 cr 3 · TOF 1

6[57] " "

8[00] Finch & Bartel on shift.

8[00] Discriminator of TDC #72 broken. Switch to a spare neighbouring TDC shaw.

8[10] gas check done

12[30] IBM switched off will be back at 13[00] ark for new fill.

13[41] JOAS ERROR 33 – Missing LAM board 4 crate 2 : IO ring 2

13[45] " " " " " "

16.00 Greenshaw, Narodzki
Mark J calls to announce new filling
16:30 Gas check done.
16:32 JOAS Readout error 33 Missing LAM br. 3 cr 2 (Muon chambers)
" " " 57 System crate watchdog flag PARMS = 000002 140204 (oct).
17:22 " " " 33 Missing LAM br 2 cr 3 TOF 1 counters.
17:31
22:07 Jet chamber BP chamber soft trip.
23.50 Lots of trouble starting up last run of shift.
Computer got blocked (TV said run in progress, console said "you may not use "STOP" command in JOAS 0, etc.)
After reloading everything works again.
Noticed: when you start a run without BP chamber, you get message: No LATC bank for some few tens of events!!! ⟵ HOWARD

15.10.85 Ambrus & Chrin on shift.
00[10] gas check done.
0[53] FAMP was off for run 23644 + 23645
7[20] Standard histograms look normal.
7[24] Jdas Readout Error 53 – System Crate watchdog flag PARMS = 000002 140204 (oct)
Error on System Console: Error 37; IOX Error Address 71007; Level (Dec): 8
Jdas Manual says this usually means that there is an offline crate somewhere!
Pause / Continue does not help. (Trigger hang-up).
Stop this run (#23653) and start new one.

RUN	DATE	START	STOP	AT RUN START I+	AT RUN START I-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL ×10^6	TØ REJ. ×10^6	T1 ACC SUM	T2 ACC SUM	T1 Bit 2 E_L6>6GeV	T2 Bit 17 2T·E_4·≥2TR
23625	14/10/85	6:54	7:45	5.44	5.53	13.5	3022	8002	4495	787	106	4719	6199	1234	29
23626	"	7:45	8:39	4.62	4.70	11.8	3211	8002	4322	836	99	4870	5819	1235	23
23627	"	8:39	9:01	3.93	4.00	10.8	1314	3075	1593	342	37	1913	2293	492	13
23628	"	9:37	10:26	6.37	6.57	17.4	2905	8001	4688	756	132	4515	6158	1239	~~270~~ 21
23629	"	10:26	11:14	5.44	5.36	12.8	3096	8002	4472	806	103	4763	5901	1217	30
23630	"	11:14	12:16	4.62	4.58	10.9	3402	8002	4044	886	96	4869	5827	1160	22
23631	"	12:17	12:28	3.90	3.83	10.4	666	1588	812	173	18	997	1073	255	2
23632	"	13:37	14:27	6.63	6.65	14.1	2967	8002	4655	773	109	4692	5921	1187	24
23633	"	14:28	15:19	5.56	5.58	12.6	3056	8002	4482	796	100	4875	5786	1317	22
23634	"	15:20	16:16	4.91	4.72	10.8	3345	8001	4187	871	94	5000	5761	1218	19
23635	"	16:15	16:44	3.97	3.97	9.8	1609	3638	1756	419	41,2	2252	2607	556	10
23636	"	17:18	18:06	6.35	5.22	12.3	3139	8002	6675	818	101	4792	5828	~~515~~ 1295	71
23637	"	18:06	19:03	5.40	4.36	11.1	3333	8002	4145	867	95	4867	5836	1242	28
23638	"	19:03	19:52	4.59	3.64	10.0	2267	5230	2601	541	57.2	3181	3720	782	14
23639	"	20:05	20:55	6.09	6.52	16.8	2952	8001	4707	768	114	4693	5918	1284	23
23640	"	20:55	21:47	5.50	5.54	12.8	3109	8002	4406	809	104	4848	5732	1341	40
23641	"	21:47	22:47	4.67	4.70	10.7	3362	8002	4087	874	93	4888	5889	1250	28
23642	"	22:50	23:03	3.86	3.88	10.6	711	1607	847	185	19,7	970	1186	257	2
23644	"	23:52	0:40	6.38	6.47	12.9	2854	8002	4761	742	96	4553	5910	1255	31
23645	15/10/85	0,41	1:32	5,42	5,50	12,2	3037	8002	4340	790	97	4859	5787	1285	27
23646	"	1:33	2:29	4.60	4,66	10,8	3367	8002	4190	875	94	4939	5785	1302	23
23647	"	2:30	2:50	3,90	3,95	10,4	1132	2716	1371	294	30	1638	1896	409	9
23648	"	3:16	4:03	6,42	6,49	16,7	2835	8001	4776	737	123	4641	5888	1321	31
23649	"	4:04	4:54	5,46	5,54	13,3	2973	8002	4445	773	102	4818	5757	1349	24
23650	"	4:54	5:48	4,64	4,73	11,3	3224	8001	4181	839	95	4916	5769	1316	25
23651	"	5:48	6:06	3,93	4,01	10,7	1062	2606	1356	276	30	1647	1762	436	5
23652	"	6:33	~~7:26~~ 6:42	5,11	12,6		3083	8002	4566	802	101	4700	5944	1284	24
23653	"	7:26	7:36	5,51	4,31	11,5	560	1417	739	145	16	867	486	242	2
23654	"	7:44	8:36	5.24	4.08	11.3	3292	8001	4202	857	96	4861	5870	1333	32
23655	"	8:39	9:09	4.50	3.44	10.5	1775	4107	2100	461	48	2535	2929	660	14
23656	"	9:35	10:23	6.50	6.67	15.1	2819	8001	4771	733	110	4675	5986	1273	22
23657	"	10:23	11:13	5.53	5.68	12.3	2961	8001	4504	770	95	4848	5783	1332	23
23658	"	11:13	12:10	3.93	4.04	11.4	3327	8001	4285	866	94	4894	5771	1286	17
23659	"	12:11	12:54	3.92	4.02	10.1	2160	4935	2475	562	57	3063	3538	804	14

RUN	PROCESSORS ON/OFF N50	MIP	TOF	FAMP	<L> 10^30 cm^-2 s^-1	Bhabha ∫L dt nb^-1	∫L dt EXP. ENERGY	IBM / TAPE OUTPUT	AT RUN START ID (μA)	AT RUN START TOF (V)	ONLINE REJ. SUM MIPROL T2 %	ONLINE REJ. NORD-50 T1&T2 %	Σ Bhabha	MH	E BEAM	Mag. Field -1x6amps	Remarks
23625	ON	ON	ON	ON	4.10	11.85	2883.69	IBM	.35	.95	54	46	174	2	19.141	4844	
23626	"	"	"	"	3.19	11.51	2895.20	"	.25	.75	53	48	169	3	"	4877	
23627	"	"	"	"	2,57	3.61	2898.81	"	0.20	.68	56	50	53	1	"	4844	beams dumped
23628	"	"	"	"	4.60	15.59	2914.40	"	0.8	1.8	51	43	229	5	"	4844	
23629	"	"	"	"	4.06	13.83	2928.23	"	0.3	0.8	52	46	205	3	"	4844	
23630	"	"	"	"	3.25	12.19	2940.42	"	0.2	0.7	53	50	179	5	"	4844	
23631	"	"	"	"	2.84	2.18	2942.60	"	0.2	0.5	52	51	32	1	"	4844	IBM off, beam dumped
23632	"	"	"	"	5.82	17.36	2959.96	"	0.5	1.2	52	43	255	5	"	4846	
23633	"	"	"	"	4.57	16.34	2976.30	"	0.3	0.75	53	46	240	6	"	4847	
23634	"	"	"	"	3.60	13.82	2990.12	"	0.2	0.65	54	49	203	7	19140	4846	
23635	"	"	"	"	2.66	5.04	2995.16	"	0.2	0.55	52	53	74	2	19.140	4846	Beams dumped
23636	"	"	"	"	4.69	16.75	3011.91	"	0.4	0.80	52	46	246	4	19.140	4847	
23637	"	"	"	"	3.66	13.08	3024.99	"	0.3	0.60	53	50	192	3	19.140	4844	
23638	"	"	"	"	2.87	6.51	3031.50	"	0.2	0.55	53	52	96	6	19.141	4841	Beam dumped
23639	"	"	"	"	5.31	17.16	3048.66	"	0.6	1.00	52	43	252	9	19.140	4844	
23640	"	"	"	"	4.33	14.30	3062.96	"	0.3	0.70	53	47	210	8	19.140	4845	
23641	"	"	"	"	3.42	12.12	3075.08	"	0.2	0.60	53	50	178	3	19.141	4844	
23642	"	"	"	"	2.58	1.84	3076.92	"	0.2	0.55	53	49	27	1	19.141	4846	Beams dumped.
23644	"	"	"	OFF	5.70	15,66	3092,58	"	0.4	1.0	52	42	230	3	19,141	4844	23643 not exist
23645	"	"	"	OFF	4,37	13,96	3106,54	"	0.3	0,75	52	47	205	7	"	"	
23646	"	"	"	ON	3,34	12,19	3118,73	"	0,2	0,7	53	49	179	2	"	"	
23647	"	"	"	"	2,66	3,40	3122,13	"	0,15	0,6	51	52	50	0	19,140	"	beams dumped
23648	"	"	"	"	5,49	15,80	3137,93	"	0,5	1.1	51	42	232	6	"	"	
23649	"	"	"	"	4,39	14,71	3152,64	"	~~0,25~~	~~0,75~~	52	46	216	1	19,141	"	
23650	"	"	"	"	3,57	13,01	3165,65	"	0,25	0,75	53	49	191	1	19,140	4843	
23651	"	"	"	"	3,24	4,22	3169,87	"	0,20	0,7	54	50	62	1	"	4844	beams dumped
23652	"	"	"	"	4,52	14,17	3184,04	"	0,4	0,9	52	45	205	4	19,141	"	
23653	"	"	"	"	3,78	2,59	3186,63	"	0,25	0,75	52	49	38	1	"	"	Trigger hang up (Harrumb). Run stopped.
23654	"	"	"	"	3.21	10.40	3197.53	"	0,25	0,7	53	49	160	4	"	4844	
23655	"	"	"	"	2.57	5.86	3203.39	"	0.20	0.6	54	51	86	2	19140	4844	beams dumped
23656	"	"	"	"	5.41	15.87	3219.26	"	0,5	1.5	52	42	233	3	"	"	
23657	"	"	"	"	4.61	14.91	3234.17	"	0,3	0.8	53	45	219	4	"	"	
23658	"	"	"	"	3.64	13.21	3247.38	"	0.2	0.6	53	48	194	1	"	4831	
23659	"	"	"	"	2.78	5.65	3253.03	"	0.2	0.5	54	52	83	0	"	4832	beams dumped

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{LG}>6$GeV	T_2 Bit 17 $2T\cdot E_4\cdot \geq 2$TR

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W Bartel & R. Felst on shift

8^{15} gas check O.K

11^{20} IBM busy for ~5 min, thereafter Emiled successfully again

13^{45} VTX-chamber valve failure, reset according to instructions O.K.

16^{00} J. Olsson + Komamiya
VTX-3sec-soft trip

16^{20} Beams dumped ⇒ "break restart 1800" on TV

17^{30} "break" restart 20°° " on TV leakage problem

21^{20} beams ready

23^{15} Magnet tripped ⇒ VTX ch, Jet ch tripped. called MK7
Reason was a pair of doors on the transformer (with broken lock) that had yielded to temperature/vibr. and opened up, breaking the interlocks. They could be closed by support of a lead brick!
Magnet up again, PETRA injecting.

16/10/85

00:00 Schmidt & Greenshaw

00:10 Gas check Ok.

3:30 background optimalisation increase in luminosity by a factor of 1.5 but also an increase of IDcount and TOF rate by a factor 2 (deadtime too)

8:00 Ambrus + Smolik

8:14 Gas checks done, O.K.

15:55 Run 23681 error System crate watchdog 20×, then we stopped the run

16:00 Glasser & Finch on shift

16:16 Gas check done

16:47 "magnet fluctuates" ~ 1/hr

17:30 YSPY error :- Trigger 2 O/P missing : 177 - Histogram looks O.K.

17/10/85

24^{00} HEDGECOCK & HAGEMANN

0^{02} Gas check, OK. FORCED J.C. TO ASSIST IN EMPTYING THE LARGE RUBBISH BIN. Ch

8^{00} Haidt + Chrin on shift.

9^{40} beam lost

16^{00} Ambrus & Steffen on shift (gas check done)

22^{10} Run 23717 (3134): error system crate watchdog ~ 20×, run stopped & new run started
error 33618 + error 53 (~ 20×)

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	$\langle L \rangle$ 10^{30} cm^{-2}s^{-1}	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ EXP. ENERGY	IBM TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ONLINE REJ. SUM MIPROC T_2 %	ONLINE REJ. NORD-50 T_1 & T_2 %	Σ_{Bhabha}	MH	E_{BEAM}	Mag. Field ~1 Gauss	Remarks

121

All histograms look OK, but where are the reference plots?
The reference plots is "JADE operators manual" some out of date.

18.10.85 0^{01} Heckmann and Felst on shift

0^{15} Gas check done.

7^{11} YPara 11 : error in Branch crate 7 bit width 177777 bits read 000004
shows up on type write errors at start of run 23725

7^{25} Read plan histograms look normal

8^{00} Elsen & Haidt on shift

8^{11} gas check done

11^{15} magnet tripped (something fell into switchboard in "Vorbereitungshalle 9". This turned off our cooling water and then the magnet ...)

16^{00} Knies, Schneekloth first put (error in DAS-BUILD)

16^{15} gas check done, PETRA short break System rebuilt ⇒ problems with YIBMPC task.

18^{00} A new Tlacc trigger (Jade meeting 17/10 85) has been installed and runs since R23739
NSO rejection of cosmics in this trigger runs since R23740
Beam conditions are rather bad, possibly due to the broken disc and lost programs on the PKR HF-disc. It is therefore difficult to say whether the deadtime (~20%) comes from the new trigger or from bad beam.

The new Tlacc trigger pattern: 175437 B (old one: 175417 B)
If one has to switch this trigger off: use SET-TRIGGER
and change Tlacc pattern
leave all others as they are (return, return...)

The NSO rejection is not standard yet. Instead of the default NSØ program (NSYDAR) use (DIT)NSØDAR. Before starting a run with this program, go into NSO-DIALOGUE, REJECTION FLAGS, and switch on M.K. cosmic rejection (F19). Once switched on, this flag stays until EXIT or computer reloading. (ch. Krehbiel ing.***)
J.O. / M.K.

Occasionally a timing problem occurs in the new trigger, leading to the message "No trigger bits"
Krehbiel says, ignore this, he will investigate on sunday.
For this trigger, ECAP Quadrant threshold is set to 2000 mV (~ 140 MeV)
The Run summary count for Mubads is nonsense with this new version of YRUNSM. The selection is however OK, as was checked in Event-Display!
Deadtime is possibly somewhat higher (~2%) than without the new trigger, but not marked. We will leave it in until further---

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ. $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{LG}>6$GeV	T_2 Bit 17 $2T\cdot E_4 \geq 2$TR
122															
23660	15/10/85	13^{21}	14^{10}	6.71	6.37	14.4	2890	8001	4664	749	108	4706	5858	1332	24
23661	"	14^{10}	15^{01}	5.69	5.37	12.4	3002	8002	4433	781	97	4796	5764	1324	24
23662	"	15^{01}	15^{54}	4.85	4.55	11.1	3191	8002	4173	830	92	5056	5555	1337	22
23663	"	15^{55}	16^{20}	4,12	3.84	10.1	1305	3080	1605	340	34	1942	2155	528	10
23664	"	21^{31}	22^{30}	4.77	4.91	10.8	3507	8002	4345	912	98	4697	6142	1071	22
23665	"	22^{30}	23^{10}	3.99	4.14	9.5	2852	6223	3219	747	71	3833	4442	886	24
23666	16-10-85	00:03	00:59	5.70	6.26	10.9	3331	8001	4423	867	95	4894	5724	1315	24
23667	"	1:00	2:00	4.41	5.27	10.2	3479	8002	4062	905	92	4883	5699	1207	24
23668	"	2:00	2:33	3.61	4.44	8.8	1912	4084	1986	497	49	2608	2847	614	15
23669	"	3:03	3:50	6.54	6.58	18.2	2813	8001	4776	732	133	4624	6018	1310	27
23670	"	3:51	4:40	5.54	5.59	15.1	2917	8001	4579	759	114	4716	6140	1432	27
23671	"	4:41	5:25	4.74	4.77	11.4	3243	8002	4212	844	96.4	4802	5921	1244	25
23672	"	5:35	6:06	4.03	4.06	10.4	5513	4084	2081	457	47.5	2515	2947	658	14
23673	"	6:15	7:28	5.98	5.90	12.3	3125	8002	4483	813	100.	4763	5837	1273	18
23674	"	7:28	8:23	5.07	4.99	11.0	3306	8002	4135	861	95	4928	5739	1255	17
23675	"	8:24	9:17	4.29	4.20	10.4	3164	7312	3715	823	85	4507	5186	1144	22
23676	"	9:44	10:34	6.56	6.46	14.6	2956	8002	4636	769	112	4636	5974	1294	29
23677	"	10:34	11:25	5.57	5.46	12.7	3044	8002	4427	792	101	4803	5773	1280	19
23678	"	11:26	12:21	4.73	4.61	11.3	3293	8001	4223	857	97	4972	5682	1307	23
23679	"	12:21	12:36	4.00	3.88	10.1	849	2002	982	221	22	1219	1400	299	12
23680	"	14:26	15:16	6.36	6.44	14.4	2959	8001	4689	770	111	4626	6001	1213	18
23681	"	15:16	15:56	5.41	5.49	13.2	2341	6198	3432	609	80	3690	4465	957	21
23682	"	15:57	16:50	4.76	4.83	11.5	3218	8002	4244	837	96	4880	5840	1299	26
23683	"	16:51	17:48	4.03	4.11	10.7	3417	8002	4007	889	95	4986	5728	1287	25
23684	"	17:49	18:07	3.41	3.47	9.7	693	1655	786	180	17	1021	1126	244	5
23685	"	18:49	19:36	5.88	5.86	17.0	2781	8002	4889	724	123	4662	5974	1310	35
23686	"	19:37	20:24	5.86	5.83	16.1	2826	8001	4673	735	118	4646	6137	1282	28
23687	"	20:24	21:14	5.01	4.99	13.9	2952	8002	4507	768	102	4811	5704	1364	36
23688	"	21:19	22:12	4.23	4.21	11.7	3170	8002	4215	824	96	4977	5726	1335	28
23689	"	22:17	22:22	3.56	3.55	10.7	258	677	339	67	7	380	465	110	8
23690	"	22:47	23:34	6.74	6.71	15.9	2821	8001	4893	734	117	4637	5987	1372	36
23691	"	23:34	00:24	5.75	5.19	14.6	2937	8001	4608	764	112	4781	5866	1375	22
23692	17/10/85	00:26	01:21	4.89	4.38	20.1	3328	8002	4354	865	174	4916	5728	1330	23
23693	—"—	01:21	01:34	4.12	3.67	11.2	730	1834	957	190	21	1121	1298	312	10

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	<L> 10^{30} cm^{-2}s^{-1}	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ EXP. ENERGY	IBM/TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ONLINE REJ. SUM MIPROC T_2 %	ONLINE REJ. NORD-50 T_1 & T_2 %	Σ_{Bhabha}	MH	E_{BEAM}	Mag. Field -1.6 Gauss	Remarks
123																
On	On	On	On	5.53	18.78	3271.27	IBM	0.4	1.1	52	43	267	2	19.141	4831	
"	"	"	"	4.57	14.03	3285.24	"	0.3	0.8	52	46	206	4	"	"	
"	"	"	"	3.58	12.19	3297.43	"	0.2	0.6	54	50	179	2	"	"	
"	"	"	"	3.00	4.09	3301.52	"	0,2	0,5	55	50	60	1	"	4886	Beams dumped.
"	"	"	"	3.98	12.33	3313.85	"	0,2	0,95	54	47	181	6	"	4841	
"	"	"	"	3.08	9.67	3323.52	"	0.1	0.55	53	50	142	0	"	4853	Magnet trip. Beams dump
"	"	"	"	4.83	13.00	3332.52	"	0.2	0.70	52	46	279	11	19.140	4844	
"	"	"	"	3.61	12.12	3344.64	"	0.2	0.65	52	51	178	6	19.140	4844	
"	"	"	"	2.75	5.86	3350.50	"	0.2	0.55	55	53	88	1	19.141	4844	Beams dumped.
"	"	"	"	5.52	18.73	3369.23	"	0.4	1.0	52	42	275	1	19.141	4844	
"	"	"	"	4.11	13.82	3383.05	"	0.5	2.2	54	45	203	7	19.140	4844	
"	"	"	"	3.35	12.67	3395.72	"	0.2	0.70	53	49	186	3	19.141	4844	
"	"	"	"	2.75	5.04	3400.76	"	0.15	0.58	53	51	74	2	19.141	4844	Beams dumped
"	"	"	"	4.65	16.34	3417.10	"	0.3	0.85	52	46	240	4	19.140	4844	
"	"	"	"	3.60	12.60	3429.70	"	0.2	0.64	53	50	185	2	19.140	4845	
"	"	"	"	2.81	10.76	3440.46	"	0.2	0.55	53	51	158	6	19.140	4845	Beams dumped
"	"	"	"	5.23	16.28	3456.74	"	0.4	1.0	51	44	239	6	19.141	4845	
"	"	"	"	4.34	13.36	3470.70	"	0.3	0.7	52	46	205	9	19.141	4846	
"	"	"	"	3.24	14.23	3484.93	"	0.2	0.6	53	49	209	5	19.141	4847	
"	"	"	"	2.99	2.52	3487.45	"	0.2	0.5	50	53	37	1	19.140	4847	Beams dumped
"	"	"	"	5.40	17.71	3505.16	"	0.3	1.1	52	43	260	5	19.140	4845	
"	"	"	"	4.36	11.30	3516.46	"	0.2	0.75	52	46	164	4	19.140	4847	
"	"	"	"	3.61	13.76	3530.22	"	0.2	0.7	53	48	202	4	19.140	4846	
"	"	"	"	2.74	13.21	3543.43	"	0.2	0.6	54	52	194	5	19.141	4846	
"	"	"	"	1.50	1.50	3534.93	"	0.2	0.5	50	54	22	2	"	"	Beams dumped
"	"	"	"	5.95	18.66	3553.59	"	—	—	52	40	274	8	19.140	4845	
"	"	"	"	4.69	13.62	3567.21	"	0.3	0.9	53	43	200	6	19.141	4847	
"	"	"	"	3.76	14.16	3581.37	"	0.2	0.8	51	45	208	6	19.140	4847	
"	"	"	"	2.87	10.42	3591.79	"	0.1	0.7	54	49	153	6	19.141	4847	
"	"	"	"	2.90	1.16	3592.95	"	0.1	0.5	47	50	17	0	19.143	4831	Beams Dumped
"	"	"	"	5.28	15.73	3608.68	"	0.4	1.1	52	40	231	2	19.140	4832	
"	"	"	"	4.24	12.60	3621.28	"	0.3	0.85	52	44	185	4	19.141	4845	
"	"	"	"	3.09	11.44	3632.72	"	0.25	0.75	53	47	168	3	19.140	4843	
"	"	"	"	2.64	2.72	3635.44	"	0.2	0.60	53	50	40	0	—"—	4842	BEAMS DUMPED.

RUN	DATE	START	STOP	AT RUN START I+	AT RUN START I−	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL ×10⁶	TØ REJ ×10⁶	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{L6}>6$GeV	T_2 Bit 17 $2T\cdot E_4\cdot \geq 2TR$
23694	17/10/85	02^{06}	02^{55}	6.65	6.54	15.1	2909	8002	4668	757	115	4664	6011	1321	19
23695	---	02^{55}	03^{46}	5.63	5.54	13.6	3012	8002	4487	784	107	4811	5785	1300	25
23696	"	03^{46}	04^{41}	4.79	4.70	11.6	3275	8002	4292	853	99	4900	5685	1339	19
23697	"	04^{41}	04^{42}	4.06	3.97	10.5	19	80	48	5	1	52	24	15	0
23698	"	05^{11}	05^{58}	6.77	6.66	16.5	2804	8002	4827	730	121	4627	5805	1311	32
23699	"	05^{58}	06^{47}	5.76	5.65	14.3	2949	8002	4568	768	110	4781	5925	1336	21
23700	"	06^{47}	07^{41}	4.90	4.80	12.0	3204	8002	4448	834	100	4913	5676	1258	30
23701	"	07^{42}	07^{45}	4.15	4.05	10.5	145	407	216	38	4	263	214	86	3
23702	"	8^{10}	8^{56}	6.51	6.43	17.2	2740	8002	4720	713	123	4646	5916	1327	23
23703	"	8^{56}	9^{41}	5.58	5.49	14.5	2662	7548	4392	693	100	4497	5548	1266	21
23704	"	10^{18}	11^{01}	6.62	6.51	20.4	2540	8001	4742	661	134	4792	5696	1405	34
23705	"	11^{01}	11^{57}	5.61	5.52	16.2	2740	8002	4512	713	115	4797	5908	1176	19
23706	"	11^{48}	12^{37}	4.78	4.70	13.7	2958	8002	4290	769	105	4838	5842	1355	25
23707	"	12^{38}	12^{57}	4.06	3.99	12.2	1128	2919	1495	293	35	1810	2048	458	15
23708	"	13^{31}	14^{19}	6.05	6.51	15.6	2824	8001	4686	735	114	4784	5982	1333	26
23709	"	14^{19}	15^{08}	5.12	5.53	15.2	2902	8002	4456	755	114	4825	5933	1327	27
23710	"	15^{08}	16^{01}	4.34	4.71	11.9	3118	8001	4225	811	95	4992	5590	1336	28
23711	"	16^{03}	16^{17}	3.66	3.99	11.0	823	2059	1062	214	23	1275	1473	289	4
23712	"	16^{39}	17^{26}	6.57	6.39	18.2	2736	8001	4743	712	130	4712	5946	1366	29
23713	"	17^{27}	18^{16}	5,55	5,39	15,3	2907	8001	4465	757	116	4661	6000	1264	27
23714	"	18^{17}	19^{05}	4,71	4,56	12,5	3079	8001	4333	801	99	4894	5692	1298	24
23715	"	19^{05}	19^{19}	3.93	3,79	11,2	176	465	250	45	5	300	310	83	2
23716	"	20^{45}	21^{34}	6.63	6.34	23.3	2676	8001	4924	696	162	4492	6115	1326	42
23717	"	21^{20}	22^{12}	5.69	5.43	19.6	2466	7181	4257	642	126	4193	5529	1216	30
23718	"	22^{13}	23^{02}	4.95	4.72	15.3	2923	8002	4611	761	116	4819	5906	1349	30
23719	"	23^{03}	23^{21}	4.23	4.03	10.6	281	653	348	73	7.3	397	473	102	5
23720	"	23^{32}	$0:20$	6.46	6.68	15.2	2819	8002	4726	733	111	4708	5853	1320	31
23721	18/10/85	$0:20$	$1:10$	5.46	5.64	13.3	2965	8002	4477	770	102	4832	5911	1336	36
23722	"	$1:10$	$2:01$	4.61	4.76	11.3	2992	7387	3886	778	88	4591	5315	1218	25
23723	"	$2:34$	$3:23$	6.54	6.49	15.7	2884	8002	4710	750	118	4766	5837	1369	33
23724	"	$3:24$	$4:13$	5.52	5.47	14.1	2924	8001	4468	760	106	4825	5804	1377	32
23725	"	$4:13$	5^{02}	4.69	4.64	12.2	2890	7454	3828	752	91	4587	5299	1171	33
23726	"	5^{34}	6^{21}	6.56	6.24	16.9	2806	8001	4662	730	123	4717	5902	1299	25
23727	"	6^{21}	7^{12}	5.56	5.27	13.7	2893	8002	4430	779	106	4812	6104	1310	33

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	<L> $10^{30}cm^{-2}s^{-1}$	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ EXP. ENERGY	IBM TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ONLINE REJ SUM MIPROC T_2 %	ONLINE REJ NORD-50 T_1 & T_2 %	Σ Bhabha	MH	E_{BEAM}	MAG FIELD −1 x Gauss	REMARKS.
ON	ON	ON	ON	5.57	17.78	3653.22	IBM	0.4	0.85	52	43	261	7	19.141	4841	
"	"	"	"	4.26	14.50	3667.72	"	0.3	0.7	52	45	213	5	19.140	4841	
"	"	"	"	3.39	12.80	3680.52	"	0.2	0.6	53	48	188	7	19.140	4843	
"	"	"	"	2.45	0.14	3680.66	"	0.2	0.5	46	49	2	0	19.141	4841	beams dumped
"	"	"	"	5.46	18.25	3698.91	"	0.4	1.0	50	41	268	5	---	4842	
"	"	"	"	4.51	16.14	3715.05	"	0.3	0.75	52	44	237	3	---	4843	
"	"	"	"	3.54	12.19	3727.24	"	0.2	0.6	53	46	179	3	19140	4844	
"	"	"	"	3.33	0.48	3727.72	"	0.2	0.5	49	50	7	2	19.141	4841	beams dumped
"	"	"	"	5,21	16,21	3743.93	"	0,4	1.05	50	43	238	5	"	4842	
"	"	"	"	4,31	14,16	3758,09	"			52	48	208	3	19.140	4842	beam lost
"	"	"	"	5,22	13.83	3771.82	"	0.3	0.9	51	42	203	1	19.141	-4840	
"	"	"	"	4.33	14.30	3786.12	"	0.3	0.8	52	45	240	2	"	-4842	
"	"	"	"	3,29	11,37	3797,49	"	0.3	0.8	53	48	267	2	19.140	4842	
"	"	"	"	2,43	3,81	3801,30	"			53	51	56	2	"	4841	beam dumped
"	"	"	"	4.98	17.09	3818.39	"	0.4	1.1	53	43	251	6	19.141	-4841	
"	"	"	"	4.11	12.67	3831.06	"	0.3	1.0	53	46	186	3	"	"	
"	"	"	"	3.11	12.12	3843.18	"	0.2	0.8	53	49	178	1	"	-4844	
"	"	"	"	2,77	2.28	3845.46	"	.2	.6	54	50	26	1	"	"	beam dumped
"	"	"	"	4.97	13.59	3859.05	"	.4	1.0	52	42	197	6	19.140	4840	
"	"	"	"	3,99	10,76	3869,81	"	.4	.9	51	46	158	1	"	4,843	
"	"	"	"	3,19	10,69	3880,50	"	.3	.75	52	48	157	3	19,141	4,844	
"	"	"	"	2,60	0,68	3881,18	"	0.2	.60	56	49	10	0	19,140	4,841	beams dumped
"	"	"	"	4.71	12.61	3893.79	"	0.4	1.5	51	40	169	8	"	4.840	
"	"	"	"	3.94	9.72	3903.51	"	0.4	1.2	53	42	127	4	19141	"	
"	"	"	"	3.39	9.91	3913.42	"	0.2	.6	53	44	144	7	19.140	4841	
"	"	"	"	3.00	.84	3914.26	"	0.2	.6	58	49	12	—	19.141	4.841	beams dumped
"	"	"	"	5.40	15.87	3930.13	"	.4	1.0	51	42	233	4	19.140	4841	
"	"	"	"	4.32	14.64	3944.77	"	0,3	0,75	53	46	215	2	99.141	4843	
"	"	"	"	3.41	10.21	3954.98	"	0.2	0.6	53	49	150	3	"	4840	beams dumped
"	"	"	"	5.25	18.59	3973.57	"	0,4	1.0	52	43	273	8	"	4841	
"	"	"	"	4.21	14.91	3988.48	"	0,3	0,7	53	46	219	9	"	4828	
"	"	"	"	3.32	10.42	3998.97	"	0,2	0,65	53	50	154	3	19.140	"	beams dumped
"	"	"	"	4.89	15.25	4014.22	"	0.4	1.1	51	43	224	6	19.140	4837	
"	"	"	"	4.01	12.87	4027.09	"	0.3	0.8	54	46	189	3	19.141	4850	
								0.2	0.7							

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ. $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{Lab} > 6$ GeV	T_2 Bit 17 $2T \cdot E_4 \cdot \geq 2TR$
126 Run	date	start	stop	I^+	I^-	dead time	time	records in	records out	all $\times 10^6$	TØ rej. $\times 10^6$	T_1 Acc sum	T_2 Acc sum	T_1 Bit 2 $E_{Lab} > 6$ GeV	T_2 bit 17 $2T \cdot E_4 \geq 2T_R$
23728	18/10/85	7^{12}	8^{05}	4.72	4.46	11.8%	3150	8002	4272	819	96	4936	5706	1325	32
23729	"	8^{05}	8^{20}	4.00	3.76	11.1%	844	2149	1117	219	24	1328	1499	327	4
23730	"	8^{47}	9^{36}	6.53	6.37	15.5%	2884	8002	4749	750	116	4775	5881	1295	33
23731	"	9^{36}	10^{26}	5.52	5.37	18.6	2946	8001	4435	767	104	4867	5664	1317	27
23732	"	10^{26}	11^{19}	4.64	4.52	11.8	2763	6885	3574	719	85	4151	4889	1074	20
23733	"	11^{51}	12^{39}	6.88	6.42	17.2	2779	8002	4721	723	124	4646	6003	1349	27
23734	"	12^{39}	13^{26}	5.83	5.86	15.7	2799	8001	4581	728	114	4748	5987	1326	31
23735	"	13^{26}	14^{17}	4.98	5.00	13.1	3014	8002	4320	784	105	4758	5968	1314	31
23736	"	14^{17}	14^{53}	4.28	4.30	11.6	2126	5270	2717	553	64	3127	4009	815	23
23737	"	17 49	17^{56}	6.57	6.47	21.7	360	1099	710	94	20	617	836	156	4
23738	"	17^{59}	18^{01}	6.38	6.28	20.1	118	397	263	31	6	247	239	51	2
23739	"	18^{02}	18^{03}	6.31	6.22	14.9	56	216	141	12	2	140	117	24	0
23740	"	18^{04}	18^{44}	6.28	6.19	21.4	2427	8002	4889	632	135	5106	5254	1086	27
23741	"	18^{45}	19^{14}	5.49	5.43	20.5	1750	5842	3482	456	93	3780	3650	779	15
23742	"	19^{15}	19^{21}	5.00	4.95	16.1	348	1015	580	90	15	570	723	160	6
23743	"	19^{22}	19^{27}	4.90	4.85	17.9	288	1011	592	75	13	634	605	144	4
23744	"	19^{27}	20^{10}	4.82	4.77	19.4	2530	8002	4586	658	127	5243	5014	1057	17
23745	"	20^{10}	20^{13}	4.26	4.22	18.0	121	389	218	31	6	251	230	51	2
23746	"	20^{46}	21.26	6.57	6.54	19.0	2391	8002	4675	622	118	5083	5170	1012	19
23747	"	21^{27}	22^{08}	5.75	5.72	16.9	2456	8002	4656	639	108	5300	4923	1038	18
23748	"	22^{08}	22^{52}	5.03	5.01	14.4	2630	8002	4638	685	99	5438	4829	1056	19
23749	"	22^{53}	23^{03}	4.38	4.36	13.3	579	1684	931	150	20	1133	980	243	2
23750	"	2347	0031	6.66	6.80	19.4	2386	8002	4813	621	120	5162	5065	1101	15
23751	19/10/85	0^{31}	1^{12}	5.74	5.87	17.1	2448	8002	4679	637	109	5192	5051	1136	23
23752	"	0112	0156	5.02	5.14	13.7	2611	8002	4334 / 7697	680	93	5404	4825	1039	30
23753	"	01^{57}	2^{04}	4.37	4.48	13.3	382	1164	641	99	13	784	713	162	2
23754	"	2^{05}	2^{45}	4.27	4.38	12.3	2378	6661	3438	619	76	4544	4133	802	21
23755	"	3^{11}	0351	6.65	6.60	20.9	2359	8001	4947	614	128	5097	5259	1109	25
23756	"	352	432	5.79	6.09	17.9	2390	8002	4776	622	111	5262	5214	1037	20
23757	"	433	519	5.05	5.33	15.0	2596	8001	4524	675	101	5319	5101	1055	23
23758	"	5^{19}	604	4.30	4.55	14.0	2665	8002	4404	693	97	5373	4789	1038	22
23759	"	604	617	3.70	3.92	13.7	725	2099	1138	189	26	1421	1284	269	11
23760	"	644	727	6.02	6.40	.158	2516	8001	4700	656	103	5277	4838	1065	20
23761	"	7^{27}	7^{59}	5.17	5.51	13.6	1855	5581	3063	483	65	3753	3434	769	21

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	$\langle L \rangle$ 10^{30} cm^{-2} s^{-1}	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ EXP. ENERGY	IBM TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ONLINE REJ. SUM MIPROC T_2 %	ONLINE REJ. NORD-50 T_1 & T_2 %	Σ Bhabha	MH	E_{BEAM}	Mag. Field ~1.6 Gauss	Remarks

N50	MIP	TOF	FAMP	$\langle L \rangle$	Bhabha $\int L\,dt$ nb^{-1}	$\int dt\,L$ Experiment	IBM	ID	TOF	SUM MIPROC	Nord-50 %	Σ Bhabha	MH	E_{beam}		127
"	"	"	"	3.19	11.92	4039.01	ON	0.2	0.6	53	48	175	3	19.141		
"	"	"	"	2.72	1.91	4040.92	"	0.4	1.2	54	50	28	0	"		beams dumped
"	"	"	"	5.21	17.77	4058.69	"	0.4	0.8	53	42	261	8	19.140		
"	"	"	"	4.84	11.85	4070.54	"	0.3	0.7	52	46	174	2	"		
"	"	"	"	3.25	10.56	4081.10	"	0.2	0.6	51	50	155	3	"		beams dumped
"	"	"	"	5.59	18.59	4099.69	"	0.4	1.0	51	42	273	7	"		
"	"	"	"	4.30	13.48	4113.17	"	0.3	0.9	53	44	198	3	M.141		
"	"	"	"	2.76	8.72	4121.89	"	0.3	0.8	53	48	128	2	"		
"	"	"	"	2.28	5.31	4127.21	"	0.2	0.75	54	50	78	2	19.140		beams dumped
"	"	"	"	5.43	1.70	4128.91	"	0.5	1.6	53	37	25	1	19.141		
"	"	"	"	5.00	0.82	4129.73	"	0.3	1.4	51	35	12	0	19.141	4843	
"	"	"	"	4.60	0.34	4130.07	"	0.3	1.3	52	37	5	0	19.140		New T1 Acc trigger, bit 5, installed
"	"	"	"	4.44	12.19	4142.26	"	0.3	1.2	54	40	179	?	"		
"	"	"	"	3.73	6.54	4148.80	"	0.3	1.2	52	42	96	?	19.141	4844	
"	"	"	"	3.60	1.84	4150.64	"	0.25	1.1	49	45	27	0?	"	4841	[without new trigger
"	"	"	"	3.82	1.57	4152.21	"	0.2	1.05	48	43	23	3	"	4840	with " "
"	"	"	"	2.93	6.88	4159.09	"	0.2	1.00	53	44	101	?	19.141	4843	" " "
"	"	"	"	2.60	0.34	4159.43	"	0.2	0.9	52	47	5	?	"	4841	
"	"	"	"	4.97	12.05	4171.48	"	0.4	1.2	51	43	177	2	"	4828	
"	"	"	"	4.15	10.62	4182.10	"	0.2	0.7	53	43	156	?	"	4839	
"	"	"	"	3.35	11.71	4193.81	"	0.2	0.7	54	43	162	?	"	4840	
"	"	"	"	3.17	1.77	4195.58	"	0.1	0.7	53	47	26	?	"	4841	
"	"	"	"	5.19	14.64	4210.22	"	0.2	0.9	52	41	215		19.140	4839	
"	"	"	"	4.30	12.67	4222.89	"	0.2	0.9	52	43	186		19.141	"	
"	"	"	"	3.54	10.69	4233.58	"	0.2	0.75	53	47	157		"	"	
"	"	"	"	3.55	1.63	4235.21	"	0.1	0.6	55	47	24		"	"	
"	"	"	"	2.89	5.93	4241.14	"	0.1	0.6	55	50	87		"	"	beams dumped
"	"	"	"	4.40	12.33	4253.47	"	0.4	1.25	53	40	181		"	4838	
"	"	"	"	4.33	10.62	4264.09	"	0.2	1.0	55	42	156		"	4840	
"	"	"	"	3.61	8.72	4272.81	"	0.2	0.8	54	45	128		"	4838	
"	"	"	"	2.83	8.38	4281.19	"	0.1	0.7	53	47	123		"	4840	
"	"	"	"	2.38	2.11	4283.30	"	0.1	0.6	56	48	31		"	"	beams dumped
"	"	"	"	5.28	16.07	4299.37	"	0.2	0.8	51	43	236		"	"	
"	"	"	"	4.29	7.97	4307.34	"	0.2	0.7	55	47	117	?	19.140	4838	beams dost

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ. $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{LG}>6$GeV	T_2 Bit 17 $2T\cdot E_4\cdot \geq 2$TR

18-10-85

20^{20} Gas alarm Vertex chambers, a valve was stuck, reset procedure worked
20^{50} Magnet current fluctuated
20^{57} " " "

19 Oct. 1985

0001 Mimpfler + Schneebeloth.
0030 gas check done
0200 Message "system create watchdog flag ...." broke repeatedly. Cured by stop + restart.
317 run 23755, tagging high voltage, MFR6 was 0, switched on again.
5^{30} vertex ch. gas alarm. Valve faulty.
758 beams lost; all chambers tripped; Short break appears on screen

8^{00} ~~Finish~~ Ehrlichmann & Hagenauer on shift
815 Gas check o.k.
10^{35} Missing LAM branch 7 crate 6 ID ram 3 Cpi 9 Called expert (K.A.)
10^{45} Expert jiggles crates and everything is o.k.
11^{17} Missing LAM brand 2 crate 6 Leadglass ADCs
13^{20} Missing LAM brand 7 crate 6 : ID (≈ 20 times); checking all the crate voltages cures the problem !???
13^{21} Missing LAM brand 2 crate 6 : LG ADC's ← seems to be connected to above error (?)
13^{51} Missing CAM 67 cr 6 – comes very often. Stop run 23766 and clear DL8 contacts – start run 23767 – so far it seems to work ok.
14^{00} Error occurs again (frequently). We call expert again.
15^{20} DL8-error: changed DL8 # 132 (wire 1076-1063)
15^{47} YSPY error DL8 75 no hits – DL8-BEFORE-BAM shows problem + Illegal JSEC DATA permanent

16^{00} K. Ambrus + H. Mills on shift

16^{40} Gas check Ok.
17^{55} Lutz Becker reports that REPORT jobs may be submitted again (he has changed generation number).
21^{30} Series of WATCHDOG errors bought run 23776 to end. New run started Ok

YCLRTV updated to include IBMPC messages (Output not yet final form)

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	$\langle L \rangle$ 10^{30} cm^{-2}s^{-1}	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ EXP. ENERGY	IBM TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ONLINE REJ. SUM MIPROC T_2 %	ONLINE REJ. NORD-50 T_1 & T_2 %	Σ_{Bhabha}	MH	E_{BEAM}	Mag. Field ~1 Gauss	Remarks

Latest version of Nord-50 program installed as default (deals with H.k. trigger).

22^{55} Hard trip of SETABPCH

20/10/85

0:00 Kado and Kuhlen on shift

0:30 gas check done

3:37 FAMP error at run start (99, 1, 1) ⇝ Famp switched off automatically

so FAMP has to stay OFF ! and day-shift: please inform Jan Olsson !

8:00 Krebiel, Spitzer Gas check done.
9:10 VtCh + JetCh Soft trip due to bad beam conditions
Shortly afterwards "Switch off the HV". Mark I had ordered the new fill without coordinating because of the bad beam conditions
11:24 A shower of Errors: Miss LAM Br. 4 Cr. 4, Z-Chamber Part 1
System Cr. Watchdog flag 3 140204 } 3 times

Then the system suspected all chambers to be down
The Console printer printed 10X-Errors.
Stopping the run & starting a new one cured the problems

12:00 TV message IBMPC inactive? It seemed instead very active.
12^{25} — 13:30 Injection obviously difficult. No beam
14:30 After a call to PETRA TV went to "Short break." Run our magnet down.
15:25 Run again

1600 Becker + Murphy. Gas check done.
2105 J. Olsson finds FAMP. But FAMP got off during run 23805. Tell J.O. tomorrow.
~~14:~~

RUN	DATE	START	STOP	AT RUN START I+	AT RUN START I-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL ×10⁶	TØ REJ ×10⁶	T1 ACC SUM	T2 ACC SUM	T1 Bit 2 E_LG>6GeV	T2 Bit 17 2T-E_T ≥ 2TR
23762	19/10/85	9:29	10:13	6.46	6.36	15.2	2572	8001	4820	670	101	5304	4825	1017	19
23763	"	10:13	11:26	5.59	5.51	21.7	3031	8002	4588	788	170	5390	4913	1017	20
23764	"	11:26	12:10	4.45	4.37	11.9	2651	7306	3841	690	82	5065	4272	896	15
23765	"	12:40	13:23	6.65	6.59	19.4	2573	8002	4876	669	129	5224	4898	1007	21
23766	"	13:23	13:50	5.73	5.67	23.8	1312	3747	2159	371	87	2454	2377	515	16
23767	"	13:52	14:06	5.21	5.15	17.3	787	2186	1226	204	35	1493	1385	266	8
23768	"	14:12	14:19	4.89	4.83	14.7	376	1168	674	98	14	770	725	162	2
23769	"	15:15	15:51	4.02	3.97	12.0	2154	6016	3188	560	67	3924	3564	711	19
23770	"	16:16	16:59	6.66	6.66	16.4	2540	8002	4597	660	108	5197	5002	1047	15
23771	"	16:59	17:43	5.74	5.74	14.3	2624	8002	4571	692	97	5222	5096	1006	23
23772	"	17:45	18:32	4.93	4.93	13.1	2781	8002	4313	723	94	5382	4951	1054	28
23773	"	18:32	19:02	4.25	4.26	11.9	1734	4829	2470	452	53	3286	2996	593	12
23774	"	19:37	20:21	6.44	6.47	16.3	2600	8002	4660	676	110	5162	5178	1023	20
23775	"	20:22	21:07	5.56	5.60	14.7	2656	8002	4559	690	101	5242	5047	1064	25
23776	"	21:07	21:36	4.95	4.89	13.0	1687	4931	2667	438	56	3336	2955	700	"
23777	"	21:36	22:23	4.42	4.46	11.5	2726	7520	3769	708	81	5153	2516	982	21
23778	"	22:40	23:40	6.51	6.44	15.1	2584	8002	4647	672	101	5273	5138	1057	27
23779	"	23:40	0:27	5.44	5.36	13.2	2804	8002	4335	730	96	5264	5795	983	25
23780	20/10/85	0:30	1:19	4.70	4.63	12.5	2944	8001	4024	766	88	5462	4865	1005	17
23781	"	1:20	1:33	4.09	4.03	10.6	777	2082	1078	202	21	1471	1767	254	6
23782	"	2:13	2:54	6.62	6.76	17.1	2459	8002	4872	640	109	5287	4997	982	29
23783	"	2:54	3:37	5.72	5.85	15.7	2517	7994	4553	655	103	5224	4988	1027	19
23784	"	3:38	4:21	4.96	5.08	12.9	2604	8002	4579	678	88	5419	4786	1044	21
23785	"	4:22	5:10	4.37	4.42	11.4	2899	8001	4333	754	86	5461	4926	980	27
23786	"	5:11	5:47	3.71	3.82	10.3	2084	5617	2917	542	59	3921	3300	693	10
23787	"	6:17	6:59	6.59	6.70	14.1	2496	8002	4740	649	91	5307	4888	1073	25
23788	"	6:59	7:43	5.68	5.78	13.4	2582	8002	4491	671	90	5323	4906	1066	21
23789	"	7:43	8:30	4.91	5.00	12.3	2774	8001	4308	722	89	5425	4782	1084	23
23790	"	8:30	9:07	4.21	4.29	11.2	2171	5920	3161	565	63	4065	3411	761	9
23791	"	9:34	10:19	6.41	6.42	13.9	2609	8001	4723	679	94	5236	5026	1083	17
23792	"	10:19	11:04	5.51	5.50	13.0	2623	8002	4489	683	89	5362	4848	1078	23
23793	"	11:04	11:26	4.75	4.74	12.2	1292	3783	2036	336	41	2540	2249	493	6
23794	"	11:29	12:19	4.39	4.38	11.1	2981	8002	4131	775	86	5547	4799	1023	18
23795	"	12:19	12:26	3.76	3.75	10.5	351	907	457	91	9	619	575	101	2

RUN	N50	MIP	TOF	FAMP	<L>	Bhabha ∫L dt nb⁻¹	∫L dt EXP. ENERGY	IBM TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ONLINE REJ. SUM MIPROL T2 %	ONLINE REJ. NORD-50 T1 & T2 %	Σ Bhabha	MH	E_BEAM	MAG FIELD	Remarks
23762	ON	ON	ON	ON	5.26	15.05	4322.39	IBM	0.3	1.2	52	41	221		19.141	4838	
23763	"	"	"	"	3.64	11.58	4333.97	"	0.2	0.75	54	44	170		"	4840	
23764	"	"	"	"	2.85	7.76	4341.73	"	0.2	0.6	54	49	114		19.14	4840	Beams dumped
23765	"	"	"	"	5.07	15.12	4356.85	"	0.55	1.0	51	40	222		19.141	4841	
23766	"	"	"	"	4.03	5.93	4362.78	"	0.25	0.75	54	44	87		19.141	4840	DL8 - errors
23767	"	"	"	"	3.09	2.93	4365.71	"	0.2	0.70	54	46	43		19.140	4840	DL8 - errors
23768	"	"	"	"	3.80	1.36	4367.07	"	0.2	0.7	53	49	20		19.141	4840	" "
23769	"	"	"	"	2.52	7.01	4374.08	"	0.2	0.6	48	49	103		19.141	4841	Beams dumped
	"	"	"	"	5.29	16.14	4390.22	"			51	44	237		"	4839	
	"	"	"	"	4.20	12.26	4402.48	"	0.25	0.7	52	44	190		"	"	
	"	"	"	"	3.43	10.56	4413.04	"	0.2	0.6	53	48	155	1	"	4840	New bst Vtx at N50 proc
	"	"	"	"	2.69	4.09	4417.13	"	0.2	0.6	53	51	60	4	"	"	
	"	"	"	"	4.55	12.94	4430.07	"			52	43	190	5	"	4839	
	"	"	"	"	3.48	12.05	4442.12	"	0.25	0.7	53	44	177	4	"	"	
	"	"	"	"	3.50	5.86	4447.98	"	0.2	0.6	53	47	86	3	"	"	ended due to watchdogs *** !
	"	"	"	"	3.00	9.33	4457.32	"	0.15	0.6	54	51	137	3	19.140	4840	beams dumped
	"	"	"	"	4.94	14.44	4471.76	"	0.35	0.9	54	43	212	4	"	"	
	"	"	"	"	3.07	8.92	4480.68	"	0.25	0.7	54	47	137	1	"	"	
	"	"	"	"	2.57	8.58	4489.26	"	0.2	0.6	55	51	126	2	"	"	
	"	"	"	"	2.19	2.11	4491.37	"	0.1	0.5	54	53	37	0	"	4841	beams dumped
	"	"	"	"	5.38	13.14	4504.51	"	0.3	1.1	53	40	193	6	"	4838	
	"	"	"	"	4.28	10.42	4514.93	"	0.2	0.8	52	44	153	6	"	4837	
	"	"	"	OFF	3.93	10.33	4525.76	"	0.2	0.7	53	44	159	1	"	4841	
	"	"	"	"	2.98	9.06	4534.82	"	0.15	0.6	55	47	133	3	"	4839	
	"	"	"	"	2.43	5.31	4540.13	"	0.1	0.5	56	50	78	1	19.141	4840	
	"	"	"	"	5.53	15.87	4556.00	"	0.3	1.0	52	42	233	3	"	4838	
	"	"	"	"	4.56	11.79	4567.79	"	0.2	0.7	52	45	168	5	"	4840	
	"	"	"	"	3.46	10.28	4578.07	"	0.2	0.6	53	48	151	5	"	4840	
	"	"	"	"	2.99	7.15	4585.22	"	0.15	0.56	53	48	105	5	19.140	4835	Beam dumped (bad endtr.)
	"	"	"	"	5.36	15.46	4600.68	"	0.26	0.9	53	42	227	3	19.140	4828	
	"	"	"	"	4.24	13.21	4613.89	"	0.2	0.66	53	45	194	5	"	4838	
	"	"	"	"	3.61	4.70	4618.59	"	0.2	0.60	52	48	69	0	"	4840	Ended with CAMAC errors
	"	"	"	"	3.04	9.53	4628.12	"	0.15	0.55	55	50	140	3	"	4841	
	"	"	"	"	2.55	0.75	4628.87	"	0.1	0.48	57	52	11	0	19.141	4840	Beams dumped

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{LG}>6$GeV	T_2 Bit 17 $2T\text{-}E_4\cdot \geq 2$TR

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	$\langle L \rangle$ 10^{30} cm^{-2}s^{-1}	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ EXP. ENERGY	IBM TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ONLINE REJ. SUM MIPROL T_2-%	ONLINE REJ. NORD-50 T_1 & T_2 %	Σ Bhabha	MH	E_{BEAM}	Mag. Field -1.6 Gauss	Remarks

21/10/85 0^{00} Mills & Hagnussen on shift

0^{35} gas check o.k.

8^{00} Kado and Warming on shift
8^{15} gas check OK.
8^{30} broken fuse of dimmer replaced, broken spotlight replaced
9^{22} Tasso asked for 1/2 hour access after the end of this fill, we agree
12^{05} new beams ready
12^{30} ~~we take~~ our lumi is down by a factor of 2 or so, background is only slightly higher than usual, a phone call to Mark J confirms that this is the same in all interaction regions. PWA says they don't know why, 10 min later they phoned, saying that they discovered the CELLO magnet being off and that they think this being the reason for the lumi being low.
14^{30} CELLO magnet back on, lumi went up by a factor of 2 again

16^{00} FINCH & CHAIN ON SHIFT
18^{00} Start of run 23824 - YVOLTS giveo FORTRAN ERROR 430 - I.O. suspects corrupt text.
Histograms checked - seem o.k.

18^{30} YVOLTS rebuilt between fills - seem ok now
19^{00} Beam pipe chamber error: PC reports ~~Histogram 235 is~~ PULS AREA MEAN DEVIATIONS >75% = 2

20^{04} Has readout Error 53 - Params = 444443 140204 (oct) on Tasso Control Terminal
plus Error 37 - JOX Error address 71443; level (dec) 8 on system console
followed by NO Triggers.
Pause/Continue does not help - so stop run & start a new one (# 23833).

22^{39} IBM PC reports :- Wiremap deviations > 30% = 1
22^{47} Beam pipe double, IP, & Z chamber trip
23^{12} IBM PC reports :- Wiremap deviations 730% = 6
23^{15} Ethane gas changed.
22.10.85
0.00 Krehbiel, Narodka
0.10 Gascheck ok

16^{00} Ambrus & Chrin on shift

1.20 IBM PC shrieks, restart Pen recorder, but Colour-TV continues to report error. Get this error all the time, although pen-recorder is running fine.

1.55 This thing becomes a nuisance. I take pen-plotter apart.
When I come back to counting house, Word has hung up on level 14. Reload.

Paper problem seems to be cured. Now Color TV says "BP chamber error, look at PC error subcontext" (where do I find that thing. Try PC, it doesn't know errors.
Consult IDAS-manual, find nothing, meanwhile message has disappeared
Now Color TV asks "IBM PC inactive?" Is that rethorical?
The two computers seem to have communications problems!
This time PC did display some histogram error. I made it continue, but Nord shell thinks it might be inactive. I ignore it and hope it's not serious.

8^{00} H. Mills & Haidt on shift
Problems - Run 23846 lost due to DL8 missing LAMS. Eurobep protocol noone. W. Bartel proceed it.
Many "ILLEGAL SETC DATA" mainly due to DL8 124 or 125. LG 50 in A cells Herowsin.

8:40 pen recorder problem (hopefully) fixed. Please report any false alarm in the LOG book. (HK)
8:55 Test version of N50 loaded. Has following changes to filtering of "H.k." trigger
1) Cosmic (reason 9) also rejected with endwall hits
2) Block 565/septant 3 filtering added.
The quartz-controlled CATAC clock is 3 minutes 10 seconds FAST. (See page 139)
During test runs to debug DL8 #125 the FATP switched itself off.
All spare DL8's kaputt.
11:00 Changed DL8 #125 (wire 1000-1007) it works! / DL8 # 92 wire 742/743: illegal time values; no spare DL8's left. Haidt
13:45 ADX-problems; ADX 1-1 isn't read out. Blocks 913-960 missing. Problem occurred shortly after noon. Continue running (# 23858)
Test version of N50 program now default.
Event display now gives improved debugging info if Jet chamber DL8 errors occur.
17^{30} The LG-problem (missing channels 912-60) remained unsolved, in spite of all hardware efforts. At the end of the fill and switching off HV, it miraculously disappeared. At next fill and HV switch on, the problem is gone.
Conclusion: Something in the HV disturbs the ADX system. It will happen again! N.M./I.O.

RUN	DATE	START	STOP	AT RUN START I+	AT RUN START I-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL ×10⁶	TØ REJ ×10⁶	T1 ACC SUM	T2 ACC SUM	T1 Bit2 E_LG>6GeV	T2 Bit17 2T·E4·≥2TR
136															
23830	21/10/85	18 41	19:32	6.48	6.52	13.8	2563	8002	4759	667	92	5276	4934	1010	30
23831	"	19:33	19:49	5.53	5.55	13.9	921	2764	1576	239	33	1848	1674	328	6
23832	"	19:49	20:08	5,22	5,24	12,5	1091	3226	1804	283	35	2201	1929	439	12
23833	"	20:12	20:59	4,83	4,85	12,0	2834	8002	4375	737	88	5488	4874	944	16
23834	"	21:00	21:18	4.12	4.13	11.4	1035	2907	1519	270	31	1967	1759	121	9
23835	"	22:14	23:00	6.59	6.61	14.9	2556	8002	4802	665	99	5248	5095	985	29
23836	"	23:00	23:46	5.55	5.58	13.4	2716	8002	4555	707	95	5331	4971	985	22
23837	"	23:46	0:34	4.74	4.77	11.8	2892	8002	4359	752	89	5443	4939	966	19
23838	22/10/85	1:00	1.44	6.94	6.90	15.9	2559	8000	4833	666	105	5291	4903	1034	16
23839	"	1.43			number	lost									
23840	"	1.59	2.45	5.61	5.56	13.0	2703	8002	4442	703	91	5362	4876	965	21
23841	"	2.45	3.31	4,79	4.73	11.3	2690	7216	3872	699	78	4950	4279	865	15
23842	"	4.07	4.48	7.31	6.82	18.0	2417	8001	4970	629	113	5170	5143	1013	26
23843	"	4.48	5:30	6.32	5.86	16.9	2487	8002	4815	647	110	5202	5046	993	18
23844	"	5:30	6:16	5.46	5.03	14.2	2692	8002	4636	701	100	5440	4870	981	24
23845	"	6:16	7:05	4.70	4.29	11.5	2919	8002	4515	761	84	5418	4899	931	21
23847	"	8:11	8:55	6.40	6.68	14.8	2644	8002	4729	680	100	5315	4912	970	23
23848	"	8:56	9:21	5.46	5.70	13.0	1479	4395	2326	384	50	2894	2673	548	14
23849	"	10:37	10:46	3.89	4.06	10.7	484	1295	644	126	13	858	811	164	5
23850	"	11 14	11 27	6.64	6.73	14.6	2524	8002	4714	656	55	5330	4918	1022	25
23851	"	11 57	12 07					1705	1125			} LG problems			
23852	"	12 07	12 29					172	86						
23853	"	13 40	13 52	4.00	4.05	10.5	713	1910	921	185	19	1295	1157	198	7
23854	"	14 16	14 58	6.79	6.84	14.3	2667	8001	4492	642	91	5292	4903	1098	23
23855	"	14 59	15 19	5.81	5.84	14.0	1076	3479	1912	279	39	2252	2152	454	10
23856	"	17 35	18 15	6,78	6,72	15,4	2381	8002	4597	619	95	5266	5000	1044	25
23857	"	18 16	18 56	5,81	575	15,1	2420	8001	4393	629	95	5267	4972	1017	32
23858	"	18 57	19 42	5,02	4,95	12,8	2687	8002	4140	699	89	5409	4992	1002	23
23859	"	19 42	20 08	4,30	4,23	11,0	1522	4239	2072	396	43	2899	2569	490	8
23860	"	20 26	21 28	7,05	7,03	14,4	2486	8001	4537	647	93	5186	5176	1001	20
23861	"	21 28	21 48	6,01	5,96	14,0	1171	3659	2011	304	43	2414	2332	491	6
23863	"	22 26	23 13	4,88	4,83	12,3	2809	8002	3981	730	89	5468	4862	982	18
23864	"	23 14	23 55	4.17	4.11	11.1	1241	5442	1668	323	36	2330	2032	430	6
23865	23.10.85	0 05		run	summary	lost	due	to	NIO	hang	up				

N50	MIP	TOF	FAMP	<L> 10³⁰ cm⁻² s⁻¹	Bhabha ∫L dt nb⁻¹	∫L dt EXP. ENERGY	IBM/TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ONLINE REJ. SUM MIPROC T₂ %	ONLINE REJ. NORD-50 T₁&T₂ %	Σ Bhabha	MH	E_BEAM	Mag. Field -1×Gauss	Remarks
137																
ON	ON	ON	OFF	5.92	16.89	4977.80	IBM	0.2	1.0	52	42	248	3	19.141	4837	
"	"	"	ON	5.04	4.70	4979.59	"	0.2	0.65	52	45	69	1	19.140	4828	Run stopped for S.O.
"	"	"	"	4.48	4.70	4984.29	"	0.1	0.65	53	46	69	3	19.141	4837	Run stopped because of no triggers.
"	"	"	"	3.97	11.99	4996.28	"	0.1	0.6	54	47	176	7	19.140	4834	
"	"	"	"	3.25	3.61	4999.89	"	0.05	0.6	53	44	53	1	19.141	4839	Beam dumped
"	"	"	"	5.83	16.68	5016.57	"	0.2	1.0	53	41	245	3	19.140	4838	
"	"	"	"	4.63	12.80	5029.37	"	0.1	0.7	53	44	188	7	19.141	"	
"	"	"	01	3.77	11.85	5041.22	"	0.05	0.55	54	47	174	2	19.140	4840	Beams dumped
ON	ON	ON	ON	6.16	15.19	5056.41	"	0.2	0.78	51	41	223	5	19.141	4838	
"	"	"	"													good run, Comp. hang up
"	"	"	"	4.66	14.57	5070.98	"	0.1	0.60	52	46	214	2	19.140	4839	
"	"	"	"	3.63	9.94	5080.92	"	0.05	0.50	53	48	146	4	19.140	4838	Beams dumped
"	"	"	"	5.87	14.10	5095.02	"	0.3	1.50	52	39	207	5	19.141	4837	
"	"	"	"	4.76	11.24	5106.26	"	0.2	0.86	51	47	165	4	19.141	4838	
"	"	"	"	4.00	11.78	5118.04	"	0.12	0.78	54	43	173	5	19.140	4837	
"	"	"	"	3.22	9.26	5127.30	"	0.05	0.65	54	45	136	2	19.141	4837	
ON	ON	ON	ON	5.43	15.39	5142.69	"	0.2	0.8	52	42	226	9	"	4856	run 23846 lost due to DLS
"	"	"	OFF	4.98	7.22	5149.91	"	0.1	0.6	52	48	106	2	"	"	New p60 stopped for DLS work
"	"	"	OFF	2.97	2.25	5152.16	"	0.0	0.4	54	52	33	0	"	4841	beams dumped
"	"	"	"	6.24	15.53	5167.69	"	0.2	0.85	52	42	228	6	"	4844	
								0.2	0.65							
"	"	"	"	3.28	2.86	5170.55				53	54	42	0	"	"	beams dumped. LG problems back 93-960 missing !
"	"	"	"	6.47	18.11	5188.66	"	0.2	0.8	52	45	266	4	19.140	4842	
"	"	"	"	5.51	6.13	5193.79	"	0.2	0.7	50	46	90	2	"	"	Stopped to investigate LG
"	"	"	"	6,23	14,17	5207,96	"	0,2	0,80	52	44	208	4	19.141	4828	
"	"	"	"	4,87	13,07	5221,03	"	0,2	0,75	52	47	192	2	19,140	4829	
"	"	"	"	4,05	12,12	5233,15	"	0,15	0,7	53	50	178	7	"	4838	
"	"	"	"	3,27	5,45	5238,60	"	0,1	0,6	54	53	80	0	"	4840	beams dumped
"	"	"	"	6,39	16,28	5254,88	"	0,2	1,0	52	45	239	4	19,141	"	
"	"	"	"	5,31	7,22	5262,10	"	0,2	0,75	53	47	106	2	19,140	"	- stopped for V34 work — ~~run 23867 aborted~~ Neg. HV out
"	"	"	ON	3,77	10,22	52 72,32	"	0,1	0,6	53	52	150	5	19,141	4839	
"	"	"	OFF	3.05	3.45	5276.27	-	0,05	0,55	52	53	58	2	"	4838	dumped
								0.25	0.8							

RUN#	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{LG}>6$GeV	T_2 Bit 17 $2T\text{-}E_4\cdot \geq 2$TR

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	$\langle L \rangle$ $10^{29}\,cm^{-2}s^{-1}$	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ EXP. ENERGY	IBM TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ONLINE REJ. SUM MIPROC T_2 %	ONLINE REJ. NORD-50 T_1 & T_2 %	Σ_{Bhabha}	MH	E_{BEAM}	Mag. Field ~1.6 Gauss	Remarks

21:[h] Ysfg Error Jetc V34s for DL8 59 – no hits : Trigger 2 input missing : 57, 58, 59

22[00] V34 - ERROR (#62, wire 464-479) changed fuse (-12V).
Tried to start a run (23862) without high voltage (did not work) → NORD-hangup → restarted NORD → FAMP ON

23. 10. 85

0:00 Bartel & Bunker
gas check ok

0:08 HV wrong tagging MF 63 HV- was off

0:20 Problem with VTX-chambers
IBMPC detected error IBMPC inactive ?
After pressing PC-key I got into a NIO-terminal subroutine and
NIO crashed (no reaction to any key)
call VTX-expert.
Reload NORD
Start IBMPC with advice of IBMPC-expert P. Petersen on the phone
Run summary #23865 lost

1:00 channel 0 MTR-63 of tagging system off. Not possible to restore it manually. An expert should be called tomorrow

4:38 JOBS err 33 : missing LAM br. 2 or 6 : LG ADC's
4:46 33 : " " 2 3 : TOF1
4:50 ID and VTX ch. trip
5:30 4584 : DL8-75 no hits (wires 600-607) – "Wackelkontakt" – o.k.

8.00 Romano and Schmidt on shift.
8:15 gas check : ok.
10:54 FAMP OFF Olson called

Chasing Illegal JETC data – DL8s 74 or 75 & 132 or 133.
1150 DL8 132 was exchanged with new one.
at the start ~~of the beginning~~ of run 23879
DL8 BRY:C4, (last) was polished, then no illegal JETC data occurred again
CAMAC clock corrected HAER
16[00] Frost and Schneekloth on shift
16[05] gas checked; Valve A1 is on, phoned J. Chrin, he suggested to leave A1 on.

16[51] JOBS ZMAG ERROR 000051 (oct) SUBERR=000171 (oct) xx UNEXPECTED xx
Run 23885 terminated because TAPE DRIVE stops with EOT tape-dt - all experts at talk.
TAPE DRIVE seems sick -

16[51] Started new run (23886) on tape JOBS 04
17[03] IBM return 80 stop run 23886, start 23887

17[40] HV wrong LG distributor 14 primary HV = -0.000 should be 1.970
" 15 " " = -0.001 " " 1.970

We found LG BARREL 8 was OFF switched OFF & ON again, then ran RT-HB as on page 87

17[55] Same as at 17[40] – this time noticed that Controller over-current lamp was lit.

18[01] – LG BARREL 8 is off with overcurrent again, Switched OFF & ON again
– " – a couple of times

19[00] →
20[24] Soft trip
20[40] New dead LG counter found and disconnected (13 W 48 dead since run # 23887) N.H.
20[33] beams lost, chambers tripped ↳ the overcurrent problem existed for runs 23887 – 23890 !
21[45] all chambers tripped
23[19] Illegal JETC DATA now very often Wires 743, 742, 741, 740 are to blame according to event display. We decide to leave it for Ambrus next shift.

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0[00] Ambrus & Steffen on shift.
gas leak OK
1.13 Vertex-chamber soft trip
6:45 " " " "
7:50 at ~~the~~ beginning of new fill tagging HV did not come up, manually "on" worked ok.
8[00] Hardt and Warming on shift
histograms checked, all seem alright
8[20] gas check is o.k.
occasionally error messages flashing : illegal jet chamber data DL8's 94, 126, 155
no trigger bits

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{L6} > 6$GeV	T_2 Bit 17 $2T \cdot E_H \cdot \geq 2TR$
23866	23/10/85	0:44	1:26	6.48	6.19	25.9	2493	8002	4382	649	168	4716	5159	424	28
23867	"	1:27	2:08	5.55	5.46	16.5	2517	8002	4225	655	108	5054	4812	953	26
23868	"	2:10	2:54	4.78	4.69	13.8	2651	8002	3955	685	84	5034	4822	908	26
23869	"	2:54	2:59	4.13	4.04	12.8	212	688	351	55	7	437	385	80	0
23870	"	3:53	4:35	7.53	7.75	27.9	2456	8002	4683	640	179	4689	4926	958	16
23871	"	4:35	5:20	6.42	6.51	27.0	2496	8002	4579	650	175	4724	5210	988	26
23872	"	5:21	6:04	5.44	5.48	18.8	2563	8002	4404	667	125	4774	4917	865	19
23873	"	6:04	6:44	4.68	4.71	14.5	2342	7100	3585	609	88	4527	4069	805	17
23874	"	7:58	8:40	6.96	6.81	22.5	2524	8002	4606	657	148	4815	5012	985	23
23875	"	8:40	9:22	5.97	5.82	17.7	2498	8002	4275	535	115	4852	4995	932	25
23876	"	9:23	10:07	5.13	4.99	14.3	2658	8001	4033	691	98	5118	4700	886	34
23877	"	10:08	10:53	4.38	4.24	12.7	2742	8002	3922	713	91	5112	4523	812	20
23878	"	10:54	11:08	3.75	3.62	10.8	2783	2348	1184	204	29	1420	1329	217	6
23879	"	11:52	12:34	5.48	5.65	18.1	2480	8002	4472	646	117	5271	5151	1081	34
23880	"	12:34	13:16	5.46	6.63	17.0	2518	8002	4407	655	111	5228	5041	1035	28
23881	"	13:26	14:12	4.42	4.57	13.2	2747	8002	4102	715	95	5350	5001	950	18
23882	"	14:13	15:01	3.70	3.83	12.9	2892	8001	4036	753	87	5416	5132	968	24
23883	"	15:02	15:11	3.08	3.21	11.5	553	1562	748	144	17	1050	867	182	6
23884	"	15:54	16:35	6.64	6.61	18.3	2432	8002	4581	633	116	5203	4190	1012	28
23885	"	16:35	16:36	5.59	5.58	30.7	37	142	84	10	3	79	67	10	1
23886	"	16:54	17:02	5.15	5.15	16.6	432	1462	777	112	19	941	838	169	3
23887	"	17:02	17:51	4.98	4.97	123	2892	8002	4223	753	92	5405	5012	1045	18
23888	"	17:51	18:18	4.09	4.09	10.8	1635	4412	2246	425	46	3037	2555	547	7
23889	"	18:42	18:58	7.08	7.08	23.8	832	3044	1983	217	51	2090	1626	503	13
23890	"	20:17	20:33	4.64	4.73	16.7	600	1891	1042	156	26	1193	1226	226	11
23891	"	21:26	22:09	6.27	6.82	23.8	2371	8002	4736	617	147	5069	5201	1012	26
23892	"	22:08	22:49	5.16	5.69	17.5	2395	8002	4626	623	109	5404	4835	956	23
23893	"	22:50	23:20	4.43	4.91	22.1	1829	8002	5487	476	105	6268	3097	659	19
23894								≈ 10							
23895	"	23:26	23:44	3.90	3.89	13.3	1035	3144	1647	269	36	2114	1868	295	11
23896	24/10/85	0:29	1:13	7.08	7.59	37.9	2388	8001	4979	622	236	4823	5596	1084	33
23897	"	1:48	2:30	5.27	5.72	14.6	2492	8001	4353	649	95	5066	5525	1011	30
23898	"	2:30	3:17	4.57	4.97	12.1	2812	8002	3983	732	89	5230	5173	883	20
23899	"	3:18	3:24	3.90	4.27	11.4	282	801	418	73	8	522	478	96	3

RUN	PROCESSORS ON/OFF N50	MIP	TOF	FAMP	$\langle L \rangle$ 10^{29} cm^{-2} s^{-1}	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ EXP. ENERGY	IBM TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ONLINE REJ. SUM MIPROC T_2-%	ONLINE REJ. NORD-50 T_1 & T_2 %	Σ_{Bhabha}	MH	E_{BEAM}	Mag. Field -1 = 6 kGauss	Remarks
23866	ON	ON	ON	ON	4.74	12.53	5288,80	IBM	0.2	0.7	43	47	184	7	19.141	4840	
23867	"	"	"	"	4.12	12.60	5301.40	"	?	?	45	48	185	4	"	4838	
23868	"	"	"	"	3.31	8.65	5310.05	"	0.15	0.7	45	52	127	2	"	4840	
23869	"	"	"	"	2.78	1.02	5311.07	"	0.1	0.6	45	56	15	0	—	—	dumped
23870	"	"	"	"	5.96	14.64	5325.71	"	0.3	1.3	40	43	215	5	19.140	4837	
23871	"	"	"	"	4.69	13.69	5339.40	"	0.2	0.8	43	44	201	3	19.141	4837	
23872	"	"	"	"	4.10	11.44	5350.84	"	0.15	0.7	41	46	168	5	"	4838	
23873	"	"	"	"	3.48	8.65	5359.49	"	0.1	0.7	44	51	127	3	"	4842	beams dumped
23874	"	"	"	"	5.46	13.28	5372.77	"	0.3	0.8	43	44	195	8	19.140	4840	
23875	"	"	"	"	4.82	11.45	5384.42	"	0.2	0.8	44	48	171	1	19.141	4841	
23876	"	"	"	"	4.15	10.49	5394.91	"	0.15	0.7	45	51	154	5	19.141	4841	
23877	"	"	"	"	3.16	9.60	5404.51	"	0.1	0.6	44	53	141	3	19.140	4840	
23878	"	"	"	off	2.85	1.88	5406.49	"	0.05	0.6	36	51	28	0	19.141	4841	beams dumped
23879	"	"	4	on	5.25	14.78	5421.27	"	0.2	1.0	54	46	217	8	19.140	4840	
23880	"	"	"	"	4.26	11.58	5432.85	"	0.2	1.0	52	47	170	3	19.141	4840	
23881	"	"	"	"	3.22	9.47	5442.32	"	0.15	0.8	54	51	139	5	19.140	4840	
23882	"	"	"	"	2.46	8.31	5450.63	"	0.1	0.7	56	51	122	3	19.141	4840	
23883	"	"	"	"	2.02	0.89	5451.52	"	0.05	0.65	54	54	13	0	19.141	4840	beams dumped.
23884	"	"	"	"	5.46	14.23	5465.75	TAPE	0.3	1.2	52	44	204	6	19.141	4840	
23885	"	"	"	"	4.06	0.14	5465.89	"	0.2	1.0	42	48	2	0	"	"	TAPE DRIVE PROBLEM
23886	"	"	"	"	4.57	2.25	5468.14	"	0.2	0.75	47	49	33	2	"	4841	stopped as IBM came back
23887	"	"	"	"	3.89	12.53	5480.67	IBM	0.2	0.70	54	49	184	2	"	4840	
23888	"	"	"	"	2.98	6.13	5486.80	"	0.05	0.60	52	51	90	3	"	"	beams dumped
23889	"	"	"	"	6.11	5.71	5492.59	"	0.3	1.6	49	36	85	0	"	"	
23890	"	"	"	"	3.19	2.04	5494.63	"	0.2	1.1	52	47	30	0	"	"	beams lost
23891	"	"	"	"	5.02	11.10	5505.73	"	0.3	1.6	52	43	163	6	19.140	"	
23892	"	"	"	"	4.13	9.81	5515.54	"	0.2	1.1	53	43	144	3	"	"	
23893	"	"	"	"	3.31	7.15	5522.69	"	0.1	0.8	52	32	105	2	"	4838	
23894									0.1	0.7							no events
23895	"	"	"	"	3.02	2.52	5525.21	"	0.1	0.7	52	49	37	1	"	4839	beam changed
23896	"	"	"	"	3.93	10.69	5535.90	"	.4	2.0	52	39	157	6	19.141	"	
23897	"	"	"	OFF	3.38	7.56	5543.46	"	.2	1.0	53	47	111	4	"	4837	FAMP-ERROR (TIMEOUT)
23898	"	"	"	"	2.95	8.78	5552.24	"	.1	0.6	53	52	129	1	19.140	4838	
23899	"	"	"	"	2.73	0.61	5552.85	"	.1	0.6	50	50	9	—	19.141	"	beams dumped

Run	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT 2 $E_{L6} > 6$ GeV	T_2 BIT 17 $2T \cdot E_4 \geq 2TR$
23900	24/10/85	4:25	5:06	7.37	7.21	15.8	2450	8002	4553	637	101	4977	5625	972	23
23901	"	~~5:07~~	~~5:46~~	6.40	6.27	18.5	#2317	8002	4609	603	111	4927	5771	972	27
23902	"	5:46	6:26	5:58	5.46	15.4	2393	8001	4477	623	97	5122	5407	1036	25
23903	"	6:27	7:12	4.44	4.25	13.7	2540	8001	4463	661	91	5234	5166	1029	15
23904	"	7:13	7:26	4.15	4.09	12.5	738	2233	1151	192	24	1478	1385	258	9
23905	"	7:49	8:29	7:45	7:45	20.9	2125	8002	4972	552	115	5055	5357	1122	23
23906	"	8:29	9:04	6.40	6.43	22.3	2097	8002	4827	545	121	4953	5619	1096	30
23907	"	9:04	9:40	5.58	5.63	20.9	2120	8002	4629	551	115	5058	5437	1060	27
23908	"	9:40	10:22	4.89	4.95	14.7	2446	8002	4359	637	93	5184	5182	1041	33
23909	"	10:22	10:50	4.42	4.30	12.6	1633	4886	2592	425	54	3228	3109	636	17
23910	"	11:18	11:54	7.64	7.76	21.4	2147	8001	4776	558	119	4882	5591	1054	25
23911	"	11:55	12:23	6.62	6.69	20.5	1923	7320	4427	500	102	4479	5171	933	14
23912	"	12:24	13:10	5.75	5.81	17.1	2277	8002	4568	592	101	5102	5440	1035	19
23913	"	13:10	13:51	4.99	5.03	15.5	2471	8001	4444	643	99	5226	5159	961	39
23914	"	13:52	14:24	4.30	4.33	13.3	1933	5926	3108	503	67	3888	3816	762	8
23915	"	16:33	17:14	6.54	7.18	14.9	2442	8002	4596	635	94	5332	4993	1019	20
23916	"	17:15	17:58	5,89	6.15	13.5	2572	8002	4312	670	90	5319	5067	1006	35
23917	"	17:59	18:43	4.78	5.29	13.0	2628	8001	4295	689	89	5355	4976	982	28
23918	"	18:43	19:29	4.10	4.55	12.4	2726	7862	4169	708	87	5292	4854	890	31
23919	"	20:10	20:57	6.99	6.98	15.7	2397	8001	4754	624	98	5167	5208	1059	22
23920	"	20:57	21:35	5.97	5.94	14.1	2287	1002	4457	696	91	5249	5271	1068	30
23921	"	21:36	21:37	5.14	5.11	15.4	35	159	90	9	1	99	59	18	0
23922	"	21:40	22:24	5.04	5.01	12.7		8001	4196						
23923	"	22:28	23:15	4.30	4.27	11.7	2818	8002	4446	733	85	5500	4869	978	18
23924	"	23:16	21:21	3.62	3.60	11.3	259	721	363	67	8	480	437	87	2
23925	25.10.85	23:48	0:29	2.08	7.13	15.0	2410	8002	4644	687	94	5293	4816	1046	25
23926	"	0:29	1:10	6.06	6.11	14.6	2449	8002	4488	637	93	5389	4986	1039	25
23927	"	1:10	1:54	5.20	5.25	13.2	2587	8002	4362	673	89	5438	4931	1016	36
23928	"	1:54	2:43	3.78	3.83	12.1	2733	8002	4127	712	86	5417	4892	983	21
23929	"	2:46	3:35	2.73	3.79	11.1	2946	8002	3963	766	85	5552	4787	891	23
23930	"	3:36	4:02	3.19	3.24	10.3	1552	4048	1942	404	42	2820	2396	453	12
23931	"	6:19	6:57	6.90	6.95	18.1	2264	8002	4664	589	106	5190	5064	1031	36
23932	"	6:57	7:36	6.00	6.03	16.5	2272	8002	4640	591	98	5276	5003	1020	35
23933	"	7:36	8:16	5.23	5.26	16.0	2362	8001	4585	615	99	5346	4888	954	33

Run	PROCESSORS ON/OFF N50	MIP	TOF	FAMP	$\langle L \rangle$ 10^{30} cm^{-2}s^{-1}	BHABHA $\int L dt$ nb^{-1}	$\int L dt$ EXP. ENERGY	IBM TAPE OUTPUT	AT RUN START ID (μA)	AT RUN START TOF (V)	ONLINE REJ SUM MIPROC T_2 %	ONLINE REJ NORD-50 T_1 & T_2 %	Σ_{Bhabha}	MH	E_{BEAM}	MAG. FIELD -1 x Gauss	REMARKS
23900	ON	ON	ON	OFF	4.80	11.76	5564.61	IBM	0,2	1,0	53	45	152	2	19,140	-4839	
23901	"	"	"	"	4.50	10.41	5575.02	"			53	44	149	5	19.141	-4837	
23902	"	"	"	"	4.13	9.88	5584.90	"			54	46	132	6	19,140	-4838	
23903	"	"	"	"	3.39	9.47	5594.37	"	.1	1.1	54	50	139	3	"	-4837	
23904	"	"	"	"	3.05	2.25	5596.62	"	.1	1.0	53	50	24	1	19.141	-4839	beams dumped
23905	"	"	"	OFF	6.01	15.53	5612.15	"	.4	~~2.0~~	52	39	228	2	19.140	-4838	
23906	"	"	"	"	5.32	10.01	5622.16	"	0.2	1.4	53	41	147	4	19.140	-4839	
23907	"	"	"	"	4.19	8.78	5630.94	"	0.2	1.6	53	44	129	4	19.140	-4840	
23908	"	"	"	"	3.76	9.47	5640.41	"	0.1	1.0	53	47	139	2	19.141	-4841	
23909	"	"	"	"	3.22	5.45	5645.86	"	0.1	0.9	53	49	80	3	19.140	"	beam dumped
23910	ON	ON	ON	OFF	6.52	15.46	5661.32	"	0.2	1.4	52	42	227	3	19.141	-4840	
23911	"	"	"	"	5.90	11.03	5672.35	"	0.1	1.0	52	41	162	3	19.140	-4840	
23912	"	"	"	"	4.99	11.78	5684.13	"	0.1	0.9	53	44	173	8	"	4840	
23913	"	"	"	"	3.80	9.67	5693.80	"	0.1	0.85	53	46	142	8	"	"	
23914	"	"	"	"	3.15	6.20	5700.00	"	0.1	0.82	53	49	91	2	19.141	4840	beams dumped
23915	"	"	"	"	6.04	15.80	5715.80	"	0.1	1.2	53	44	232	4	19.140	4836	
23916	"	"	"	"	5.05	14.23	5730.03	"	0.1	0.9	53	48	209	2	19.141	4845	
23917	"	"	"	"	4.02	11.24	5741.27	"	0,0..	0.75	53	48	165	4	19.141	4844	
23918	"	"	"	"	3.23	10.15	5751.42	"	0.0	0.75	54	49	149	5	19.141	4840	beam dumped
23919	"	"	"	"	6.16	16.14	5767.56	"	<0.1	1.2	53	42	287	8	19.140	4841	
23920	"	"	"	"	4.93	13.69	5781.25	"	<0.1	1.0	54	46	201	1	"	"	
23921	"	"	"	"	6.75	0.14	5781.39	"	<0.1	0.8	30	50	2	0	19.141	4840	stopped due to "no trigger" after watchdog error
23922	"	"	"	"	4.01	10.75	5792.14	"	<0.1	0.75					"	"	no run summary
23923	"	"	"	"	3.11	8.72	5800.86	"	0	0.65	54	50	128	5	"	"	
23924	"	"	"	"	2.64	0.27	5801.13	"	0	0.60	55	53	4	0	"	"	beam dumped
23925	"	"	"	"	6.18	14.71	5815.84	"	<0.1	1.2	51	43	216	6	19.141	4841	
23926	"	"	"	"	4.91	13.07	5828.91	"	0.1	0.9	55	45	182	4	"	4840	
23927	"	"	"	"	3.95	11.92	5840.83	"	0.1	0.75	54	47	175	3	"	"	
23928	"	"	"	"	3.24	8.44	5849.17	"	0,1	0.6	53	50	124	8	"	"	
23929	"	"	"	"	2.33	7.49	5856.66	"	<0.1	0.6	55	52	110	4	"	"	
23930	"	"	"	"	1.92	2.93	5859.59	"	<0.1	0.55	54	54	43	3	"	"	beams dumped
23931	ON	ON	ON	OFF	5.96	11.78	5871.37	"	0.25	1.6	52	43	173	4	"	4842	
23932	"	"	"	"	4.98	12.19	5883.56	"	0.2	1.2	52	43	179	4	"	"	
23933	"	"	"	"	4.01	9.47	5893.03	"	0.1	1.0	53	44	139	6	19.140	4839	

RUN	DATE	START	STOP	AT RUN START I+	AT RUN START I-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL ×10⁶	TØ REJ ×10⁶	T_4 ACC SUM	T_2 ACC SUM	T_1 Bit 2 E_{LG}>6GeV	T_2 Bit 17 $2T\text{-}E_4$·≥2TR

24/10/85

12^{30} "ILLEGAL JETC DATA" appears with increasing frequency, at the moment about 1/min. J. Olson cleaned the relevant contacts: now better, even good

16^{00} Meinke, Spitzer

Concerning FAMP: The problem of FAMP tripping (automatic switch off at Run Start) has lead to following conclusions:

1° Debug print out of FAMP shows that trips always occur at run end, the last events of the run are still in FAMP. According to P. Lauritainen, the analysis of the slaves has ended normally.

2° FAMP has sent interrupts to NORD that these events are ready, but NORD has not served these. Thus FAMP is "hanging", waiting for NORD answer. At next Run Start, FAMP therefore appears dead, and is switched off.

3° The events written to IBM show losses: A couple of events at end, (2-6), are not on the REFORMa VEN tapes, for the runs where trips have occurred. It seems that NORD "forgets" these events, after they went into FAMP.

4° The irregular appearance of this bug allows the suspicion that the NORD-FAMP communication is not watertight, maybe a timing problem.

5° Since it always happens at run end, the FAMP analysis program is probably not at fault, FAMP in principle knows nothing about Run starts and ends.

6° I consider it best to leave FAMP off, until this problem is solved. If you have different opinion, let me know. J. Olsson

3 3 Missing Ecl or 4 ; 2 ok. part 1

9^{40} Yeller readout error 5 3 System wrote watchdog flag PARMS-000002 140204
At the same time on consol: 21.36.12 ERROR 37; IOX ERROR
ADDRESS 71003 LEVEL (DEC): 8
70625
120642

23921 run stopped (pause did not help) new run started
Run 23922 No run summary. Message: "Run summary writing, error 38" as we recall. (The pool is full.)
The summary did not get stored. Enter information from colour TV.

0^{00} 25/10/85 H. Mills, R. Ramcke

Gas check Ok.

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	<L> 10^{30} cm⁻²s⁻¹	Bhabha ∫L dt nb⁻¹	∫L dt EXP. ENERGY	IBM TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ONLINE REJ. SUM MIPROL T_2 %	ONLINE REJ. NORD-50 T_1 & T_2 %	Σ Bhabha	MH	E_{BEAM}	Mag. Field -1.6 Gauss	Remarks

25/10/85

8^{00} Greenshaw and Warning on shift
gas check OK
occasionally flashing message: "no trigger bits"

10^{13} beams lost, all 3 chambers tripped, reason is a fault of the "Q-Regelung", some electronics broken,
12^{10} still no time estimate for the duration of the short break
13^{00} There is a hole in the LG Ahrweg Endcap (#12) since run # 23931

14^{30} new fill ready, but background is horrible, after 45 min waiting: TOF rate is down to 2.5V, ~~today~~ we give it a try, but a whole LG crate has no pedestals any longer
15^{15} We exchanged the ADC chip while PETRA was off. Run #23938 o.k. The LG-pedestal problem ~~following~~ the chip exchange was really a CAMAC problem. After a few trials we called JEO. He came in and the problem went away — magic.
15^{45} soft trip of Vtx ch + ID due to beam steering

16^{08} Shift 3 (Hellenbrand, Narodon) has not yet arrived ....

16^{12} 2 vertex chamber trips, one inner detector trip. (TOF rate)
16^{15} VTX & ID trip. ZC switched off (anode current offscale !!)
16.20 Gas check Ok.
19:50 magnet trip, door of control units not closed correctly
20:40 RUN 29945 NORD hang up after 12 calibration events
NORD reloaded
20:20 RUN 29946 40% dead time, we recognized that FAMP was 'ON' after Nord reload
Run stopped, FAMP → OFF, new Run started dead time 20%
20:50 RUN 23947 stopped: watchdog flag PARMS= 2 140204 continuously
21.20 2nd filling lost. Petra beams are very unstable,
background high, dead time high.
I checked with the other experiments. It seems that all are worse except Mark J.
Mark J had previously big problems to optimize between luminosity and background. Now they think it's better.
23.11 trip of everything TOF → 10V!!! (Z-chamber stays on)
23.20 " " " again. PWA observe it also, but no indication of what causes it.
23.32 " " " "

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{LG}>66$ GeV	T_2 Bit 17 $2T\text{-}E_4\geq 2TR$
23934	25/10/85	8:16	8:58	4.56	4.58	14.3	2480	8002	4500	645	92	5445	4920	1023	31
23935	"	8:58	9:11	3.96	3.98	13.5	714	2302	1238	186	25	1550	1413	275	10
23936	"	9:41	10:18	6.90	6.68	16.3	2213	7590	4394	576	93.6	4987	4743	960	91
23937	jump due to LG-problem														
23938	"	15:09	15:44	5.97	6.01	27.6	2083	7889	4859	542	150	4954	5211	952	42
23939	25/10/85	15:47	16:34	5.32	5.37	31.7	2783	8007	4976	568	180	5089	5308	1056	32
23940	"	16:34	17:16	4.46	4.46	14.2	2404	7591	4649	626	89	4937	5014	873	23
23941	25/10/85					only		18	RECORDS	in					
23942	"					only		20	"	"					
23943	"	18:17	18:45	7.36	7.37	26.3	1066	4126	2441	277	73	2252	2672	469	11
29944	25/10/85	19:28	19:40	8.05	7.17	32.3	557	2214	1344	145	47	1247	1657	228	12
29945	"			only		calibration events		no RUN summary						NORD hang up	
29946	"	20:12	20:37	6.79	6.01	38.6	1336	4236	2529	347	134	2368	3152	466	17
29947	"	20:38	20:51	6.15	5.42	23.2	716	2679	1540	186	43	1603	1825	296	17
29948	"	20:54	21:10	5.79	5.10	19.8	990	3528	1997	257	51	2190	2350	387	10
29949	"	21:39	22:14	7.31	7.73	29.4	2084	8002	4951	542	159	4634	5614	929	27
29950	"	22:45	22:51	6.37	6.69	21.8	2123	8002	4760	552	120	4836	5743	913	37
29951	"	22:51	23:42	5.39	5.79	17.5	2300	8002	4419	598	104	5094	5250	946	22
29952	"	23:41	0:15	4.18	4.61	13	1934	5864	3005	503	65	3924	3720	643	18
23953	26/10/85	0:41	1:20	7.75	7.77	34	2098	8001	4867	546	187	4532	5597	910	39
23954	"	1:21	2:03	6.50	6.61	35.1	2168	8002	4828	565	198	4348	5798	885	29
23955	"	2:04	2:41	5.43	5.58	22	2210	8002	4518	575	125	4902	5250	990	27
23956	"	2:41	3:19	4.68	4.84	17	2040	6736	3618	531	88	4381	4356	765	27
23957	"	3:54	4:33	7.76	7.09	20	2164	8001	4678	563	110	5030	5478	983	19
23958	"	4:37	4:58	6.49	5.90	18.4	1216	4328	2556	316	58	2737	2945	511	14
23959	"	5:01	5:41	5.93	5.37	15	2421	8002	4366	630	96	5121	5517	951	26
23960	"	5:42	6:32	5:10	4:60	13.1	2630	8001	4175	685	80	5317	5197	932	31
23961	"	6:32	6:33	4:28	3:83	11.6	44	135	77	11	1	83	75	12	0
23962	"	7:03	7:40	7.39	7.30	22	2188	8002	4668	570	123	4872	5293	981	24
23963	"	7:41	8:18	6.26	6.29	19.8	2242	8002	4548	583	115	4939	5367	983	18
23964	"	8:19	9:00	5.36	5.44	16.7	2439	8001	4402	634	105	5064	5522	931	30
23965	"	9:00	9:45	4.55	4.68	14.6	2535	7715	3870	659	96	5042	4880	855	20
23966	"	10:27	11:07	7.10	7.00	15.9	2384	8002	4634	620	98	5123	5504	982	32
23967	"	11:08	11:50	6.07	5.96	14.4	2509	8002	4413	653	94	5247	6230	944	26

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	$\langle L\rangle$ $10^{30}cm^{-2}s^{-1}$	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ EXP. ENERGY	IBM TAPE OUTPUT	AT RUN START ID (μA)	AT RUN START TOF (V)	ONLINE REJ. SUM MIPROC T_2-%	ONLINE REJ. NORD-50 T_1&T_2 %	Σ_{Bhabha}	MH	E_{BEAM}	MAG. FIELD −1×Gauss	REMARKS
on	on	on	off	3.34	8.92	5901.95	IBM	0.05	0.9	55	45	131	4	19.141	4843	
"	"	"	"	2.87	1.84	5903.79	"	0.05	0.9	53	48	27	1	19.140	"	beams dumped
"	"	"	"	5.98	13.68	5917.27	"	0.2	1.2	52	44	198	6	19.141	4846	beam lost
on	on	on	off	2.46	5.92	5923.19	"	0.3	2.0	52	40	87	1	19.140	4848	
"	"	"	"	2.86	5.65	5928.84	"	0.5	3.5	53	40	83	4	19.141	4849	
"	"	"	"	3.01	8.17	5937.01	"	0.5	2.5	54	48	120	2	19.140	4850	beams dumped
																} Illegal JETC DATA
on	on	on	off	5.87	5.58	5942.59	IBM	0.5	2.0	39	43	82	1	19.140	4847	beams lost
on	on	on	off	5.44	3.54	5944.13	IBM	0.5	1.0	49	41	52	0	19.140	4843	RUN stopped / magnet trip
								0.5	0.9							
on	on	on	on?	4.40	6.40	5950.53	"	0.5	0.9	49	42	85	2	19141	4847	stop to switch off TATP
"	"	"	off	4.71	3.68	5954.21	"	0.5	0.8	50	44	57	1	19141	4848	stop (Watchdogflag)
"	"	"	"	4.77	4.97	5959.18	"			51	45	64	3	19140	4847	stop beam loss
on	on	on	off	6.02	12.87	5972.05	IBM	0.4	1.1	48	40	189	7	19.140	4848	
"	"	"	"	5.04	10.08	5977.13	"	0.3	1.2	51	42	148	4	19140	4849	
"	"	"	"	4.30	9.74	5986.87	"	0.4	0.8	51	46	143	6	19140	4847	
"	"	"	"	3.35	6.48	5993.35	"	0.1	0.7	55	50	102	1	19.141	4844	dumped
"	"	"	"	5.61	11.85	6005.20	"	0.4	2.0	48	41	174	3	19.141	4847	
"	"	"	"	4.23	9.87	6015.01	"	0.9	1.3	46	41	144	3	19.141	4848	
"	"	"	"	4.12	10.83	6025.84	"	0.7	1.1	49	45	158	4	19.140	4850	
"	"	"	"	3.41	7.08	6032.92	"			53	48	104	2	19.140	4848	dumped
"	"	"	"	6.39	13.89	6046.81	"	0.3	1.8	58	43	204	3	19.140	4848	Stop (Watchig flag)
"	"	"	"	5.14	5.58	6052.39	"	0.3	0.4	53	42	82	6	"	4847	
"	"	"	"	4.12	9.88	6062.27	"	0.2	1.0	53	47	145	3	19.141	4847	
"	"	"	"	3.22	9.19	6071.46	"	0.1	0.8	54	49	135	1	19.140	4847	
"	"	"	"	2.68	0.00	6071.46	"	.1	.7	55	48	0	0	19.141	4847	Beam dumped
"	"	"	"	6.32	13.96	6085.42	"			49	43	205	8	19.141	4847	
"	"	"	OFF	4.36	12.60	6098.02	"	0.5	1.0	50	45	185	2	19.140	4847	
"	"	"	"	4.18	10.08	6108.10	"	0.5	0.9	52	47	148	4	19.140	4847	
"	"	"	"	3.24	7.76	6115.86	"	0.4	0.8	52	52	114	2	19.140	4848	beams dumped
"	"	"	"	6.17	14.16	6130.02	"	0.2	1.5	54	44	208	6	19.140	4840	
"	"	"	"	4.96	11.31	6141.33	"	0.2	1.0	54	46	166	8	19.141	4841	

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{LG} > 6$GeV	T_2 Bit 17 $2T\text{-}E_t \geq 2$TR

26.10.85 0:00 Heintzelmann + Hellenbrand

1:00 VTX-trip / 1:30 VTX-trip / 1:55 VTX-trip

2:00 gas check o.k.

4:00 Komamiya, takes over Hellenbrand / already tired and sleepy

4:58 Run 23958 stop due to "watching flag" (→ see page 145)
Start new run ⇒ looks O.K.

5:50 Cill chambers tripped.

8:00 Kuhlen + Hagemann on shift

8:12 Gas check OK.

11:51 occasionally flashing message: "no trigger bits"

11:55 LG endcap #12, which was missing yesterday, has now a spike.

15:50 Exchanged one ADC-chip (the one with the spike; it also had low pedestals) Hu.

16:00 Glaser & Dittmann on shift / 16.10 Gas check done

19:00 Gould is down no copies possible. No possibility to fix till Mike or Monday
At run end, start new run, go to run summary sub context. Print old summary by using Extensions screen. (Kuhlen was here)

Message from PKR: The knee where for injecting and accelerating currents up to 9 mA was achieved by a different tune of the sextupole magnets. The theory is that they were set to a value which leaves too high a chromaticity at injection. The beam therefore becomes too big and particles are lost. With the new setting the chromaticity is smaller and also the beam should be smaller at injection. At present the current which can be ramped is limited by the machine vacuum.

19:56 No Trigger ... Message 10X Error 37 Level 8 on Support System Printer
Watch dog flag on Terminal.
Stop Run + Start new one helps.

20:32 same as above

20:46 Beam dips (Time alarm) lasted about 4 min then went away: Temp showing were 0.2-15°

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	$\langle L \rangle$ 10^{30} cm^{-2}s^{-1}	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ EXP. ENERGY	IBM TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ONLINE REJ. SUM MIPROL T_2-%	ONLINE REJ. NORD-50 T_1 & T_2 %	Σ Bhabha	MH	E_{BEAM}	Mag. Field -1.6 Gauss	Remarks

27/10/85

0:00 Chris and Warming on shift
gas check done ✓

1:01 all 3 ch's tripped

1:40 new fill ready, but background very high

1:50 we start a new run, conditions are poor: trigger rate 13-17%, deadtime 50-70%

1:55 Vtx ch. soft trip Q3

2:05 we ask PKR to optimise the background for us, he tries various "beams", orbit-corrections, Q-shifts, no improvement at all, he claims: due to the higher currents the vacuum has become worse.

2:18 all 3 ch's tripped during background optimization

2:21 " " " " "

4:22 2-ch-trip only

6:25 Missing ham - Bc 7 Code 1 continuously. Stopped run + started a new one (#23993).

6:45 All 3 ch's trip.

6:50 " " " We complain to PKR about instable beams: they say, they did not notice it yet

7:10 " " "

7:50 " " "

7:46 " " "

8:00 Hedgecock, Narodo
For Run 23995 I took out triggers T1 Purpose 4, 4 and 15,
Run also T1 ACC 5, 13
at ~6mA/beam deadtime went from ~20 → 12%
Now I'll see the effect at the beginning of a fill, before resetting

gas check ok.
I talked to the other experiments:
Tasso good conditions, Luminosity more than before
Cello good, high lumi
Mark J bad conditions
Jade bad, high dead time, therefore not more lumi.

I talked to PKR (Heller) about the situation. He thinks the bad background must be caused by the vacuum leak in the west.
The spikes he can't explain.

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{L6} > 6$ GeV	T_2 Bit 17 $2T \cdot E_{L4} \cdot \geq 2TR$
23968	26/10/85	11:52	12:37	5.15	5.04	12.7	2699	8001	4118	701	88	5414	5113	959	85
23969	"	12:38	13:16	4.37	4.27	11.9	2253	6384	3212	586	69	4304	4017	702	76
23970	"	13:38	14:21	6.75	6.81	15.4	2445	8002	4509	636	98	5194	5258	1060	24
23971	"	14:23	15:05	5.68	5.74	14.2	2512	8002	4282	654	93	5273	5196	956	18
23972	"	15:05	15:13	4.85	4.31	14.4	456	1782	784	118	17	968	939	172	5
23973	"	15:59	16.11	4.03	4.17	11.8	1153	3280	1615	300	35	2228	1998	346	10
23974	"	16:36	17:11	8.14	8.14	21.6	2101	8002	4814	546	117	4904	5543	1002	30
23975	"	17:13	17:48	6.97	6.77	21.5	2106	8002	4753	548	117	4828	5998	940	26
23976	"	19.17	19:39	7.91	7.95	72.5	1045	2804	1977	272	197	1220	2673	306	10
23977	"	19:40	19:53	7.07	6.95	62.4	779	2612	1830	202	126	1207	2595	305	10
23978	"	19:56	20:31	6.52	6.65	40.1	2090	7651	4968	541	217	4054	6872	591	37
23979	"	20:32	21:10	5.61	5.72	18.0	2296	8002	4589	597	107	4783	6187	937	31
23980	"	21:11	21:55	4.92	4.93	13.3	2605	8001	4146	537	80	5190	5431	915	25
23981	"	21:55	21:57	4.10	4.20	11.2	68	235	120	17	2	149	125	21	0
23982	"	22:34	23:10	8.79	9.78	42.8	2156	8002	5189	561	240	4322	6520	953	42
23983	"	23.11	23:47	6.65	7.43	40.3	2196	8002	5205	571	230	4264	7009	940	19
23984	"	23:47	00:26	5:58	6:37 ~~6:46~~	14.5	2261	8001	4579	588	114	4824	6070	949	22
23985	27.10.85	0:26	1:14	4.76	5.49	13.5	2625	8001	4179	683	92	5177	5417	914	23
23986	"	1:52	2:42	8.80	8.90	68.7	2415	8002	5737	629	432	3743	7821	947	33
23987	"	2:43	3:22	6.67	6.86	52.2	2310	8002	5373	602	314	3962	7316	944	33
23988	"	3:22	3:58	5.63	5.85	23.1	2167	8002	4710	564	130	4671	6130	980	25
23989	"	3:59	4:39	4.88	5.10	16.5	2413	8002	4383	627	103	5040	5545	949	29
23990	"	4:39	5:22	4.20	4.43	14.2	2557	8002	4159	665	94	5251	5155	936	26
23991	"	5:23	5:24	3.62	3.85	14.1	35	133	73	9	1	78	68	9	1
23992	"	6.19	6.24	8.62	8.58	—	—	18	15	—	—	3	0	0	0
23993	"	6.28	7.19	8.25	8.23	50.7	2199	8001	5454	572	210	4265	6727	955	38
23994	"	07.19	08.02	6.60	6.64	36.5	2174	8002	5102	566	207	4576	6643	950	27
23995	"	08.01	8.52	5.55	5.63	12.9	2932	8002	5256	763	98	4846	6025	1104	32
23996	"	8.52	9.45	4.62	4.71	11.6	3155	6968	3697	216	94	4221	5435	1238	36
23997	"	11.28	11.42	8.33	8.38	10.4	748	1491	1127						
23998	"	11.43	11.50	7.88	7.90	35.9	398	1570	997						
23999	"	11.51	11.58	7.86	7.64	19.1	428	1633	1058						
24000	"	11.59	12.06	7.29	7.38	37.1	387	1550	1017						
24001	Pers. events														
24002	"	12.08	12.16	7.01	7.11	28.9	469	1357	953						
24003	"	12.17	12.26	6.74	6.84	33.4	502	1939	1208						
24004	"	12.30	12.38	6.38	6.48	14.0	442	1524	978						

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	$\langle L \rangle$ $10^{30}\,cm^{-2}s^{-1}$	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ EXP. ENERGY	IBM/TAPE OUTPUT	At Run Start ID (mA)	At Run Start TOF (V)	ONLINE REJ. SUM MIPROC T_2 %	ONLINE REJ. NORD-50 T_1&T_2 %	$\sum$ Bhabha	MH	E_{BEAM}	Mag. Field −1.6 Gauss	Remarks
ON	ON	ON	OFF	3.93	13.21	6154.54	IBM	0.1	0.8	56	50	194	0	19.140	4841	
"	"	"	"	3.03	~~7.08~~	6161.62	"	0.1	0.7	54	56	104	0	19.140	4840	beams dumped
"	"	"	"	5.42	15.87	6177.49	"	0.2	1.4	54	45	233	7	19.141	4840	
"	"	"	"	4.31	10.42	6187.91	"	0.2	0.9	54	48	153	0	19.140	4828	
"	"	"	"	3.70	7.36	6189.27	"	0.1	0.8	53	49	20	0	19.141	4828	
"	"	"	"	2.70	2.79	6192.06	"	0.1	0.7	54	52	41	0	"	4841	Beams dumped
"	"	"	"	6.76	14.16	6206.22	"	0.4	1.7	51	41	288	5	19.140	4844	
"	"	"	"	4.98	10.69	6216.91	"	0.2	1.0	54	42	157	0	19.141	4844	Beam lost
"	"	"	ON	2.34	3.20	6220.11	"	0.2	0.9	47	31	47	1	19.140	4844	
"	"	"	OFF	2.55	2.93	6223.09	"	0.3	1.5	51	31	43	3	19.141	4844	Noise problem
"	"	"	"	3.91	6.67	6229.71	"	0.2	1.3	53	36	98	1	19.141	4844	Noise problem
"	"	"	"	4.21	8.24	6237.95	"	0.1	1.0	54	44	121	2	19.141	4844	
"	"	"	"	3.48	17.24	6249.19	"	0.1	1.0	54	49	165	2	19.140	4845	
"	"	"	"	2.73	0.14	6249.33	"	0.1	1.0	46	53	2	0	19.141	4844	Beam dumped
ON	ON	ON	OFF	5.02	11.64	6260.97	"	0.3	1.9	50	37	171	5	19.140	4846	
"	"	"	"	4.11	8.04	6269.01	"	0.2	1.3	52	36	118	2	19.141	4845	
"	"	"	"	4.50	11.31	6280.74 32	"	0.2	1.0	54	44	166	5	19.141	4844	
"	"	"	"	3.59	8.58	6288.90	"	0.1	0.85	55	50	126	3	"	4846	beams dumped
ON	ON	ON	OFF	2.89	7.08	6295.98	"	0.55	2.3	51	29	104	3	19.140	"	
"	"	"	"	3.09	7.22	6303.20	"	0.4	1.4	51	34	106	4	"	4845	
"	"	"	"	3.84	8.24	6311.44	"	0.3	1.1	52	43	121	2	"	"	
"	"	"	"	3.20	8.99	6320.43	"			53	47	132	6	19.141	4846	
"	"	"	"	2.51	6.74	6327.17	"	0.2	0.85	53	50	99	2	19.140	4847	
"	"	"	"	1.33	0.00	6327.17	"			53	53	0	0	"	"	beams dumped
"	"	"	"	0.00	0.00	"	"	0.4	2.0	—	—	—	—	"	4844	stupid mistake of using data
"	"	"	"	4.34	11.64	6338.81	"	0.4	1.75	51	33	171	2	"	4845	
"	"	"	"	3.92	7.69	6346.60	"	0.35	1.3	51	38	113	2	"	4844	
"	"	"	"	4.03	12.35	6358.85	"	0.2	0.9	53	36	184	3	"	4845	trigger removed
"	"	"	"	2.80	9.53	6368.38	"	0.2	0.9	54	48	140	6	"	4844	dumps
"	"	"	"	8.78	7.08		"	0.5	2.0					19.141	4841	
				6.05	2.79			0.6	1.5							
				7.09	3.68											
				5.29	1.70											
				5.33	2.59											
				4.89	2.79			0.4	1.0							
				5.79	2.52	6391.53										

trigger tab.

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{LG}>6$GeV	T_2 Bit 17 $2T\cdot E_4\cdot \geq 2$TR
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Run	Date	Start	Stop	At Run Start I^+	At Run Start I^-	Dead Time (%)	Time (sec)	Records In	Records Out	ALL $*10^6$	TØ Rej $*10^6$	T_1 Acc SUM	T_2 Acc SUM	T_1 Bit 2 $E_{LG}>6$GeV	T_2 Bit 17 $2T\cdot E_4\cdot \geq 2$TR
24005	27/10	12.39	13.17	6.16	6.26	16.2	2278	8001	4950	592	95	5457	4859	1081	25
24006	"	13.18	13 58	5.27	5.20	15.8	2365	8002	4564	615	97	5208	5215	987	26
24007	"	13 58	14 21	1.55	4.67	17.0	1523	4232	2278	344	48	2840	2657	515	15
24008	"	14 49	15 24	8.60	8.61	28.7	2071	8002	4797	539	15.5	4677	5888	917	31
24009	"	15 24	16 01	6.54	7.19	23.5	2147	8002	4691	558	130	4790	5959	931	31
24010	"	16 05	16 44	5.43	6.11	16.9	2311	8002	4535	601	101	5084	5472	965	26
24011	"	16 46	17 12	4.48	5.11	12.9	1307	3936	2072	340	43	2672	2539	438	17
24012	"	18 14	18 58	8.92	7.66	23.2	2104	8001	4719	547	126	4750	5794	959	29
24013	"	18 56	19 36	7.16	5.36	21.7	2249	8001	4586	577	125	4908	5518	948	24
24014	"	19 37	20 16	6.14	5.04	17.7	2345	8002	4571	609	107	4927	5240	899	33
24015	"	20 16	20 42	5.29	4.29	15.6	1479	4794	2572	385	60	3077	2935	544	16
24016	29/10	00:25	01:00	7.96	6.91	30.1	2073	8001	4795	539	162	4916	4737	1009	28
24017	"	01:01	01:35	6.89	6.03	30.9	2030	8002	4731	528	163	4861	5466	1013	52
24018	"	01:41	02:18	5.92	5.18	34.0	2157	8002	5033	560	190	4957	5276	1040	47
24019	"	02:19	02:46	5.20	4.54	26.0	1589	6390	3848	413	107	4016	4193	765	37
24020	"	04:03	04:42	7.88	7.90	29.2	2276	8001	4722	531	172	4872	5419	960	27
24021	"	04:42	05:19	6.71	6.74	18.9	2191	8002	4809	576	107	4887	5723	997	25
24022	"	05:19	6:00	5.79	5.70	16.3	2398	8001	4693	623	101	5024	5593	1041	27
24023	"	06:00	6:43	4.97	5.09	14.1	2541	8001	4303	661	93	5246	5109	964	29
24024	"	06:43	7:01	4.26	4.39	13.3	1055	3193	1658	274	36	2015	2085	112	12
24025	"	8:11	8:47	8.52	7.54	38.5	2141	8002	5299	557	215	4203	6706	922	29
24026	"	8 50	9 35	7.17	6.43	29.7	2123	8002	5014	553	164	4539	6346	971	33
24027	"	9 26	9 37	6.21	5.58	22.6	69	270	164	18	4	133	208	30	2
24028	"	9 38	10 01	6.14	5.52	18.8	1902	6571	3781	495	93	3973	4595	741	25
24029	"	"	10 43	=	Junk =	due to	missing	runs							
24030	"	10 47	11 24	7.72	6.32	21.2	2202	8002	4875	573	121	4801	5399	1018	24
24031	"	11 24	12 04	6.67	5.45	17.9	2344	8001	4649	640	109	4904	5411	968	17
24032	"	12 04	12 49	5.72	4.66	15.0	2537	7997	4268	660	99	5128	5188	980	21
24033	"	13 19	13 22	8.10	8.79	32.6	112	510	300	29.1	9.15	294	283	64	2
24034	"	13 23	13 55	7.91	8.62	39.9	1878	6920	4476	489	195	3688	5539	859	28
24035	"	13 57	14 02	6.69	7.47	38.5	219	790	539	57	22	382	614	123	6
24036	"	14 03	14 08	6.53	7.31	38.4	263	881	648	68	26	427	758	138	4
24037	"	14 09	14 56	6.32	7.11	15.1	2344	5854	4596	609	92	3189	4673	1210	34
24038	"	14 57	15 21	5.09	5.84	16.4	2309	7729	4227	601	93	4887	5100	869	22

Processors ON/OFF NSO	MIP	TOF	FAMP	$\langle L\rangle$ 10^{30} cm^{-2}s^{-1}	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ EXP. ENERGY	IBM/Tape Output	At Run Start ID (μA)	At Run Start TOF (V)	Online Rej SUM M.PROC T_2 %	Online Rej NORD·50 T_1&T_2 %	$\sum$ Bhabha	MH	E_{beam}	Mag. Field -1+6 Gauss	Remarks
ON	ON	ON	OFF	4.85	11.85	64 03.38	IBM			53	39	174	2	19140	-4840	triggers reduced
"	"	"	"	3.73	9.13	6422.51	"	0.25	1.0	53	45	174	1	19140	4841	
"	"	"	"	3.09	4.29	6426.80	"	0.2	0.8	54	48	63	2	19141	4841	BEAMS DUMPED
"	"	"	"	5.54	11.71	6438.51	"	0.7	1.75	51	42	172	3	19140	-"-	
"	"	"	"	4.62	10.69	6449.20	"	0.4	1.2	51	43	167	7	"	"	
"	"	"	"	3.76	7.76	6456.96	"	0.25	1.1	53	45	114	3	"	4830	
"	"	"	"	3.34	5.04	6462.00	"	0.10	0.7	54	48	74	1			Beams dumped
"	"	"	"	5.92	12.87	6474.87	"	0.8	2.0	51	42	184	2	"	4834	
"	"	"	"	5.02	11.24	6486.11	"	0.6	1.3	49	44	165	8			
"	"	"	"	4.17	10.69	6496.80	"	0.5	1.0	50	45	157	4			
"	"	"	"	3.71	6.26	6503.06	"	0.4	0.8	50	48	82	2			Beams dumped
ON	ON	ON	OFF	4.53	9.06	6512.12	"	0.6	2.8	52	42	133	5	19.140	4841	
"	"	"	"	3.68	7.16	6519.27	"	0.5	2.3	51	41	105	2	19140	4841	
"	"	"	"	2.65	5.45	6524.72	"	0.4	2.0	50	39	80	0	19141	4841	
"	"	"	"	2.21	3.61	6528.33	"	0.4	2.0	52	42	53	0	19140	4841	Beams Dumped
"	"	"	"	5.63	13.25	6541.54	"	0.6	2.7	50	43	194	3	19.14A	4841	
"	"	"	"	5.65	12.53	6554.07	"	0.4	1.3	52	41	184	2	19140	4340	
"	"	"	"	4.55	11.51	6565.58	"	0.4	1.0	53	43	169	6	19140	4841	
"	"	"	"	3.51	10.69	6576.27	"	0.3	0.7	53	48	157	1	19.140	4842	
"	"	"	"	2.99	3.00	6579.27	"	0.2	0.8	51	50	44	1	19141	4842	Beams Dumped
ON	ON	ON	OFF	5.20	11.24	6590.51	"	0.6	1.7	50	35	165	2	19.140	4841	
"	"	"	"	4.71	11.17	6601.68	"	0.45	1.3	51	39	164	2	19.141	"	
"	"	"	"	4.30	0.34	6602.02	"	0.3	1.1	48	42	5	0	"	"	
"	"	"	"	4.40	8.38	6610.40	"	0.3	1.0	51	44	123	2	"	"	beams dumped
								0.4	1.5							junk CAMAC problems
ON	ON	ON	OFF	5.99	15.87	6626.27	"	0.4	0.9	48	40	233	5	19.140	4841	
"	"	"	"	5.05	12.05	6638.32	"			50	44	177	8	"	4840	
"	"	"	"	3.98	10.42	6648.74	"			52	48	153	3	19.141	"	
ON	ON	ON	OFF	7.06	0.61	6649.35	"	0.7	1.7	40	44	9	1	"	4841	run ended due to Camac prob.
"	"	"	"	5.30	11.30	6660.65	"			49	37	166	5	19.140	"	standard set of triggers
"	"	"	"	4.96	0.75	6661.40	"	0.5	1.3	45	33	11	0	"	"	some triggers removed
"	"	"	"	4.72	1.36	6662.76	"			50	32	20	0	19.141	4840	more " "
"	"	"	"	5.49	13.42	6676.13	"	0.5	1.2	52	23	197	7	"	"	(more)^2 " "
"	"	"	"	4.08	9.94	6686.12	"	0.4	1.0	51	47	146	2	19.140	-4841	standard triggers again

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{LG}>6$GeV	T_2 Bit 17 $2T\text{-}E_t \geq 2TR$

9.30 Phone VTX-beep to find out how to restart PC.
That is Hagemann. After a few tests he tells me to phone P. Petersen. The telephone seems to be disconnected, Number was wrong. But he doesn't answer on right number.

11.30 New beams. Trigger studies during runs 23997 – 24003
Conclusion (what was evident before): the track triggers give a high dead time.

12.00 NSO died, had to abort Batch job

At one stage Color TV showed Err 2) HV wrong without printing on teletype. Restart Y VOLTS, gave no error.

14.00 Chat again to Tasso (V. Marlyn). They think:
a) conditions worse, they can run but lumi not improved instead more data written. They have ~25% deadtime without removing Z trigger.
b) One should nevertheless let PETRA try for some time.

Vacuum in Petra is $1 \cdot 10^{-8}$ on average (without the leak in the North). Doesn't sound too much better than yesterday.

Nevertheless this filling has been quiet (only 2 Z-chamber trips).

14.13 BP ~~cooling~~ chamber alarm, station 4 seems to be at limit. Goes away by itself. temperature at 4 is 18.9°.
← Called W Bartel. He says that the threshold has to be adjusted, but he cannot come before ~19°°. If it goes near 35° then it starts getting dangerous. So ignore the noise (if you can).

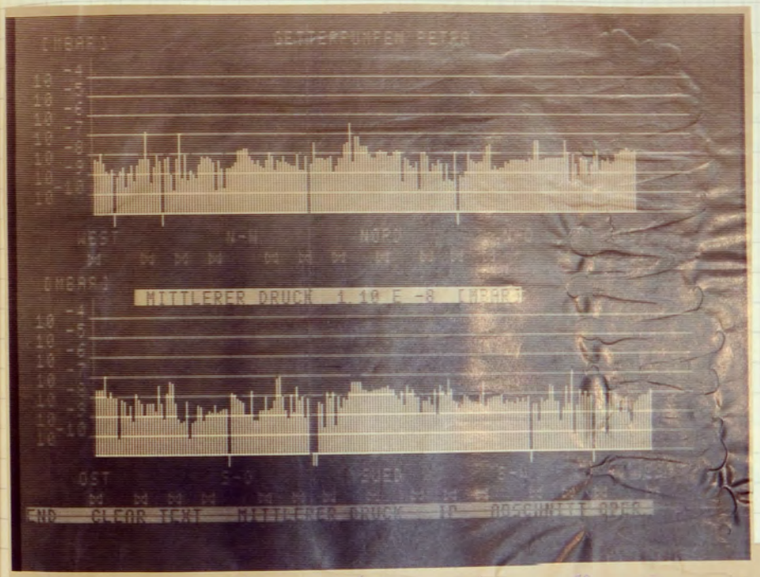
14.53 New fill e^+=8.6 mA, e^-=8.6 mA deadtime ~28%, not so bad.
SL ~18 $\cdot 10^{28}$
Petra optimize, dead time rises, so long!!

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	$\langle L \rangle$ 10^{30} cm^{-2}s^{-1}	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ EXP. ENERGY	IBM TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ONLINE REJ. SUM MIPROL T_2-%	ONLINE REJ. NORD-50 T_1 & T_2 %	Σ Bhabha	MH	E_{BEAM}	Mag. Field -1 & Gauss	Remarks

16⁰⁰ H. Mills + R. Fest on shift
Gas check O.K.
16³⁴ all 3 ch's hard trip.
16⁵⁴ VTX + JET ch soft trip ? Why is the VTX-chamber current so much low than before?
→ because Q3 has been taken out of the circuitry.
Several attempts to restart IBMPC. it just writes chinese so switch it off.

VTX-ch-peak-current now is $I = MAX(I_{Q1}, I_{Q2}, I_{Q4})$; I_{Q3} is dominated by a leaking capacity and thus not a measure of beam conditions

I find the GOULD is working - last night I was pheed up cos it did not work & find no comments here as to how it was made to function! HEP



E_{beam} = 11.140 GeV 2.7/10/85 18⁷⁰

18³³ Jet + VTX chamber soft trip
18⁵¹ all soft trip. (not Z-ch) and again
22³⁰ new beams ready but lost after a few minutes
23⁴⁵ stable injection

RUN	DATE	START	STOP	AT RUN START I+	AT RUN START I-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL ×10⁶	TØ REJ ×10⁶	T₁ ACC SUM	T₂ ACC SUM	T₁ Bit 2 E_L6>6GeV	T₂ Bit 17 2T-E_t·≥2TR
156	85/10/28														

0000 Glauser & Heldbrand on shift

regular set of trips for chambers with dirty beams Z ch., Vtx chamber
mostly IBM busy in 3rd part of the fill - ? maybe JADDUMP was running at the same time
IBM PC off all night

No Trigger bits ~ 3 hr

8.00 Warming & Haidt on shift
gas check done ✓
1.19 Vertex chamber tripped
10.43 at start of first run of new fill "missing lams" for 7 or 1 occurs at each event
we stop the run (24029), shake the cables, push the modules of this crate, that cured it
13.22 some time after start of a new fill again "missing lams" for each event,
this time for 7 or 6, same trick cured it for the time being
14.00 With the new fill the beam conditions are worse than before,
with the help of Jan Olsen we remove some ff-triggers
run 24035 SET-TR Tacc (175417$_B$) T1 post (075615$_B$) T2 enabl (007777$_B$) T2 acc (051577$_B$)
the last number turned out to be wrong
run 24036 SET-TR " " " " " " (051377$_B$)
had almost no effect on trigger rate and deadtime
run 24037 SET-TR " (155417$_B$) " (075605$_B$) " (007777$_B$) " (051373$_B$)
now the rate is down to ~4 sec⁻¹, deadtime ~ 20 %
~14.30 Soft trip of Vtx ch & ID, TOF rate off scale, PKR saw beam blow up but has no explanation for it.
15.18 Soft trip of vertex chamber
run 24038 back to normal trigger settings

16.00 Ramcke, Kuhlen on shift
16.15 Gas check o.k.
16.18 run 24039 no data
17.29 According to Barkel we switched off some ff triggers: The new trigger pattern is: from run 24042 on.
T1 Acc.: 155417 B (HK, 107, 102, TBN Neighb. suppr.)
T1 postp.: 075605 B (T1 accept; T1 postp.)
T2 enabl: 7777 B
T2 coinc: 051373 B
please leave this as it is until new instructions! Teletype will type a warning each new Run!

RUN	DATE	START	STOP	AT RUN START I+	AT RUN START I-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL ×10⁶	TØ REJ ×10⁶	T₁ ACC SUM	T₂ ACC SUM	T₁ Bit 2 E_L6>6GeV	T₂ Bit 17 2T-E_t·≥2TR

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	<L> 10³⁰ cm⁻² s⁻¹	Bhabha ∫L dt nb⁻¹	∫L dt EXP. ENERGY	IBM TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ONLINE REJ. SUM MIPROC T₂-%	ONLINE REJ. NORD-50 T₁ & T₂ %	Σ Bhabha	MH	E_BEAM	Mag. Field -1.6 Gauss	Remarks

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20:46 JDAS readout error 53 - System crate watchdog flag DARMS=000002 140204 (oct)
running continuously on the screen. Run stopped and new one started cured this fault.
22:10 Hole in TOF TDC II histograms, counter 38, since run 24045.
22:37 Touching some cables removed this hole

29/10/85

0.00 Cartwright, Greenshaw on shift
0.20 Gas check OK
2.20 Six system crate watchdog flag errs, followed by NO TRIGGERS. Pause/continue did not help. Started new run.
3.15 Run summary for run 24051 claims RECORDS OUT = Ø. This is a lie! It was a perfectly normal 8000-evt run.
Howard please note
Also, from run 24040 the -ERROR- section of the run summary has always included
178 RECORD DROPPED (>8000 WORDS). The number is invariably 178. This I don't believe either.
3.30 Missing LAM for 2 or 3 : TOF1
4.40 VTX-ch soft trip; no obvious reason
5.20 At run start NORD complains, "YIBMPC: Read command address out of range."
6.20 D:H0 (see system console)

7.50 At start of new fill TOF-rate = 4.5 V, can do nothing useful. Phone PKR — they say everybody else is very happy and our meter's offscale. They will try to do something.

8.00 Haidt and Riesberg on shift.
During calibration events ID + VTXC trip → Nord hang up (Run 24056)
EXIT doesn't work. Reload Nord.
8.25 Gas check OK
8.42 VTXC soft trip
Colour TV says "IBMPC inactive?", but it does the normal job. Question disappears after some time.
This is normal.
10.20 Beams dumped
10.50 New filling ready

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{LG} > 6$ GeV	T_2 Bit 17 $2T \cdot E_4 \cdot \geq 2TR$
24040	28.10.85	16:19	16:53	8.24	8.41	31.0	2078	8002	5082	540	167	4546	6107	1016	28
24041	"	16:54	17:29	6.91	7.25	31.3	2080	8002	5084	541	169	4430	6391	1047	36
24042	"	17:30	18:36	5.91	6.25	9.7	3925	8002	6141	1021	99	4888	5602	1821	65
24043	"	18:37	18:48	4.56	4.88	7.3	654	1135	859	170	12	718	687	263	5
24044	"	19:17	20:01	8.68	1.65	28.3	2635	8002	6420	685	193	4089	6756	1634	70
24045	"	20:02	20:42	6.76	7.15	20.4	2396	6914	5519	623	126	3571	5846	1487	52
24046	"	20:46	21:53	5.50	5.97	9.3	3596	7181	5529	935	86	4391	4932	1660	54
24047	"	22:22	23:08	8.58	8.39	19.1	2747	8001	6463	715	136	4335	6235	1774	55
24048	"	23:08	23:58	6.86	6.87	15.2	2951	8001	6284	767	116	4542	6144	1836	58
24049	"	23:58	1:00	5.56	5.59	9.9	3678	7868	5965	958	95	4841	5397	1844	63
24050	29.10.85	1:35	2:21	9.14	8.11	19.3	2728	7896	6316	710	137	4204	6118	1693	56
24051	"	2:22	3:15	7.05	6.62	13.8	3183	8002	(>6300) 0?!	828	114	4541	6055	1755	57
24052	"	3:16	4:20	5.60	5.32	8.5	3805	6954	5265	990	84	4474	4478	1681	37
24053	"	4:47	5:30	8.66	8.54	22.0	2722	8002	6457	708	156	4764	6309	1802	50
24054	"	5:30	6:20	7.01	6.98	16.6	2982	8002	6321	776	129	4426	6203	1747	61
24055	"	6:20	7:20	5.24	5.56	8.9	3519	6913	5225	916	81.1	4288	4567	1632	44
24057	"	8:10	8:59	7.57	7.61	19.1	2893	8002	6333	753	144	4268	6206	1681	69
24058	"	9:00	10:05	6.01	6.13	9.7	3912	8002	6187	1018	99	4875	5364	1903	48
24059	"	10:06	10:18	4.62	4.75	7.7	704	1257	937	183	14	810	736	316	6
24060	"	10:53	11:39	8.72	8.21	21.0	2737	8002	6352	712	145	4246	5808	1652	60
24061	"	11:39	12:30	7.11	6.69	15.9	3095	8002	6195	805	127	4307	5856	1652	62
24062	"	12:32	13:38	5.73	5.40	9.4	3950	7555	5628	102	96	4623	4929	1717	55
24065	"	14:11	14:57	8.70	8.75	39.8	2699	8002	6198	703	280	3623	6347	1440	43
64	"	15:02	15:03	6.77	6.87										
65	"	15:06	15:15	6.64	6.75										
24066	"	15:22	15:52	6.16	6.28	15.1	1759	4438	3384	458	65	2412	3244	925	28
24067	"	15:58	16:04	5.25	5.39	20.0	366	1285	747	95	15	772	861	176	4
24068	"	16:10	16:51	5.00	5.14	16.5	2486	8002	4376	647	107	5062	5160	991	35
24069	"	16:52	17:00	4.24	4.37	15.1	468	1464	738	122	18	881	969	165	4
24070	"	17:53	18:38	8.78	8.66	31.4	2611	8002	6383	680	214	3980	6214	1629	45
24071	"	18:38	19:24	7.06	7.00	19.7	2843	8002	6345	740	146	4278	6129	1703	47
24072	"	19:31	20:09	5.60	5.58	18.6	2280	8001	4511	593	110	4982	5319	983	31
24073	"	20:10	20:53	4.77	4.76	14.7	2559	8001	4219	666	98	5154	5177	920	21
24074	"	20:57	21:02	4.00	4.01	14.5	272	944	505	71	10	604	537	93	3

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	$\langle L \rangle$ $10^{30}\,cm^{-2}s^{-1}$	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ EXP. ENERGY	IBM/TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ONLINE REJ. SUM MIPROC T_2 %	ONLINE REJ. NORD-50 T_1 & T_2 %	Σ_{Bhabha}	MH	E_{BEAM}	MAGN. FIELD -1.6 Gauss	Remarks
ON	ON	ON	OFF	6.72	14.71	6700.83	~~TAPE~~ 18.11	0.6	1.6	50	38	216	10	19.140	4840	
"	"	"	"	5.49	12.87	6713.20	IBM	0.5	1.3	51	38	189	6	19.141	4842	new trigger pattern
"	"	"	"	5.12	22.06	6735.76	"	0.3	1.1	52	23	324	7	19.141	4842	
"	"	"	"	4.00	2.52	6738.28	"	0.3	1.0	50	25	37	2	"	4841	beams dumped
"	"	"	"	6.51	16.48	6754.76	"	0.5	2.0	50	21	262	4	19.140	4840	
"	"	"	"	5.75	12.67	6767.43	"	0.4	1.5	50	21	186	6	19.140	4840	
"	"	"	"	4.45	15.73	6783.16	"	0.3	1.2	52	24	231	9	19.140	4841	beams dumped
"	"	"	"	7.88	23.36	6806.52	"	0.6	1.7	51	20	343	9	19.141	4840	
"	"	"	"	6.10	16.96	6823.48	"	0.3	1.7	53	22	249	5	19.141	4841	
"	"	"	"	4.43	16.07	6839.55	"	0.3	1.7	53	25	236	7	19.141	4841	Beams dumped
"	"	"	"	7.35	21.93	6861.48	"	0.65	2.0	49	21	322	6	"	"	Hung up after system crate errors
"	"	"	"	5.87	21.38	6882.86	"	0.55	1.25	51	22	314	8	"	"	
"	"	"	"	4.37	17.30	6900.16	"	0.3	1.1	54	25	254	4	"	"	Beams dumped
"	"	"	"	7.86	22.41	6922.57	"	0.6	2.4	51	20	329	14	"	4840	
"	"	"	"	5.42	16.55	6939.12	"	0.4	1.6	51	22	243	5	"	4837	
"	"	"	"	4.07	16.64	6955.76	"	0.2	1.2	57	25	215	4	"	6832	Beams dumped
"	"	"	"	6.67	19.55	6973.31	"	0.9	1.8	49	22	287	7	"	4840	Run 24056 no events
"	"	"	"	5.29	22.00	6995.31	"	0.4	1.3	51	24	323	8	"	4840	
"	"	"	"	4.13	3.54	6998.85	"	0.15	0.95	50	27	52	1	"	4838	Beams dumped
ON	ON	ON	OFF	7.84	22.68	7021.73	"	0.7	1.7	47	22	336	8	19.140	4840	
"	"	"	"	6.03	19.75	7041.48	"	0.8	1.3	48	24	270	5	"	"	
"	"	"	"	4.17	17.71	7059.19	"	0.6	1.2	52	27	260	6	19.141	"	beams dumped
"	"	"	"	6.74	17.71	7076.90	"	1.6	2.4	43	24	260	5	"	"	
				3.85	0.20	7077.10	"		?					"	"	
				6.69	4.22	7081.32	"							"	"	
"	"	"	"	6.08	12.05	7093.37	"	0.8	1.2	47	25	177	3	19.140	4841	
"	"	"	"	5.19	2.18	7095.55	"	0.6	1.0	50	44	32	2	"	4840	
"	"	"	"	4.02	10.86	7106.51	"	0.6	1.0	51	47	161	6	"	4841	
"	"	"	"	3.48	1.84	7108.35	"	0.5	0.8	48	52	27	1	"	4841	beams dumped
"	"	"	"	7.47	21.38	7129.73	"	0.9	2.0	47	21	314	2	"	4840	red. Trig.-Set
"	"	"	"	6.41	17.71	7147.44	"	0.8	1.7	50	22	260	4	"	4854	" " "
"	"	"	"	4.62	11.03	7158.47	"	0.5	1.3	51	45	162	6	"	4850	full trigger
"	"	"	"	3.56	9.40	7167.87	"	0.35	0.9	52	49	138	6	19.141	4853	
"	"	"	"	3.18	0.75	7168.62	"	0.25	0.75	47	49	11	0	"	4854	Beams dumped
						23.05 7191.71										

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{LG}>6$GeV	T_2 Bit 17 $2T\cdot E_4\cdot \geq 2$TR

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	<L> 10^{30} cm^{-2}s^{-1}	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ EXP. ENERGY	IBM TAPE OUTPUT	At Run Start ID (μA)	TOF (V)	ONLINE REJ. SUM MIPROL T_2 %	NORD-50 T_1 & T_2 %	Σ Bhabha	MH	E_{BEAM}	Mag. Field -1.6 Gauss	Remarks

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16^{00} Becker, Komamiya

- In order to have not too excessive Deadtime, it is recommended to run with a reduced set of triggers during high current beamtime. The switching between a reduced set and the full, standard, trigger set can now be simply done by the command
  REDUCED - TRIGGERS (RE-TR for short)
  which can be given between runs.
- The reduced set of triggers has following triggers inactive: M.K., J.O.7 (T1 acc)
  J.O.2, TBC neighb. suppr. (T1 prod)
- Thus at a beginning of fill, with 8-9 mA currents, take data with REDUCED-TRiggers on
  At ~6mA currents, or ≤ 20% deadtime, the full set can be switched on again.
- With reduced triggers on, a message will be displayed on the Colour TV. Also the teletype will print warnings at each run start
- This switching affects only 88 physics. Thus the problem of calculating integrated Luminosity for the above mentioned triggers will be handled by 88 physicists, MUMAD people need not care...
  HEM / J.O.

16^{10} Gas check ok.

19^{30} Run 24072 ~ K.O. (knock out) trigger and J.O.2 (Junk origin 2) trigger are "on".

21^{00} Beams dumped
K.O., J02 triggers off

$22\,15$ "IBH busy" occured quite often.

23^{00} Standard Histograms look standard.

23^{20} Beams lost ⟹ All chambers tripped

30/10/85 0.0 Schaeckloth, Spieber
Gas OK

0.50 Fill ready. We cannot start because of current overflow alarm in Sr 5 Cr 4.
Removal of any DL8 helps. The second spare power supply saves the problem.
Start run 24079 at 1:52.

2.05 Magnet fluctuation. Quick change between 7498 and 7515 Amp secs.

2.20 Noticed that the DL8 for wires 64-71 gives all bits assigned to the last wire.
Skip run to replace DL8. Actually mastering seemed to help. Start run 24080 at 2:57
We did not get run summary, hardcopy does not work. Switched off/on, Ok.

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8^{00} R. Feist + H. Mills on shift
Gas check Ok
"Short" break (till 10.00) - magnet ⟹ 500A.
YCLRTV, YMAGNT etc updated for new method to determine inactive PC. Much improved.

11^{30} restart 13^{00}?? in progress

13^{30} During TDC-Calibration it turned out that the whole TDC Crate 3 (upper) N 16 is Bad,
Spread 8-9 bins and high nonlinearity. However exchange postponed until
consultation with Navoska.

13^{00} Beams ready
Trouble with LG system. No response from all mainframes. - Distributor dead.
Also YPAROT seems to be old? has wrong std TIA — Fixed.

16^{00} Heinzelmann & Greenshaw on shift.

16^{10} Gas check done, no problems.

21^{30} We are working on the LG since N^{00}. One main supply was destroyed (it even burned its power chord!) One distributor is burned. ↳ Exchanged Dis. # 4. After that we can't read and write anything into the distr. anymore. Switching and looking for the fault destroyes lab of bits. At 8^{22} p.m. we started loading the bit pattern by hand (at least 3 dist. i.e. ≈ 390 channel! are effected.
Something in the 'Alarm processor crate' must be destroyed in the catastrophe. No spares available!

23^{15} Shiftcrews have to reset channel HV by hand. 5 Distributors, 128 channels each!....
Distributor 4 is broken, no spare available! There is a coarse supervision through Kruthäuser control interface, still active. Supplies are taken as ok. If their output is ~~Epi~~ above +19.500 Volts. Then the yellow lamps stops flickering and the chambers can be turned on.

31/10/85 Kuhlen & Hargmann on shift

0^{00}

0^{21} Gas check Ok

4^{55} After 5 hours we finished the last LG distributor setting the HV by hand. Hart ist das Leben an der Küste!

6^{09} run 24091 started, with reduced triggers.

6^{16} JOTS readout error 33 - missing CAM branch 4 crate 1 ring 2 ID several times

6^{59} run 24092 with full trigger

7^{52} Call from Linke: At 8^{0} clock the beams will be dumped, and they go to the new energy, 175 GeV

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{LG}>6$GeV	T_2 Bit 17 $2T\text{-}E_4\cdot \geq 2$TR
24075	29.10.85	21:28	22:12	8.94	8.73	23.3	2604	8002	6367	677	158	4305	5530	1687	49
24076	"	22:12	23:03	7.08	7.08	19.9	3023	8002	6217	787	156	4408	5819	1712	43
24077	"	23:04	23:18	5.65	5.68	11.1	843	1955	1515	219	24	1175	1283	460	15
24078	30.10.														
24079	30.10.	1:52	2:27	6.17	5.78	17.7	1994	6957	3976	519	92	4382	4552	844	26
24080	"	2:37	3:21	5.17	4.85	15.0	2554	8002	4258	665	48	5146	5135	926	27
24081	"	3:50	4:36	8.74	8.70	20.6	2727	8002	6327	709	115	4309	5673	1649	49
24082	"	4:37	5:27	6.98	7.01	15.4	2995	8002	6284	779	120	4426	5707	1739	62
24083	"	5:27	8:07	5.54	5.61	20.7	2323	8002	4600	609	115	4914	5913	970	25
24084	"	6:08	6:30	4.72	4.81	15.6	1309	4318	2323	350	53	2716	2829	511	23
24085	"	13:40	14:19	6.16	6.12	17.8	2265	8001	5049	589	104	5360	4770	1043	33
24086	"	14:19	15:02	5.26	5.27	16.2	2395	8001	4975	622	100	5399	4759	981	36
24087	"	15:04	15:21	4.42	4.44	14.5	1006	3169	1937	261	38	2149	1949	371	16
24088	"	16:44	17:17	5.61	6.58	24	1951	7889	4964	508	120	5293	4442	835	53
24089	"	17:44	18:19	4.34	5.05	18	2079	8002	5081	541	96	5773	4034	757	59
24090	"	18:20	18:26	3.76	4.41	17	331	1294	813	88	15	929	658	130	11
24091	31.10.85	6:10	6:53	8.08	7.46	15.5	2955	8002	6175	4830 769	118	4830	4689	1714	107
24092	"	7:00	7:33	6.55	6.03	27.7	1941	8002	5058	505	140	5113	4709	880	57
24093	"	7:33	8:02	5.75	5.29	24.4	1674	6684	4260	435	106	4321	3814	743	38
24094	"	8:33	9:06	5.80	5.80	16.5	1765	6275	3767	459	75	4369	3569	665	37
24095	"	11:35	12:12	7.27	7.57	15.9	2176	8002	5007	566	89	5524	4761	932	43
24096	"	12:12	12:49	6.26	6.55	15.4	2184	8002	4820	568	87	5610	4589	962	47
24097	"	12:49	13:28	5.41	5.69	13.8	2315	8002	4664	602	83	5579	4633	909	38
24098	"	13:28	14:05	4.67	4.95	12.5	2162	7095	4018	562	70	5109	3939	768	33
24099	"	16:36	17:34	7.84	8.04	11.2	3430	8002	6199	892	100	5024	5355	1794	87
24100	"	17:34	18:08	6.26	6.57	18.2	2028	8001	4938	528	96	5399	4924	924	36
24101	"	18:08	18:48	5.47	5.74	13.8	2372	8001	4723	618	85	5733	4497	947	37
24102	"	18:48	18:57	4.65	4.93	12.6	463	1504	875	120	15	1096	794	181	6
24103	"	19:37	20:31	7.96	7.63	16.3	3442 1985	8002	6434	817	133	4673	5951	1685	68
24104	"	20:32	21:11	6.37	6.11	21.6		8002	5536	516	111	6359	2834	1799	59
24105	"	21:13	21:46	5.37	5.17	21.0	1924	8002	5181	500	105	5675	4392	1074	39
24106	"	21:46	22:15	4.71	4.54	18.0	1707	6705	4158	444	80	4729	3682	785	41
24107	"	23:06	23:08	8.36	8.43	17.0	127	484	406	33	5	284	275	99	2
24108	1.11.85	0:18	0:21	5.70	5.83	15.0	177	681	431	46	7	468	386	74	1

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	$\langle L \rangle$ 10^{30} cm^{-2}s^{-1}	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ Exp. Energy	IBM/TAPE OUTPUT	AT Run START ID (μA)	AT Run START TOF (V)	ONLINE REJ SUM MIPROC (%)	ONLINE REJ NORD-50 T_1&T_2 (%)	Σ Bhabha	MH	E_{BEAM}	Mag. Field -1.6 Gauss	Remarks
ON	ON	ON	OFF	8.13	23.09	7191.71	IBM	1.0	2.0	46	21	339	5	19.141	4853	Reduced trigger
"	"	"	"	6.19	19.48	7211.19	"	0.8	1.5	45	23	286	4	"	4854	— " —
"	"	"	"	6.04	4.43	7215.62	"	0.5	1.3	51	24	65	1	"	4854	— " — Beams lost
																no events
"	"	"	"	4.59	9.40	7225.02	"	0.4	1.3	51	44	138	4	19.140	4856	
"	"	"	"	3.34	9.19	7234.21	"	0.3	0.9	52	49	135	2	"	"	beams dumped
"	"	"	"	8.15	23.03	7257.25	"	0.8	2.0	47	22	339	6	"	4817	reduced trigger
"	"	"	"	6.25	20.50	7277.79	"	0.7	1.7	48	22	301	1	"	"	"
"	"	"	"	3.68	8.65	7286.44	"	0.5	1.3	51	44	127	3	19.141	4856	normal "
"	"	"	"	2.99	3.61	7290.05	"	0.4	1.2	51	38	53	1	"	4854	beam dumped
"	"	"	"	5.19	14.71	7304.76	"	0.2	1.5	53	38	216	3	"	4840	Full reduced triggers
"	"	"	"	3.77	7.35	7312.11	"	0.2	1.2	54	39	108	0	"	"	"
"	"	"	"	3.10	2.38	7314.49	"	0.2	1.2	55	40	35	0	"	"	beams dumped
"	"	"	"	4.41	9.87	7324.36	"	0.4	1.5	51	38	145	8	19.140	4825	normal trigger
"	"	"	"	3.04	6.88	7331.24	"	0.3	1.0	53	38	101	1	19.140	4844	
"	"	"	"	2.51	0.95	7332.19	"	0.2	0.9	53	38	14	2	19.141	4844	beams dumped
"	"	"	"	6.76	22.20	7354.39	"	0.6	1.9	47	24	326	4	19.140	4841	reduced trigger
"	"	"	"	4.36	8.58	7362.97	"	0.6	1.5	49	38	126	2	19.141	4839	normal "
"	"	"	"	3.55	6.40	7369.37	"	0.6	1.4	49	38	94	1	19.140	4840	beams dumped
"	"	"	"	2.63	4.67	4.67	"	0.1	1.5	53	41	82	3	17.501	4841	beams dumped (Half of beam lost)
"	"	"	"	5.47	13.78	18.45	"	0.15	1.8	55	38	242	9	17.501	4841	normal trigger
"	"	"	"	4.97	12.07	30.52	"	0.05	1.0	55	41	212	8	"	4842	
"	"	"	"	4.22	10.93	41.45	"	0.	1.0	54	43	192	3	"	4841	
"	"	"	"	3.50	9.91	51.36	"	0.	0.9	56	45	174	5	"	4841	beams dumped
"	"	"	"	5.49	21.06	72.42	"	0.6	1.7	52	23	370	7	"	4847	Reduced triggers
"	"	"	"	4.77	10.65	83.07	"	0.05	1.5	53	39	187	8	"	4838	Normal Triggers
"	"	"	"	4.49	12.13	95.20	"	0	0.8	55	42	213	3	"	4840	
"	"	"	"	3.96	2.62	97.82	"	0	0.6	57	43	46	0	"	4841	Beams dumped
"	"	"	"	6.03	21.92	119.74	"	0.2	1.2	51	20	385	10	"	4840	Reduced triggers
"	"	"	"	5.32	10.25	129.99	"	0.2	1.5	53	32	180	5	17.500	4840	Reduced triggers
"	"	"	"	4.10	9.39	139.38	"	0.2	1.7	54	36	165	2	"	4841	Full triggers
"	"	"	"	3.31	6.21	145.59	"	0.05	1.2	52	39	109	1	17.501	4841	Beams dumped
"	"	"	"	8.74	0.91	146.50	"		2.0	45	78	76	0	"	"	Beams lost
"	"	"	"	2.03	0.57	147.07	"	0.2	1.4	52	40	10	0	17.500	4840	prob. with vacuum part.

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{LG}>6$GeV	T_2 Bit 17 $2T\text{-}E_4\cdot \geq 2$TR

8^{00} Magnussen & Chrin on shift.
(Magnussen sets about the LG distributor problem right away).
Gas check done. O. Kay.

8^{33} All chambers trip. (Petra loses ≈ 2mA of positron beam).

$9^{35} \rightarrow 11^{00}$ Short Break.

12^{45} YSPY Error : Trigger 2 output missing : 153

16^{00} Hedgecock & Heinzelmann Histogram reveals a low point for this channel.

16^{15} Beams up. 17.5 GeV, 2+8 mA, but terrible background. Seems that they want to do machine physics.
A message to HEM. An attempt to pause the run via F2 brought the "Pause" message on LUN9, but Data taking continued, no red run light, & white lamp flickering. This was with IBM busy at flickering,

20^{45} Suddenly bad beams, a TOF Rate 2.5 V. complaining at PKR: They acknowledge our problems, but they have machine shifts, they say. Run paused until improvement. At TOF = 1.7 we continue.
Deadtime ≈ 20% in spite of Reduced trigger.

21^{45} ~~At Ro~~ After Run End the run lamp stayed green. However No triggers coming.

23^{00} Gas check done (with considerable delay!) — Next one should be done at ≈ 08.00

0.00 FRIDAY 1/11/85 Lutz Becker & Fred Loebinger.

0.20 Message: NON GTD READOUT on colour TV : stop run : but setting wasn't correct.

01.30 "BP-CH ERR FOUND". Cleared by pressing any key on IBM PC.

04.00 W. Bartel replacing L. Becker

06.50 Beams dumped for energy saving time.
Magnet switched off.

08.00 Olsson, Smolek Gas check
Short break, fill 12^{00} 12^{20} Injection

13.15 Start data taking. FAMP is ok, to test a change of communication software (NORD-FAMP)
Rather bad beams, several trips of chambers

14.30 Berger calls to tell the new beam energy compromise: 17,5 GeV till 15^{00} / 2-11 (Saturday)
19,1 " " end of run period, unless
Leneke decides that 17,5 GeV is unproblematic,
in that case 17,5 GeV from afternoon of 3/11

14.41 YSPY T1 output 50 missing (TBG) nr 19 No hole in TOF or BG map (T1 input)
Next run: There are entries in TBG 19, also BG 19, but they are low bins, seem inefficient. (~50%)

15^{10} Miss. LAM Br4 Cr7

16^{00} FAMP communication works OK for complete fill, now leave FAMP ON until it dies by itself, (if at all). — J.O.

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	$\langle L \rangle$ 10^{30} cm^{-2} s^{-1}	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ EXP. ENERGY	IBM TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ONLINE REJ. SUM MIPROL T_2 %	ONLINE REJ. NORD-50 T_1 & T_2 %	Σ Bhabha	MH	E_{BEAM}	Mag. Field -1 x Gauss	Remarks

16^{00} Duerdoth & Kado (temporary)

16:30 gas check done No injection until 19^{00} hrs (energy saving). Magnet turned down to 500 A.

21.10 New fill — but background is too high. — PKR optimise & we wait for beams to decay.
JDAS READOUT ERROR 53 — System exits watchdog flag PKRMS = 0 00002 140 204 (oct)
YVOLTS — on system console — all LG mainframes no response. 1→23 (twice) Run 24123 is short ejunk.
Magnusson advises logon & give command RTOFF YVOLTS off we go.

22^{43} Stop Run to change to all triggers as dead time is only ~18%. Dead time leaps up to ~30%. we changed too soon.

23^{10} PC found an error.

23^{20} We decide Dead Time is too high with "Full trigger" so we change back to "Reduced trigger".
The effects is from ~30% down to ~15%. 15% of "other" physics seems a substantial price to pay.

2.11.85

00^{01} K. Stephens and R. Felst on shift

0^{26} Beam pipe chamber in on time display shows at each event 1 hit on every wire nearly

~ 30 Gas check OK

0^{44} found with the help of Jörg Hagemann, that a probe was still connected to the beam-pipe-chamber, which caused this junk, removed probe cable O.K now — My errors, very sorry. Jan Olsson

2^{30} problems with the beam transport from DESY to PETRA - injection main 1 hour
magnet → 3000 A

2^{45} magnet → 7500 A injection works again

4^{00} Becker replaced Felst

4^{00} μ-elevato missing: 14

4^{09} JDAS readout error 33 — missing LAM branch 4 crate 1 : I.D ring 2

4^{30} I.D. VTX chambers — s/h trip. reset OK.

4^{44} JDAS error 33 - missing LAM br. 4 cr. 1 : I.D. ring 2

4^{59} " " " 2 3 : TOF 1

7^{45} JDAS readout error 33 - missing LAM branch 4 crate 1 : I.D ring 2

8:00 Hedgecock + Heinzelmann

8:20 Gas check OK.

8:25 Beams lost, all chambers trip.

10.55 Steps done (been two "magnet fluctuations" down to 7483 — reset manually.

11.55 Magnet down again gone on a walkabout down to 7473 — —"— —"—.

SEVERAL (6) JDAS READOUT ERROR 33 — MISSING LAM BR 4 CR 1 IR RING 2
(23) BR 2 CR 3 TOF 1

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{LG}>6$GeV	T_2 Bit 17 $2T\cdot E_4 \geq 2TR$
24109	1.11.85	0:22	0:57	5.63	5.82	17.3	2057	8002	5104	535	93	5668	4404	937	56
24110	"	0.58	1.33	4.95	5.14	17.3	2056	8002	5097	535	92	5652	4465	916	48
24111	"	1.33	2.08	4.37	4.56	16.9	2052	8002	5028	535	90	5690	4239	990	49
24112	"	2.08	2.26	3.87	4.05	15.5	1047	4015	2460	272	42	2852	2180	487	15
24113	"	2.53	3.03	7.09	7.24	10.5	408	1122	909	106	11	743	578	265	13
24114	"	4.02	4.54	7.61	7.75	11.7	3103	8001	6407	807	94	5320	4631	1866	95
24115	"	4.55	5.48	6.15	6.22	10.9	3150	8001	6290	819	90	5484	4608	1899	86
24116	"	5.50	6.23	4.98	5.00	18.7	1930	8001	5141	501	94	5677	4512	961	49
24117	"	6.23	6.51	4.42	4.43	17.5	1645	6557	4127	428	75	4669	3710	749	46
24118	"	13.14	13.15	7.75	8.07	41.7	62	283	196						
24119	"	13.16	14.16	7.69	8.00	11.6	3102	8002	5982	807	94	5656	4075	1734	96
24120	"	14.16	14.50	5.25	6.27	22.0	2011	8002	4982	523	115	5916	4162	866	60
24121	"	14.51	15.34	4.58	5.53	17.2	2063	"	4749	537	92	5952	3999	791	51
24122	"	15.35	15.50	3.42	3.99	20.8	846	3388	2038	220	46	2540	1658	325	27
24124	"	20.18	22.46	6.15	6.39	17.8	1452	4030	2641	378	67	2317	1469	623	38
24125	"	22.44	23.20	5.49	5.74	29.3	2126	8001	4498	553	162	4848	3226	643	~~49~~ 46
24126	"	23.21	23.27	4.72	4.96	30.2	325	1229	660	85	26	716	516	86	5
24127	"	23.27	0.31	4.59	4.83	12.8	3786	8002	5067	985	126	4872	3043	1209	64
24428	2.11.85	0.33	1.03	3.56	3.78	7.4	1809	3203	1992	470	35	2319	1367	551	32
24429	"	3.05	3.56	8.73	8.58	12.5	3029	8001	5519	788	58	5568	4297	1548	88
24130	"	3.56	4.55	6.48	6.91	11.4	3320	8001	5646	864	88	5728	4123	1652	83
24131	"	4.56	5.26	4.88	5.31	15.5	1754	6344	3561	457	91	4709	3132	624	28
24132	"	7.41	8.25	7.54	7.82	10	2441	5789	4347	635	66	4095	2808	1130	56
24133	"	8.51	9.39	8.53	8.18	17.6	2855	8001	6076	743	131	5151	4710	1616	97
24134	"	9.39	10.41	6.62	6.48	9	3654	8001	5816	950	89	5552	4327	1572	101
24135	"	10.41	11.21	5.14	4.99	14	2323	8002	4501	604	86	5977	3861	834	30
24136	"	12.02	12.52	8.70	8.57	15.8	2941	8001	5977	765	121	5276	4567	1624	105
24137	"	12.52	13.26	6.83	6.04	12.3	1977	4996	3742	514	63	3456	2668	1079	46
24138	"	13.26	14.03	5.89	5.21	16.7	2198	8002	4719	572	95	5791	4186	919	47
24139	"	14.04	14.41	5.04	4.46	13.8	2210	7602	4168	575	79	5552	3883	782	38
24140	"	15.10	16.06	8.28	8.11	13.7	3179	8002	5912	827	114	5381	4382	1594	81
24141	"	16.07	17.01	5.74	5.70	8.6	3555	7110	5017	925	80	5032	3628	1427	76
24142	"	17.07	17.45	4.27	4.31	13.1	1635	5369	2831	426	56	3919	2702	489	25
24143	"	18.43	18.49	8.07	7.76	46.1	324	1528	1041	845	39	991	762	162	9

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	<L> 10^{30} cm^{-2}s^{-1}	Bhabha $\int L dt$ nb^{-1}	$\int L dt$ EXP. ENERGY	IBM / TAPE OUTPUT	At Run Start ID (μA)	TOF (V)	ONLINE REJ. SUM MIPROC T_2 %	NORD-50 T_1 & T_2 %	Σ Bhabha	MH	E_{BEAM}	Mag. Field -1+ Gauss	Remarks

N50	MIP	TOF	FAMP	<L>	Bhabha $\int L dt$	$\int L dt$ EXP. ENERGY	IBM / TAPE	At Run Start ID (μA)	TOF (V)	ONLINE REJ. SUM MIPROC	N-50	Σ Bhabha	MH	E_{Beam}	Mag. Field	Remarks
ON	ON	ON	OFF	4.22	10.76	158.26	IBM	0.2	1.3	53	37	189	1	17.501	4840	Full Trigger
"	"	"	"	3.68	8.82	167.08	"	0.2	1.3	54	37	155	3	17.500	4840	" "
"	"	"	"	3.36	8.65	175.73	"	0.2	1.3	52	38	152	4	17.501	4840	" "
"	"	"	"	2.80	3.81	179.54	"	0.2	1.2	53	40	67	0	17.501	484	" " Beams dumped
"	"	"	"	7.14	3.64	183.18	"	0.3	1.5	48	20	64	1	17.500	4840	Reduced Trigger Beams lost.
"	"	"	"	6.69	22.71	205.89	"	0.2	1.6	51	21	355	6	"	4840	Reduced Trigger
"	"	"	"	4.91	15.77	221.66	"	0.2	2.0	55	22	277	7	"	"	Reduced Trigger
"	"	"	"	3.64	8.88	230.54	"	0.2	1.4	54	37	156	2	"	"	Full trigger
"	"	"	"	3.04	4.27	234.81	"	0.2	1.3	55	38	75	1	"	"	" " Beams dumped
"	"	"	ON	4.92	0.34	235.15	"	0.3	2.0	44	35	6	1	17.500	4860	Stop to switch to Red-trig.
"	"	"	"	5.92	20.89	256.04	"	0.3	2.0	52	26	367	7	"	"	Red-trig.
"	"	"	"	3.93	8.77	264.81	"	0.2	1.2	56	39	154	6	"	"	full-trigg.
"	"	"	"	3.25	6.60	271.41	"	0.12	1.0	56	42	116	4	"	"	" "
"	"	"	"	2.09	2.16	273.57	"	0.2	1.12	57	41	38	0	"	"	" " Beam changed.
"	"	"	"	4.63	8.60	282.17	"	0.3	2.0	37	35	151	3	17.501	4841	Red'd trig 24123 IS JUNK stop to goto ALL trigs
"	"	"	"	3.51	8.08	290.25	"	0.2	0.8	44	45	142	3	"	4840	Full trigs Beam steps changed to make room
"	"	"	"	3.33	1.42	291.67	"	0.2	0.7	43	49	25	1	17.500	4839	Full trigs. stop to goto Reduced trig removed
"	"	"	"	3.17	12.98	304.65	"	0.2	0.7 0.5	43	38	228	5	17.501	4839	dummy Run 27427 puts cable
"	"	"	"	2.43	5.29	309.94	"	0.2	~~2.5~~	52	39	91	1	17.501	4840	Beam dumped.
"	"	"	"	6.19	20.72	330.66	"	0.4	1.5	53	32	364	8	17.500	4846	Reduced Trigger
"	"	"	"	6.11	23.23	353.89	"	0.4	1.0	53	30	408	13	17.501	4844	" "
"	"	"	"	4.12	7.25	361.18	"	0.3	0.8	55	45	128	3	17.500	4844	Full Trigger. Beams dumped
"	"	"	"	7.32	19.01	380.19	"	0.4	1.1	51	26	324	14	17.500	4844	beams lost
"	"	"	"	7.07	28.06	403.25	"	0.5	1.5	48	25	405	5	—"—	4840	REDUCED TRIGGERS
"	"	"	"	5.39	21.29	424.54	"	0.35	0.7	51	28	374	11	—"—	4840	—"—
"	"	"	"	4.08	10.08	434.62	"	0.4	0.7	54	45	177	5	—"—	4840	NORMAL TRIGGERS, Beams dumped
"	"	"	"	6.55	23.48	458.10	"	0.7	1.5	50	26	412	6	17.501	4840	REDUCED TRIGGERS.
"	"	"	"	6.41	14.00	472.10	"	0.4	1.1	51	26	246	8	17.501	4842	—"— —"—
"	"	"	"	4.63	11.73	483.83	"	0.2	0.7	54	42	206	2	17.500	4842	NORMAL TRIGGERS
"	"	"	"	3.67	9.34	493.17	"	0.25	0.6	53	46	164	4	—"—	4840	NORMAL TRIGGERS. BEAMS DUMPED
"	"	"	"	7.30	25.11	518.28	"	0.7	1.2	49%	27	441	7	—"—	4840	REDUCED TRIGGERS
"	"	"	"	5.05	19.59	537.87	"	0.6	0.8	51	30	344	11	17.501	4840	" "
"	"	"	"	2.98	5.81	543.68	"	0.4	0.6	53	49	102	1	17.501	4838	Normal Triggers
"	"	"	OFF	3.49	1.77	7371.14 nb^{-1} right	"	1.2	2.5	45	34	26	1	19.140	4838	Normal Triggers. — stop to → reduced

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{LG} > 6$GeV	T_2 Bit 17 $2T \cdot E_4 \geq 2TR$
168															
24144	2.11.85	1850	1933	7.82	7.54	18.7	2601	8002	5925	677	127	4889	4571	1494	114
24145	"	19^{34}	20^{27}	6.46	6.30	14.0	2852	8002	5881	742	104	5319	4384	1565	119
24146	"	20^{28}	20^{59}	5.01	4.91	22.5	1856	8001	5056	483	109	5686	4056	783	55
24147	"	20^{59}	21^{30}	4.43	4.36	18.2	1686	7036	4318	439	80	5211	3493	673	34
24148	"	22^{10}	22^{59}	7.80	7.72	12.6	2955	8002	5957	769	97	5398	4109	1645	93
24149	"	23^{00}	23^{31}	6.32	6.30	21.9	1846	8001	5065	480	105	5662	4111	800	56
24150	"	23.32	0.04	5.58	5.58	21.2	1897	8001	4938	494	105	5676	4127	842	74
24151	3/11/85	0.04	0.36	4.93	4.96	19.6	1936	8002	4966	504	99	5818	4049	807	55
24152	"	0.37	0.58	4.31	4.39	19.0	1235	5147	3143	321	61	3735	2510	461	29
24153	"	1.00	1.28	3.94	4.06	17.1	1531	6169	3763	398	68	4625	2942	611	39
24154	"	1.52	2.06	8.58	8.51	13.7	825	2424	1847	214	29	1580	1213	478	26
24155	"	2.38	3.26	6.99	7.73	16.2	2675	8001	5923	696	113	5160	4429	1584	110
24156	"	3.27	4.13	5.63	6.31	15.8	2745	8002	6089	714	112	5454	4017	1715	106
24157	"	4.13	5.04	4.59	5.13	12.1	3034	8002	5956	789	95	5573	3881	1650	126
24158	"	5.05	5.43	3.76	4.23	10.8	2273	5506	4091	591	64	3896	2603	1115	69 ~~703~~
24159	"	6.18	7.02	8.46	8.58	15.0	2610	8002	6115	679	102	5247	4556	1650	90
24160	"	7.02	7.50	6.86	7.03	13.0	2855	8002	5980	743	97	5287	4489	1682	107
24162	"	7.51	8.23	5.41	5.66	39.0?	1616	6768	3570	420	164	3683	2807	543	37
24163	"	8.24	8.58	4.49	4.73	18	2045	8002	4857	532	97	5789	4185	805	44
24164	"	8.58	9.02	3.90	4.14	16.3	133	812	493	50	8 ~~47~~	603	328	76	5
24165	"	9.27	9.35	8.48	8.48	14.0	357	1051	803	93	13	684	543	20	11
24166	"	10.07	10.52	8.07	8.58	14.3	2699	8002	6163	702	100	5311	4551	1657	111
24167	"	10.53	11.22	6.40	6.33	25.2	1691	7359	4792	440	111	5007	4219	857	63
24168	"	12.07	12.51	8.59	8.57	15.7	2611	8002	6126	679	107	5124	4703	1582	108
24169	"	12.53	13.41	6.80	6.92	12.8	2863	8002	5986	745	95	5424	4455	1761	97
24170	"	13.41	14.15	5.40	5.52	18.4	1989	8002	4945	517	95	5741	4185	898	47
24171	"	14.15	14.56	4.67	4.81	17.9	2077	8002	4824	540	97	5763	4055	780	53
24172	"	14.56	15.02	3.94	4.10	16.1	308	1341	771	80	13	970	564	136	5
24173	"	20.12	20.31	7.24	7.16	11.9	1101	3023	2255	286	34	2064	1561	640	46
24174	"	20.32	21.01	6.70	6.62	26.6	1694	8001	5374	441	117	5697	4056	802	58
24175	"	21.01	21.31	5.92	5.88	24.6	1796	8002	5191	467	115	5674	4153	738	54
24176	"	21.32	22.00	5.20	5.22	23.4	1700	7875	5194	442	104	5710	3860	796	46
24177	"	22.29	23.05	7.92	6.13	11.8	2141	5578	4198	557	66	3836	2864	1138	89
24178	"	23.06	23.37	6.85	5.26	19.7	1870	8001	4960	487	96	5841	3964	797	49

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	$\langle L \rangle$ 10^{30} cm^{-2}s^{-1}	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ EXP. ENERGY	IBM / TAPE OUTPUT	AT RUN START ID (μA)	AT RUN START TOF (V)	ONLINE REJ. SUM MIPROC T_2 %	ONLINE REJ. NORD 50 T_1&T_2 %	Σ Bhabha	MH	E_{BEAM}	MAG. FIELD -1x Gauss	REMARKS
ON	ON	ON	OFF	5.54	14.71	7385.85	IBM	1.2	2.2	48	27	216	8	19.141	4841	Reduced triggers
"	"	"	"	4.72	13.55	7399.40	"	0.8	2.2	51	28	149	4	"	"	— " —
"	"	"	"	2.86	6.74	7406.14	"	0.6	1.3	52	38	99	0	"	"	All triggers.
"	"	"	"	2.49	3.75	7409.89	"	0.3	1.1	56	40	55	1	"	"	" beams dumped.
"	"	"	"	7.14	21.93	7431.82	"	0.6	1.8	49	27	322	5	19.140	4840	Reduced triggers
"	"	"	"	4.74	9.81	7441.63	"	0.5	1.3	52	38	144	4	"	"	All triggers
"	"	"	"	3.88	9.26	7450.89	"	0.5	1.2	52	39	136	2	19.141	4844	" "
"	"	"	"	3.43	7.63	7458.52	"	0.4	1.1	54	39	112	5	"	"	" "
"	"	"	"	3.02	3.00	7461.52	"	0.4	1.1	53	40	44	1	19.140	4840	" "
"	"	"	"	2.32	4.49	7466.01	"	0.3	1.1	56	40	66	3	"	4841	" " Beam dumped.
"	"	"	"	8.56	6.88	7472.89	"	0.6	1.8	46	25	101	2	19.141	"	Reduced trigger, beams lost.
"	"	"	"	6.52	19.55	7492.44	"	0.8	1.8	48	27	287	4	"	4842	Reduced triggers
"	"	"	"	4.65	13.96	7506.40	"	0.8	1.6	49	25	205	6	"	4844	" "
"	"	"	"	3,38	10,28	7516,68	"	0.7	1.6	50	27	151	2	19,140	4,841	" "
"	"	"	"	2,35	5,52	7522,20	"	0.5	1.2	51	27	81	3	19,141	"	" " beams dumped
"	"	"	"	8.51	25.33	7547.53	"	0.6	2.1	51	24	372	2	19.140	"	Reduced Trigger.
"	"	"	"	6,28	19,48	7567,01	"	0.5	1.4	50	26	286	4	"	"	~~All~~ triggers [Run 24161 pedestals only — changed to all triggs. 24162 so restarted new run]
~~ON~~	off$_2$	off$_2$		3.39	5,11	7572.21	"	0.4	1.0	3%	49	75	2	19.141	"	All trigger. Run stopped
ON	ON	ON	OFF	3.71	6.47	7578.68	"	0.25	1.0	55	40	95	3	19.140	4841	Full triggers
"	"	"	"	2.80	0.61	7579.29	"	0.2	0.8	52	42	9	1	19.141	4842	beams dumped
"	"	"	"	9.28	3.34	7582.63	"	0.6	1.5	46	25	49	0	"	4846	reduced triggers Beams lost
"	"	"	"	8.48	23.29	7605.92	"	0.6	1.6	51	24	342	5	19.141	4842	reduced triggers
"	"	"	"	5.50	10.01	7615.93	"	0.5	1.3	52	36	147	9	"	"	all triggers. Beams lost
"	"	"	"	8.57	20.97	7636.90	"	0.6	1.6	50	24	308	10	19.140	4847	reduced triggers
"	"	"	"	6.27	19.75	7656.65	"	0.55	1.3	52	26 ~~56~~	290	10	"	4850	" "
"	"	"	"	4.24	10.08	7666.73	"	0.4	1.0	54	39	148	2	19.141	"	Full triggers
"	"	"	"	3.28	7.69	7674.42	"	0.35	0.84	53	41	113	2	19.140	"	" "
"	"	"	"	2.68	0.82	7675.24	"	0.3	0.80	47	~~44~~	72	0	"	4849	" " Beams dumped
"	"	"	"	6.52	7.22	7682.46	"	0.6	2.1	51	26	106	1	19140	4847	reduced triggers
"	"	"	"	5.07	9.06	7691.52	"	0.5	1.7	52	34	133	4	19140	4850	full trigger
"	"	"	"	4.11	6.61	7698.13	"	0.4	1.5	53	36	97	1	"	4863	"
"	"	"	"	3.42	7.15	7705.28	"	0.4	1.5	52	35	105	2	"	4864	" e$^-$ beam lost
"	"	"	"	6.17	15.12	7720.40	"	0.5	1.5	51	26	222	7	"	"	reduced trigger ~~e$^-$ beam lost~~
"	"	"	"	4.63	9.81	7730.21	"	0.4	1.1	54	39	144	1	"	4844	full trigger

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{LG} > 6$GeV	T_2 Bit 17 $2T \cdot E_4 \cdot \geq 2TR$

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	$\langle L \rangle$ $10^{30}\,cm^{-2}s^{-1}$	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ EXP. ENERGY	IBM TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ONLINE REJ. SUM MIPROC T_2 %	ONLINE REJ. NORD-50 T_1 & T_2 %	Σ Bhabha	MH	E_{BEAM}	Mag. Field ~1 x Gauss	Remarks

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16[00] Duerdoth & Riesebeng.
16[15] Gas check done, o.k.
17[20] TOF rate fluctuates : Three soft trips of ID and VTXC
17[44] Stop for refilling. We have been running for 2 1/2 day at 17.5 GeV ; Mean 246 nb^{-1}/day (blocked)
18[40] New fill is again at 19.14 GeV = E_{beam}
At Run start FAMP switches off : YPARA 71 INFO 99, SLAVE 2, ERROR 1

YIBMPC : Bad Data Command 127 Data = W 23 0 later 21 0
20[05] TOF rate → > 10 Volts
22 - Message 'WAITING FOR Ixxxxxx' is corrupted on screen. New fill ready.

Since Run 24123 (21[52] on 1.11.85) in all RUN SUM Printouts the Error 6 RECORDS DROPPED (>8000 words) appears. Exit and start of JDAS doesn't help.

S. Bethke comes and brings the first full FADC - crate.

23[25] PC has found a VTXC Error ~7 times on this shift. +1=8

0.00 SUNDAY 3/11/85 Jan Chin & Fred Loebinger

0.10 Gas check done — O.K.
1.00 Trigger hang-up with Watchdog flag. Cleared by stopping run & restarting
2.05 Beams lost
3.50 Changed paper in vertex chamber chart recorder.
6.00 Notice that for all runs with "REDUCED TRIGGER" the muon checksum distribution has 3 peaks instead of the usual 1. This type of distribution could be caused by multiple hits in the inner chambers.
Approx 10 VTXC errors during night shift.

8.00 Kuhlen and Krehbiel on shift
8.17 Soft Trip VTCH + JTCH because of TOF Rate, which went to 5 Volts for ca 30 sec. After that the PETRA crew got it under control again. Run paused
8.20. Discovered that after Pause-Continue the MP-76 and the TOF-Micro and the FAMP were off. No idea if they were off before. Stop Run to start them. (except FAMP)
8.30 Gas check okay Probably yes. See deadtime & rejection rate.

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8[50] JDAS Err. 33 Miss LAM b. 4 Cr. 1 ID Ring 2 twice
9[35] Beams lost. All chambers alarm. Petra hadn't noticed ~~anything~~ for 3 min until our call.
11[15] JDAS Err. as above.
11[20] Beams lost. All chambers tripped
11[30] "Short break" Magnet run down to 750 A.
11[50] "Injection" Magnet up again.
12[05] Beams up again
14[27] Mixed errors: NORD: NORD-50 busy No triggers. After stand Pause - Continue: Printed on console ? YIBMPC Bad data Command = 127 Data = ER 21
IBMPC: Nord terminal. + ? ? ?
14[40] VTCH + JETCH soft trips. ~~Trigger~~ TOF rate excursion.
14[42] Same again. Petra does not know the reason, may be a tripping power supply somewhere
→ Still the same
15[10] Short break. After ~~beam dump~~ proper beam dump. Power Supply failure at PETRA magnets. JADE magnet down.

16[00] A. Dieckmann u. G. Kukes
16[15] Gas check done
One NEW Power Cell unit is down. External authorized expert has to come in to fix it.
19[30] Injection in PETRA begunt
22[00] e^- beams lost
22[35] 4) YSPY dbl. error
22[40] 4) " " "
23[04] 4) " " " missing LAM branch 2 crate 3 : ~~TOF1 ch~~
23[30] 4) YSPY dbl. error
23[50] 4) " " "

85 Nov 4 Monday Duerdoth & Ramcke

00[00] Gas Check done.
00[50] YSPY Trigger 1 input 26, Trigger 1 output 34 missing. ? TOF TDC 44 noHits
HISTOGRAM shows TOF 44 in DEAD — Shall I call expert!
01[00] beams dumped 6 hrs to go. — Thats just right for two fillings.
01[30] JDAS READOUT ERROR 33 Missing LAM Br 4 crate 1 ID ring 2 : 4 times.
YSPY Tr 1 IN 26/OUT 34.
04[20] Several IBM JAM-s.
4[00] PKR have hvac cooling trouble & are unable to fill.
5[30] beams dumped 5[30] PKR announce no possibility to FILL! so thats it folks. packup & go home.
JADE Magnet turned off. Muon Chamber HTs turned off.
A cat has nine lives. How many does PETRA have left?
7[00] Going home !!

RUN	DATE	START	STOP	AT RUN START I+	AT RUN START I−	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL ×10⁶	TØ REJ ×10⁶	T_1 Acc SUM	T_2 Acc SUM	T_1 Bit 2 $E_{LG}>6$GeV	T_2 Bit 17 $2T\cdot E_t\geq 2TR$
24179	85 Nov 4	23^{38}	00^{10}	6.05	4.61	18.9	1922	8001	4959	500	95	5791	3985	803	44
24180	"	00"	00^{44}	5.34	4.05	17.1	1995	8002	4776	519	88	5894	3940	783	45
24181	"	0045	01^{02}	4.72	3.56	16.4	1000	3974	2374	260	43	2981	1826	376	21
24182	"	01^{27}	02^{12}	8.67	8.62	17.7	2513	8002	6141	654	116	5196	4558	1633	90
24183	"	2^{13}	2^{58}	6.84	6.99	15.3	8697	8002	6054	702	107	5224	4667	1642	109
24184	"	2^{59}	3^{43}	5.61	5.69	12.1	2998	8002	5959	780	94	5623	4052	1202	126
24185	"	3^{50}	4^{21}	4.51	4.60	24.2	1793	7999	5130	466	113	5871	3805	786	62
24186	"	4^{22}	4^{54}	3.97	4.07	23.0	1933	8002	5075	502	116	5899	3871	757	60
24187	"	4^{55}	5^{19}	3.50	3.60	18.3	1441	5992	3731	375	69	4468	2822	567	35
24188-97	"							ID Pulser Runs (see page 174)							
24198-24200	"							VTXC "						"	
24201	24.1.86	17.24	17^{57}												
24202	"	17.57	18^{53}												
24203	31.1.86	17.34	17.52												
24205	7.2.86		15^{36}				Cosmic test run, Read out 77730B (no z, μ-vertex ch)								
24206	"	15^{37}	16^{11}			844 events			"		"				
24207	"	16^{18}	16^{25}			275 events	Any test, full trigger				"	"			
24208	"	16^{29}	abend			~1000 "	"		"		(except Reading)	"			
24209	"	17^{18}	18^{11}			1304	"		"		"	"			
24212	12.2.86	19.26	20.37			2064 "	Cosmic test run, 2064		2064		77750B				
24213	13.2.86	21.47													

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	$\langle L\rangle$ $10^{30}\,cm^{-2}s^{-1}$	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ EXP. ENERGY	IBM TAPE OUTPUT	AT RUN START ID (μA)	AT RUN START TOF (V)	ONLINE REJ. SUM MIPROC T_2 %	ONLINE REJ. NORD-50 T_1 & T_2 %	Σ Bhabha	MH	E_{BEAM}	Mag. Field −1.6 Gauss	Remarks
ON	ON	ON	OFF	3.59	6.54	7736.75	IBM	0.3	0.9	53	39	96	3	19.141	−4844	full trigger
"	"	"	"	3.16	6.33	7743.08	"	0.25	0.8	54	41	93	1	"	"	"
"	"	"	"	2.59	2.79	7745.87	"	0.2	0.8	54	42	41	1	"	"	" beams dumped.
"	"	"	"	8.12	22.47	7768.34	"	0.6	1.9	50	24	330	9	"	4839	Reduced trigger
"	"	"	"	6.10	17.10	7785.84	"	0.5	1.6	52	45	257	6	"	"	" "
"	"	"	"	3.99	13.96	7799.80	"	0.5	1.5	52	27	205	7	"	4843	" "
"	"	"	"	2.63	5.38	7805.18	"	0.3	1.2	53	37	79	2	"	"	full trigger
"	"	"	"	2.02	3.61	7808.79	"	0.2	.85	54	38	53	1	"	"	" "
"	"	"	"	1.72	2.52	7811.31		0.2	.95	53	39	37	2	"	"	" " beams dumped.
							IBM TAPE									
						1986										
							IBM	0	0.04							Cosmics FADC
							"									" "
							"									" "
ON	OFF	OFF	OFF				IBM			very short, discard						Cosmics
ON	ON	ON	OFF				"								-4847	"
"	"	"	"				"								"	"
"	"	"	"				"								-4851	" stopped by NORD up
"	"	"	"				JOAS04								-4850	"
"	OFF	"	"				IBM									Cosmics for P. Lausik.

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{LG} > 6$GeV	T_2 Bit 17 $2T \cdot E_4 \cdot \geq 2TR$

4.11.85 ID-Pulser Runs

Program PEDGN

Run #		Records
24188	4 Ped	72
24189	1 Gain L+R	733
24190	2 Gain L+R	732
24191	3 Gain L+R	770
24192	4 Ped	74
24193	1 Gain L+R	733
24194	2 Gain L+R	733
24195	3 Gain L+R	650

Reformatted IBM Tape should be called
F11 HEV. PULSER . R 24188 R
24195

Program TZERO

Run #			Records
24196	L	80 steps	1803
24197	R	80 steps	1753

F11 HEV. TZERO . R 24196 R
24197

14:00 VTXC-Pulser Runs

Run # 24198
" 24199
" 24200
} on Mag-TAPE

JDAS Ø3
JDAS Ø2

IBM Online Disc Empty
System Disc Backup 6.11.85 J.O.

11/11/85

7:50 several short power fails → Nord + Plessey hang up / System crate is beeping and shows "overload" HV alarm is also beeping (?!) . I think it's a good idea to switch off HV disc drive. (HV)
Nord, Disc, Plessey, TOF ok! J.O.

Installation of FADC-System for ID during Winter Shut Down

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	<L> $10^{30}\,cm^{-2}s^{-1}$	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ EXP. ENERGY	IBM TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ONLINE REJ. SUM MIPROC T_2 %	ONLINE REJ. NORD-50 T_1 & T_2 %	Σ Bhabha	MH	E_{BEAM}	Mag. Field ~1 x Gauss	Remarks

1986

21.1.86 15⁰⁰ Magnet on, and to 7500 A . ID on
16³⁰ " off
22.1.86 11³⁰ Magnet on, → 7500 A . HT of ID on .
13⁰⁵ " off
17²⁰ Magnet on
Cosmic Run - first with FADC-system
19⁰⁰ Magnet off

23.1.86 11⁰⁰ – 13¹⁰ Cosmic Runs
24.1.86 17⁰⁰ Cosmics to IBM Runs # 24201
" # 24202
19⁰⁰ off.

27.1.86. All photomultipliers from the inner ring of the trigger system renewed and tested. JH

30.1.86 Nord system disc backup up to disc C.
System disc directory regenerated ok
System and JDAS rebuilt.

Experiment number changed from 26 to 27 - start of new year!!

31.1.86 15³⁰ Magnet on . Cosmic Runs
17⁵⁵ Magnet off.
5.2.86 16⁰⁰ Cosmic Run with VTXC
17⁵⁰ Magnet off.
21⁰⁰ Plessey program updated for new JETC format. Still to be tested with cosmics! J.O.

6/2.86 PXR at 16⁰⁰: Interlock must stand tomorrow morning, must not be broken!

6.2.86 20⁰⁰ The new Plessey program was tested in a cosmic run, seems to perform well as far as ZVTX is concerned. The TRANS part can only be tested with beam data. J.O.

Runs 24206-208 at IBM to be tested. Dumped

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{LG} > 6$GeV	T_2 Bit 17 $2T \cdot E_4 \cdot \geq 2TR$

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	<L> $10^{30}\,cm^{-2}s^{-1}$	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ EXP. ENERGY	IBM TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ONLINE REJ. SUM MIPROL T_2 %	ONLINE REJ. NORD-50 T_1 & T_2 %	Σ Bhabha	MH	E_{BEAM}	Mag. Field -1 x Gauss	Remarks

13.2.86 9[52] NORD computer was on STOP when we arrived. RELOAD o.k. N.H. & H.K.
14.2.86 13[54] CAMAC clock set to GMT +1 hr. HEM.
16[00] H.Mills & J.Olsson magnet watching. PKR say JADE magnet not required before tomorrow daytime.
21[40] Leaving controlroom. PKR says all weekend foreseen for beam testing, no pause for cosmic tests. J.O.

11[00] W Bartel, S Cartwright on shift
11[12] PKR wants JADE magnet
1. Somebody had closed the main valve in the main cooling circuit of the magnet. What was it? K and or JADE (Rissling did it)
2. Cannot power the magnet suspect a failure in the 'Hilfstrafo'
3. Looking for ID-expert to switch on air cooling → cooling on again

Note: All operations with the magnet should be done by K except for the normal changes in magnet current during shifts.

12[38] K-people left again (magnet problems at PETRA. They will come back later to fill up the oil in the power supply. Larsen has been informed by them.

14[30] K-people are still busy in the Petra ring tunnel & there is a short to ground in the magnet circuit. Pillat is also on the site. He will come to us after the work in the Petra tunnel is finished.

16:00 Krehbiel and Hellenbrand on shift

17:00 RESTART 17.2.86 7.00 H
PROBLEMS WITH DESY MAGNET

proceeding: 1 check by each shift crew over the weekend

Date	Time	Shiftperson	temperature hardware room	gas check
15.2.86	23[30]	P. Warming	20.5°C	done OK
16.2.86	9[50]	P. Warming	20.7°C	done OK

16.2.86 10[00] Naroska, Smolik on shift 17[00] GAS CHECK DONE cRH
" 21[00] Temp. Hardware room >21°. Switched on one compressor of air-conditioning by hand, all wese not busy. One has "Störung". HK3-people not reachable.

Phoned "technischen Notdienst", they will have a look, but probably don't help.
Switched off Z-ch DC8's for safety. H. von der Schmitt will watch the system and evtl. switch of FADC (ID) tonight.

22[45] GAS CHECK COMPLETED – cRH HARDWARE Room TEMPERATURE 20.5°C.
23[20] " 20.3°C.
23[50] In the FADC corner it is obviously warmer than in the rest of the hardware room. 20.6°C
The 20.5°C are not dangerous for the FADCs (and in fact it is that warm since several days already!). → FADCs not switched off. Still → fix air condition! NvdS

Monday 17[th] February

4[55] No alarms... Computer room rather warm temp in H/W room 20.2°C HFH

8[00] Bartel & Chrin on shift.
8[10] Gas check complete! P22 reading 0 (at 14:00 hrs. P22 reading 2,0. from 15/2/86). should be >0.

Message on TV screen. Restart 17.2.86. 15[00] hrs. Problems with Desy Magnets.
8[20] Larsen started repair of one magnet
Leadglass power units in racks 5Ab claim fan failure.
8[30] Larsen / Pillat: there is not sufficient oil in the main transformer. They will refill it.
DESY-Problems: In the DESY-ring several (~5) magnet cables are damaged, probably due to aging. The actual damage was caused by sparks.

Readout has long delay in case of SETC MISSING LAM

16[00] Weber, Bethke on shift
Status: - there is no magnet status at all (Pillat unreachable)
- Petra: "restart 17[00]". Phoned and asked: earliest expected time to start is ~19[00], or much later in case a magnet is damaged.
- gas-check: done.

17:30 "magnet man" told us that the magnet is operative again. We tested it...
→ running the magnet manually worked, but computer controlled not.
17:30 After some problems, start to take cosmics for P. Warming. Everything works fine.
21:50 Run: 24212.
Magnetic field switched off, since there is still trouble with squadratron.

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{LG} > 6$GeV	T_2 Bit 17 $2T \cdot E_4 \cdot \geq 2$TR

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	$\langle L \rangle$ 10^{30} cm^{-2}s^{-1}	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ EXP. ENERGY	IBM TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ONLINE REJ. SUM MIPROC T_2 %	ONLINE REJ. NORD-50 T_1 & T_2 %	Σ Bhabha	MH	E_{BEAM}	Mag. Field 1 x Gauss	Remarks

17
18.2.86 PETRA - Monitor shows "RESTART 22222". The magnet is turned off
22.00 I try to inform Hellenbrand, not to come in before calling PKR when he gets up for the night shift. No success. Therefore I tell PKR to call him, in case they need our magnet between 0^{00} and 8^{00} to-morrow, and I leave them my tel. number till midnight, and I quit.

18.
19.2.86 Narrow
20.37 Still no clear message from Desy. The power supplies are being tested. Hellenbrand's telephone number in PKR. He goes to sleep and hopes not to be called. Experiment is finished
0.54 Gas check done

8^{00} Hedgecock & Magnussen on shift
8^{15} Gas check o.k.

11^{40} "LUMINOSITY RUN" on PETRA-TV
μ-dr readout not working - permanently missing CAM's in test runs
- Jan Olsen and P. Warning working on it.

11^{50} Nord hang up due to disk fault
run down disc, run it up again works OK.
restart Nord
tagging HV zero
12^{30} TAG HV ok
12^{59} Start writing data to IBM Run 24214

14^{00} Problem with trigger coincidences fixed.
"Standard" readout changed to 77775B (also in YPROC) to omit Z trigger.

16^{00} H. Mills + R. Ramcke on Shift

State of JADE - Muon readout seems not to work - (During test runs at least.)
No Lumi trigger in run 24214! ∴ No synrad histos [Cured]
Scalers may not work! No Deadtime or lumi on TV [Cured]
Control of Magnet by computer does not work.

Magnet lowered to 500A for energy saving.

During gas checks overnight, you may notice that the ETHANE & ARGON flow rates are high. So long as the main readings are reasonable, do not worry, H-J. SEIDEL will check again tomorrow and hopefully we will get things just right over the next couple of days! CRH

Magnet steep-walks. Its like old times!

18^{50} Back up of disc made. IBM is off with a hardware problem.
PKR complain they get no luminosity measurement. Nor do we.

Magnet unstable
N. Magnusson says not to worry about LA power supplies being slightly off
21^{30} The lack of LUMI triggers was due to a NIM crate in rack (luminosity crate) having no power although the power light was on & alarms off. Hans Krebiel suggested this! We cleaned air inlets with vacuum cleaner & switched on - LUMIs!
Exchanged the right-hand scaler module — seems to be cured.
21^{47} We start a run to IBM! #24215
Two Z-chamber trips

Filtering Status	
MIPROC-16	ON & Filtering (because we cannot run at all without it (DTime))
NORD-50	ON but those rejecting on ID data just marking
FAMP	OFF

Muon crate 12 went missing several times
Std histograms taken
Give up on crate 12 - now reset@crate nor down in pit have any effect

19/2/86
0^{00} Catwright & Schneekloth on shift
0^{05} Gas check done
0^{45} Finally get run started after 15 min fiddling with TOF-rate top threshold (Z-chamber anode current says conditions are OK really). Vertex chr anode current shows <0
0^{50} Soft trip of D & VXC — TOF rate again

RUN	DATE	START	STOP	AT RUN START I+	AT RUN START I−	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL ×10⁶	TØ REJ ×10⁶	T₁ ACC SUM	T₂ ACC SUM	T₁ Bit 2 E_LG > 6GeV	T₂ Bit 17 2T·E_4 ≥ 2TR
24214	18/2/86	12 57	13 11	4.95	5.02		785	2860	2388	~	~	2269	1073	159	18
24215	"	21 47	23 16	5.27	5.54	26.6	~~4781~~ 4124	7509	6510	1243	318	4593	4785	1556	109
24216	"	23 18	23 40	3.85	4.15	21.2	1799	1370	1143	242	51	879	952	267	12
24217	19/2/86	0 48	2 31	5.31	6.76	23.5	5130	8002	6930	1021	313	4795	5606	1714	120
24218				No run summary — disc problems											
24219	"	3 14	3 15	3.00	4.31	31.8	50	189	120	9	4	120	79	18	0
24220		4 04	Yes Junk — problem with ID readout												
24221	"	4 08	4 27	5.68	6.22	37.6	1087	2853	2156	285	107	1755	1872	359	0
24222	"	4 30	4 38	5.19	5.78	36.1	417	1145	838	108	38	743	686	145	0
24223	"	5 00	5 08	4.54	5.25	34.4	291	754	565	76	26	482	483	88	0
24224	"		JUNK — VTXC µPROC NOT LOADED												
24225	"	5 10	6 08	4.31	5.03	35.4	3371	8001	5958	877	310	5091	5592	971	45
24226	"	6 08	6 48	3.55	4.18	32.5	2334	5559	3961	608	197	3576	3633	646	47
24227	"	16 28	16 47	3.79	4.04	24.1	947	1407	1244	246	59	790	1035	318	11
24228	"	19 38	20 13	6.52	6.61	28.0	2048	3638	3257	533	149	2102	2499	834	37
24229	"	20 19	20 27	5.44	5.79	25.3	374	698	617	97	25	406	442	154	8
24230	"	20 27	22 17	5.30	5.64	20.0	5815	8002	6939	1513	302	4881	5761	1829	66
24231	"	22 17	22 18	3.61	3.99	~~0.0~~	~~0~~	60	48	/	/	25	0	5	0
24232	"	22 19	22 22	3.60	3.97	25.6	151	327	218	39	10	206	207	29	2
24233	"	22 55	0 33	6.51	6.73	21.8	5271	8001	6771	1372	300	4969	5699	1879	54
24234	20/2/86	00 36	00 47	4.08	4.68	17.5	668	850	726	173.9	30.5	521	626	196	7
24236	"	2 40	3 54	5.74	4.62	18.5	4376	5843	4984	1134	211	3644	4279	1334	47
24237	"	4 24	5 21	6.81	7.15	24.3	3176	5185	4488	826	200	3263	3682	1235	40
24238	"	5 24	6 37	5.07	5.69	19.7	4099	5745	4913	1066	210	3646	4034	1286	42
24239	"	9 55	10 47	6.24	6.55	26.3	2607	4404	3389	678	182	2416	3394	943	25
24240	"	11 33	12 17	6.40	7.00	22.3	2462	3476	3002	640	143	1778	3228	549	30
24241	"	12 17	12 28	5 13	5 88	33.4	609	1428	1035	156	52	890	1032	222	5
24242		JUNK													
~~24243~~															
24243	"	13:40	13:58	4.95	5.88	35.7	1073	3213	2610	279	99	2374	1684	312	13
24244	"	13:59	14:18	4.60	5.51	42.1	860	3785	3280	223	94	3086	1267	187	11
24245	"	16 44	16 46	5.12	5.42	42.9	66	348	301	17	7	283	97	19	0
24246	"	20 02	20 36	5.79	6.09	51.1	2037	8002	6991	530	271	5795	3648	~~3648~~ 547	38
24247	"	20 36	20 44	5.11	5.40	55.0	405	1594	1383	~~773~~ 47	~~749~~ 57	1073	747	200	13

Processors ON/OFF NSD	MIP	TOF	FAMP	<L> 10³⁰ cm⁻² s⁻¹	Bhabha ∫L dt nb⁻¹	∫L dt EXP. ENERGY	IBM/TAPE OUTPUT	At Run Start ID (µA)	At Run Start TOF (V)	Online REJ SUM MIPROC T₂ %	Online REJ NORD-50 T₁&T₂ %	Σ Bhabha	MH	E BEAM	Mag. Field −1×Gauss	Remarks
ON	ON	ON	OFF	~	~	1.02	IBM	0.2	2.0	54	17	18	2	17.500	-4844	FIRST RUN OF 1986? Beams lost.
ON	ON	ON	OFF	1.94	10.13	11.15	"	0.2	5.0	52	14	178	5	"	-4938	ended with CAMAC errors REDUCED-TRIGGERS
"	"	"	"	1.73	1.98	12.63	"	0.2	2.5	53	18	26	2	"	"	end " "
"	"	"	"	1.95	12.01	24.64	"	0.3	4	54	14	211	1	"	-4837	µ rate 12 missing most of the time
"	"	"	"					0.2	2.5							
"	"	"	"	1.02	0.06	24.70	"	"	"	55	40	1	0	"	"	beams dumped
"	"	"	"					0.3	43.8							
"	"	"	"	1.53	1.48	26.18	"	0.3	3.5	52	26	26	1	"	4801	stopped because of ID readout errors
"	"	"	"	1.36	1.20	27.38	"	0.3	3.2	52	28	21	0	"	4735	" " " " " " "
"	"	"	"	1.49	0.40	27.78	"	0.2	3.0	54	27	7	0	"	"	stopped because other TV was displaying "NON-STD READOUT"!
								0.2	3.0							never really got started
"	"	"	"	1.53	5.64	33.42	"	0.2	3.2	55	27	99	2	"	4837	
"	"	"	"	1.30	3.59	37.01	"	0.2	2.7	54	30	63	2	"	"	
"	"	"	"	0.89	1.31	38.32	"	0.4	2.9	50	12	23	0	"	4834	REDUCED-TRIG ~~STD~~ TRIGS, beams dumped
"	"	"	"	0.45	4.90	43.228	"	0.25	3.6	50	11	86	4	"	4841	"
"	"	"	"	2.03	0.74	43.96	"	0.2	3.0	46	13	13	1	"	4843	REDUCED-TRIG Run stopped (wrong reader path)
"	"	"	"	2.04	12.52	56.48	"	0.2	3.0	55	14	220	2	"	4844	REDUCED-TRIG
"	"	"	"	0.0	0.11	56.59	"	0.2	2.9	0	27	2	0	"	4840	Full TRIG Stopped due to message "NON STAND READOUT"
"	"	"	"	1.60	0.17	56.76	"	0.2	2.9	52	36	3	0	"	4840	Full TRIG beams dumped
"	"	"	"	3.18	18.50	75.26	"	0.2	3.3	55	14	325	10	"	4839	REDUCED-TRIG
"	"	"	"	2.40	2.05	77.31	"	0.2	2.0	56	15	36	0	"	4844	beam lost
"	"	"	"	2.56	13.66	90.97	"	0.2	2.5	56	15	240	2	"		**norun 24235**
"	"	"	"	3.82	13.78	104.75	"	0.2	3.5	53	14	242	4	"		stopped to reload processors
"	"	"	"	2.75	13.32	118.07	"	0.2	3.0	56	15	234	5	"		beams lost
"	"	"	"	2,81	9,22	127,29	"	~~0,7~~ 0,3	5	57	12	162	2	"	4785	
"	"	"	"	3,92	5,98	133,27	"	0,3	4,2	56	13	105	5	"	4863	Full triggers
"	"	"	"	2,64	2,50	135,77	"	0,2	3,0	55	29	44	2	"	4895	beams lost
									~~0,25~~							
"	"	"	"	2.06	2.45	138.22	"	0.25	~~3.7~~	57	19	43	1	"	4879	~~stopped~~ due to J68K Errors
"	"	"	"	1.68	1.88	140.10	"	0.25	3.4	55	14	33	1	"	4917	Beam lost
"	"	"	"	1.90	0.00	140.10	"		4.0	55	14	0	0	"	4837	
"	"	"	"	2.30	4.90	145.00	"	0.4	~	50	13	86	3	"	4837	
"	"	"	"	1.70	1.02	106.02	"			45	14	18	0	"	4832	

RUN	DATE	START	STOP	AT RUN START I⁺	AT RUN START I⁻	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL ×10⁶	TØ REJ ×10⁶	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 E_{L6}>6GeV	T_2 Bit 17 $2T\cdot E_4 \geq 2TR$

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1 00 Another rift trip — fiddle with TOF-rate threshold again.
Meanwhile: IBM PC INACTIVE message is permanently on, but the PC actually seems to be working.
Muon crate 12 missing again: Jan Chin will come & look at it.
v 1 12 Another rift trips
1 27 Missing LAM br 4 cr 1 : J68K bank
1 33 " " : JETC point 702
1 36 soft JETC + VTC trip ; again 1 56, 2 09
1 40 Muon crate 12 cured by the Indian Rubber Trick. Jan goes home to bed!
1 43 Missing LAM br 4 cr 1 : JETC print 701
1 55 HV read error Lg supply 18 "no response"
2 03 Missing LAM br 4 cr 1 : J68K bank
2 08 Muon crate 12 feeling sick again — missing twice in last five minutes ; resettable in H/W room (no fun)
2 10 Soft trips
2 25 Went and attacked crate 12 again. Switched off, pulled boards out, put back in, switched on : nothing again.
HV read error Lg supply again
2 31 Run 24217 ends normally — 8000 ~~triggers~~ records! (No run summary — plotter stuck)
2 48 Muon crate 12 again
3 00 CRASH! All the HV goes down for no reason and a FAULT light appears on the disc drive. Attempt to wake Howard fails, so rouse Jan Olsen from his sickbed.
On his instructions we move the disc from the blue drive to the orange drive and reload.
All well for 200 events, then beams dumped. Jan says we may find we have a corrupt HV monitor task since this is a possible course of the HV going down. (Later: there was no evidence for this: VOLTS seemed quite OK)
3 45 Magnet "walked" down to 7400 A by itself and refused to listen to the computer. Reset to 7490 A by hand after some see-sawing ; even by hand it seems more unstable than usual.
4 00 Ditto — this time down to 7320 A
4 06 Major trouble with JETC readout — permanently missing LAM br 4 cr 1 JETC print 701
Reload following instructions left by van der Schmidt. Start new run.
4 10 magnet went down to 7300 A, raised the current by hand.
μ Cruise missing frequently
4 21 JDAS READOUT ERROR 33 - Missing LAM br. 4 cr. 1 : JETC Bank
4 22 magnet fluctuating
4 24 JDAS READ... " " "
4 27 " " " JETC Point 701, permanently missing

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	<L> 10^{30} cm⁻² s⁻¹	Bhabha ∫L dt nb⁻¹	∫L dt EXP. ENERGY	IBM TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ONLINE REJ. SUM MIPROC T_2 %	ONLINE REJ. NORD-50 T_1 & T_2 %	Σ Bhabha	MH	E_{BEAM}	Mag. Field -1 x Gauss	Remarks

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4 28 stopped run, reloaded FADC
4 30 new run 24222, magnet down to 7400A
4:39 JDAS READOUT ERROR, ... , JETC 701, permanently missing, stopped run, phoned H.v.d.Schmitt
After reloading the FADC the message 'Processors with non complete setup. FEFCheck = FFF7FFFF appeared on the ELP Console. (H vd Schmidt came and dealt with this problem)
4 45 Magnet down to 7350, raised again by hand. Fifth time in one hour.
4 55 Magnet down to 7400
5 03 Something strange: we start run 24223 & get message on colour TV "NON-STD READOUT" but we haven't changed anything!
5 06 phoned MKK
5 07 Stop run 24223 because of alleged non-standard readout, run summary not printed but retrieved later.
Attempt to start run 24224, get "VTXC PROCESSOR CANNOT BE STARTED" in system console.
Reload VTXC process, try again....
5 20 Magnet going down again, K man is here, so leave it. Result - it goes down to ≈7300 then slowly begins to creep back up; by 5 18 it's at 7450.
Mystified K people appear in control room — they agree it's not good but can't do anything. We have to wait for Herr Pillat to come in the morning.
Meanwhile coax magnet back to 7500 (±5) by hand.
5 50 Magnet fluctuated up to 7560A. Brought down by hand.
5 55 YSPY complains about muon digitiser 34. It has been doing so occasionally all shift.
6 07 Run 24226 also claims to have "NON-STD READOUT", cf 24223.
7 00 Energy saving time. Magnet refuses to run down under computer control ⇒ run down to 1000A by hand.

8-00 Walter, Karlo on duty.
8-20 Coo check done.
9.15 Phone Larsen to repair magnet power supply
Magnet did not stop going up and could not be stabilised at 5000 A.
9 30 Test arrived from Berlin to take shift and replaced Karlo
10 35 ½ hour break — cavity trouble.
12 30 Another break - it's all to do with it.
Herr Teske says we should stay on the Orange disc drive for some days
Magnet people say we should watch magnet current. I wandered down by 20A - on trying to raise it did nothing, then sprang up by 50A. Lower worked OK

RUN#	DATE	START	STOP	AT RUN START I+	AT RUN START I-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL ×10⁶	TØ REJ ×10⁶	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 E_{LG}>6GeV	T_2 Bit 17 $2T \cdot E_4 \geq 2TR$

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	<L> 10^{30} cm⁻² s⁻¹	Bhabha $\int L\,dt$ nb⁻¹	$\int L\,dt$ EXP. ENERGY	IBM TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ONLINE REJ. SUM MIPROL T_2-%	ONLINE REJ. NORD-50 T_1 & T_2 %	Σ_{Bhabha}	MH	E_{BEAM}	Mag. Field 1 x Gauss	Remarks

Night

12^{50} - Call from Becker - REFORM jobs can now be started again in the usual manner.

14^{30} Filling at 17.5 GeV ready, environmous background on the TOF-rate meter again > looked through the counters and found nothing abnormal, reduced the gain of the linear-fan-in's of the rate-meter-system quite a bit until signal height reasonable, switched on jet chamber which showed reasonable, i.e. 10 μA, currents. Morgenroth + Kuhlen working on Cond.-files, Naroska + Krokbee on TOF-rate, Chin on μ-chamber, so far no data written

15^{55} IF there are error messages
VVOLTS : LG distributor n primary HV = 1.9.. should be 1.8...
ignore them, as long as X ——— > 0.00 . N.H.

16^{20} main accomplishment of present shift: main lights in the Hall can be switched OFF
2) transmitter provided to fix the lights in toilet
3) Pellet is limiting the beam for the magnet sleep walk - so far without success!

16^{00} Ambrus + Hagemann on shift

16^{15} Gas check done.
16^{54} Magnet down to 1000 Amps
19^{04} Magnet back to 27500 A by hand — What Nord restart - Why? Nothing noted in book here.
20^{27} Run # 24229 stopped. This was the second run after Nord restart. Without changing anything the readout pattern changed to 077774B. It should be 077775B. So we stopped this run. Set new readout pattern by hand and started new run (# 24230).

If didn't - it's just that normal state is 177776!

22^{18} Run # 24231 stopped after short time. The standard readout pattern changed by itself from 077775B to 077776B. So we got the message "NON-STD READOUT" on colour TV for readout pattern 077775B. We thought that there is something going wrong and stopped this run ⇒ S-R-P to 077775B and started run # 24232. Message "NON-STD READOUT" did not disappear for the new run. After some time ⇒ SWITCH OFF HIGH VOLTAGE

22^{55} After ≈ 15 events the message "NON-STD READOUT" appears which is really good.

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0 ^{00} W. Bartel & T. Greenshaw on shift

0^{14} Gas check done. all Ok.
0^{35} Read out pattern ok
0^{49} Inner detector + beam-pipe chamber trip due to partial loss of beams. Beams then dumped. (+Z-chamber)
3^{00} Wild magnet fluctuations 7200 A ÷ 7560 A
stabilize it by hand
3^{40} Standard histograms ok
It is amazing, how far we got already in a short time. Especially the status-performance of the TD read out system is close to being a miracle.
4^{00} Test replaces Bartel
4^{30} new fill ready, new run started, magnet working, down to 7200 A and up again, ~~can't~~ doesn't reset on "live" and "mini" buttons most of the time only occasionally the buttons work normal
4^{45} Jet + UTX chambers soft trip
5^{20} first as von der Schmitt left, Rate in Jet RF trips showed up, reloaded the processors according to instructions
6^{00} another soft trip
6^{34} standard histograms: 1) Tagging system pattern looks different from normal
2) 1 channel in JET-ch. anode current high
3) quite a few noisy LG channels
6^{40} Beams lost, magnet → 1000 A

8^{00} Hill + Dieckmann on shift.
8^{15} Gas check done — Ok.
9^{20} Magnet raised to 7500 A by hand.
9^{--} Run ~~sto~~ # 24239 started message "NON STD READOUT", "NON-STD TRIGS"
10^{10} ID + beam pipe chamber trip - high TOF rates >10 - Run paused then continued. "Non STD Readout" disappeared
NON-STD-TRIGS is because the triggers are not the standard ones! - As selected by previous shift.
Run 24240 - low luminosity from Bhabhas - no ENDCAP Bhabhas! - Hitmap for endcaps almost empty.
Cured from ~~run~~ event 1400 onwards (2 HT supplies were 0,0)
12^{18} Run 24240 stopped.
12^{46} Run 24241 started all triggers.
12^{29} ID, beam-pipe + z-ch trip. Half of e^+ beam lost.

RUN#	DATE	START	STOP	AT RUN START I+	AT RUN START I-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL ×10⁶	TØ REJ ×10⁶	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{L6}>6GeV$	T_2 Bit 17 $2T\cdot E_4\cdot \geq 2TR$

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12^{37} "Short Break"

12^{43} "Injection"

24242 Changed TOF counts 19 to trigger only on PM – Side.

1340 # 24243 – "NON-STD READOUT" : it's Z-Trigger Bit missing (doesn't matter)

13.50 "J68K Error / See MOP" appears Stop run. Download Jete Procs. ~~Start~~ new run. OK
this message is gone away in the new Run.

16^{20} Konemann & Hardt on shift

16^{45} Start run 24245

Stop run due to 'energy saving period', magnet runs down to 500

18^{10} Gas check O.K.

19^{10} New program in VTXC-Processes (several timing-histograms for DC300-debugging) C.K.

19^{15} Beams are ready, Magnet current → 7500 A, Background too high: TOF rate > 10 V

19^{35} Background is still high TOF rate ~ 7 V

20^{00} TOF rate ~ 5 V Starts

TOF rate must be crazy, Since we have 0.4 μA with TOF rate ~ 5 V.
(shows too high values)

→ We lost lot of luminosity!
because we believed the TOF rate as a reference of the background

20^{07} Decreased amplification of TOF-Rate (has turned out to be too high for currently good background in ID) by factor of ~ 1.7. So we donot loose data at the beginning.
Tof-Threshold at meter now set to ~ 6.0 V.
(4.0 V are already quite good Beam-conditions)
→ We have to get experience with the new values. Please report observations to me (at decent times ...).
P. Bethke

20^{45} Set "REDUCED TRIGGER" to see whether dead time > 50% goes down. Result: now 40% dead time, i.e. only little effect.

21^{25} Load new version (J. Olson) Read out order changed, JETC at very end

22^{45} In new filling dead time ≈ 25% (reduced trigger). Reset full trigger (run # 24253) and get 32% dead time.
Again back to reduced trigger

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	<L> 10^{30} cm^{-2}s^{-1}	Bhabha ∫L dt nb^{-1}	∫L dt EXP. ENERGY	IBM TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ONLINE REJ. SUM MIPROC T_2-%	ONLINE REJ. NORD-50 T_1 & T_2 %	Σ Bhabha	MH	E_{BEAM}	Mag. Field -1 x Gauss	Remarks

23^{20} It seems that the new version for readout, with JETC at end, after VTXC and μch. has brought a reduction of deadtime, at least with good beams and little dirt in the Jet chamber. Keep it till further notice.
The "missing LAM in testruns" problem has been traced to permanent LAMs in the JETC system, causing BD in system crate and confusion of interrupt generation. This is again due to the FADC processors getting start signals in testruns, although they should not. Reason is not known. Immediate cure is brought by disabling BD in Coupler 4 for testruns without JETC readout. (done at runstart) J. O.

23^{45} Nord dead – status on screen

#run 24254 E = 17.500 FIELD -4276 G

TRIG	N10	N50	N10	IBM
5542	4240	4240	3695	3695

LUMI

IL	10.01 nb^{-1}	
AL	3.51 E30	
L	3.39	
SL	20.51	
L	4.59	
BIL	11.67	

DEAD TIME

TOTAL	21.7 %
INST	15.5 %

0^{00} 21/2 W. Bartel & H. Rills on shift

0^{15} gas check done
Run 24260 had to be terminated due to Beampipe chamber missing LAMS - must have been induced by JETC since on reloading their processors the problems went away

2^{45} Magnet shunt. Not possible to raise the current beyond 7400 Amps

2^{49} Run 24261 - The Z chamber tripped there was missing LAM in J68K & then several other errors. Reload 68Ks
Run 24262 Did not get started due to JETC – reloaded them
" 24263 Collapsed after 1569 events " " "

3^{15} Magnet power supply slowly dying. Impossible to go above 7400 A now

3^{20} VTX-chamber: valve failure

3^{45} 7430 A reached. When operating the magnet, the lamp 'Servo limit' closes and comes on any more. The regulation is very slow

Bus error in C1 range on EVP terminal – stops run 24264. Reload OK

4^{00} Fast replace Barbel

4^{30} Start run 24266 with FULL TRIGGERS except for HA (TRIGA= 1754178 instead ---378)

RUN	DATE	START	STOP	AT RUN START I+	AT RUN START I-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL ×10⁶	TØ REJ. ×10⁶	T1 ACC SUM	T2 ACC SUM	T1 Bit 2 $E_{L6}>6GeV$	T2 Bit 17 $2T\cdot E_4\cdot \geq 2TR$
24248	20.2.86		20:45 20:56	4.95	5.24	43.6	453	1234	1179	118	51	740	644	288	20
24249	"		21:12 21:35	4.52	4.81	40.5	1270	2924	2744	330	133	1796	1734	724	35
24250	"		21:37 21:58	4.15	4.43	37.4	1014	2341	2189	264	99	1479	1354	607	29
24251	"		22:00 22:14	3.87	4.14	32.7	815	1665	1540	212	69	1046	964	398	26
24252	"		22:49 22:48	7.33	7.50	24.1	209	426	369	54	13	274	234	97	3
24253	"		22:48 22:51	7.20	7.37	32.3	101	288	215	26	8	178	179	41	2
24254	"														
255															
24256	"	23:53	00:56	5.34	5.83	27.1	191	454	421	50	13	279	276	50	2
24257	"	23:57	0:01	5.27	5.46	28.6	191	460	327	50	14	274	307	52	1
24258	21.2.86	0:44	0:52	7.87	7.93	29.4	470	1021	917	122	36	634	604	258	8
24259	"	0:54	2:18	7.53	7.58	27.4	4892	8082	6946	1273	449	4872	5642	1930	62
24260	"	2:19	2:37	5.36	5.43	29.5	986	2297	1686	256	75	1404	1682	312	6
24261	-	2:44	2:47	4.98	5.05	28.6	399	931	659	103	29	582	661	128	1
24262	"	2:54	3:07	4.73	4.80	27.7	707	1549	1040	184	51	949	1089	216	12
24264	"	3:09	4:10	4.5	4.57	26.7	9650	7627	5334	948	253	4778	5761	946	25
24265	"	4:12	4:22	3.67	3.74	26.1	577	1172	765	150	39	727	901	126	7
24266	"	4:54	5:21	7.71	7.74	34.5	1630	3589	2770	423	146	1479	3041	597	23
24267		5:23	6:31	6.79	6.77	33.2	4451	990	770	117	39	550	791	171	5
24268	Jobx21.2.86	11:25		6.66	6.86	30									
24269	"	11:33	12:55	6.66	6.86	29.7	4983	7321	6334	1274	263	2074	5196	18	57
24270	22.2.86	3:16	3:25	6.83	6.89	29.8	390	890	779	101	30	537	580	175	19
271	"	3:25	3:28	6.66	6.66	31.3	158	353	330	41	13	186	242	77	4
24272	"	4:04	4:24	8.00 4.24	8.12	37	1130	2255	2105	294	108	1209	1784	513	28
24273	only	pedestals		(missing LAFs in JCEC)											
24274	"	4:38	4:48	7:11	7.23	36.2	467	922	849	121	43	485	696	189	7
24275	"	4:49	5:41	6.53	6.76	28	3461	6065	5532	900	249	3387	5088	1359	55
24276	"	6:31	6:50	7.66	7.82	35	1229	2356	2153	320	113	1345	1886	556	29
24277	"	7:03	7:24	6.66	6.83	30.4	1239	2392	2167	322	97	1308	1923	548	28
24278	"	8:20	8:37	6.80	7.04	30.0	2184	1599	1484	213	63	864	1278	359	21
24279	"	8:57	9:40	6.30	6.47	30.1	1676	2958	2706	436	131	1657	2482	679	26
24280	"	9:41	10:31	5.58	5.74	25.5	4644	7677	6709	1209	308	4229	6017	1608	74
24281															

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PROCESSORS ON/OFF N50	MIP	TOF	FAMP	<L> $10^{30}\,cm^{-2}s^{-1}$	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ EXP. ENERGY	IBM / TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ONLINE REJ. SUM MIPROC T_2-%	ONLINE REJ. NORD-50 T_1&T_2 %	Σ Bhabha	MH	E_{BEAM}	Mag. Field -1×Gauss	Remarks
ON	ON	ON	OFF	2.09	1.08	106.40	IBM	0.4	3.8	45	5	19	0	17.500	4.85	
"	"	"	"	1.87	2.33	108.43	"	0.4	3.5	47	7	41	4	"	4815	Changed readout order
"	"	"	"	1.98	2.89	110.82	"			48	7	42	1	"	4806	"
"	"	"	"	2.39	2.22	113.04	"	0.2	2.3	46	8	39	2	"	4790	Beams dumped
"	"	"	"	5.29	1.02	114.06	"			49	14	18	2	"	4822	reduced trigger
"	"	"	"	4.02	0.34	114.40	"			52	28	6	0	"	4822	full trigger
					13.67	126.07		0.2	2.0						4776	Word hung up, no summary
					0	126.70										
"	"	"	"	2.90	0.63	~~115.03~~	"			49	35	11	2	"	4771	
"	"	"	"	2.82	0.74	127.44 ~~115.77~~	"			56	31	13	1	"	4768	Beams lost
"	"	"	"	4.83	1.82	129.26	-	0.4	3.5	48	11	32	3	"	4850	REDUCED-TRIGGER stopped with JOBK problem
"	"	"	"	3.35	17.88	137.14	-	0.2	3.0	54	14	314	6	-	4852	
"	"	"	"	2.53	2.28	139.42	"	0.2	2.0	53	28	40	0			FULL TRIGGERS ended due to missing LAF
"	"	"	"	2.46	1.02	140.44	"	0.2	1.5	55	31	18	0	-	4815	Run 24262 lost
"	"	"	"	2.16	1.92	142.26	"	0.2	1.5	54	34	32	1			JOBCOBK problem
"	"	"	"	1.69	6.18	148.44	"	0.2	1.5	56	31	114	1	"	4759	" "
"	"	"	"	1.48	0.85	149.29	"	0.2	1.4	56	36	16	0	"	4776	
"	"	"	"	3.62	6.21	155.50	"	0.3	2.6	53	24	109	3		4817	FULL TRIGGERS EXCEPT FOR H.K. JOBK problem
"	"	"	"	3.47	1.76	157.26		0.2	2.0	52	24	31	1		4729	Beam lost
"	"	"	"	3.41	18.62	175.88	"	0.2	2.0							magnet can't be controlled current left in maybe use again
"	"	"	"	3.41	18.62	175.88	"	0.2	2.0	56	14	326	5	17.5	4.849	
"	"	"	"	3.41	1.65	177.53	"	0.4	3.2	49	13	29	0	"	4836	Stopped for JOBK reload
"	"	"	"	3.35	0.80	178.30	"	0.4	3.2	48	7	14	0	"	4837	Beam lost
"	"	"	"	4.15	5.75	184.05	"	0.6	5.2	53	7	101	1	"	4857	
								0.5	3.5							
"	"	"	"	3.97	1.76	185.81	"	0.45	3.5	52	9	31	0	"	4837	
"	"	"	"	8.16	12.75	198.56	"	0.4	3.5	55	9	224	2	"	4838	Beam lost
"	"	"	"	4.08	5.01	208.57	"					109	0	"	4838	
"	"	"	"	3.87	5.24	208.81	"	0.5	3.4	53	10	92	2	"	4857	beams lost
"	"	"	"	3.91	3.64	212.45	"	0.5	3.5	53	8	64	1	"	4838	J68K reload
"	"	"	"	3.44	5.75	218.20	"	0.5	3.5	55	9	101	3	"	4837	J68K reload
"	"	"	"	2.61	13.78	231.98	"	0.4	2.5	54	11	242	4	"	4837	Beams dumped
								0.6	5.0							

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RUN#	DATE	START	STOP	AT RUN START I+	AT RUN START I-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL ×10⁶	TØ REJ ×10⁶	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 E_{LG}>6GeV	T_2 Bit 17 $2T\cdot E_4\cdot \geq 2TR$

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Several sequences ... MISSING LAM in J68K Bank, TOFI, TOFI, TOFI -- then Ok.

4.57 Says J68K Error - See MOP but MOP does not say anything! Decide to STOP run reload J68ks

5.31 Beam lost - have reloaded J68ks I selected REDUCED-TRIGGERS,

YVOLTS is currently disabled - RTOFFed

6.50 magnet → 1000 A

8.00 Mrs Billat and Kurun are working on R magnet - if they want to control the magnet during the day for this repair work please don't object even if you take good data! R. Fest

Glasser Matsumura on shift

11.30 Gas check done

Processors dying when run start

from - standard trigger

12.xx we requested to turn magnet off: after 10 min of pleading got a 20 min to change clearance

13.00 Old standard programs just built for VTAC processors C.K.

13:41 Magnet controller should now work.

16.00 Walker & Magnussen on shift

Short Break on screen since 15.50.

16.15 Gas desk ok.

16.20 Short Break will last until 18.00 because of High Power Consumption Time

Tried to lower magnet to 1000 A. If I switch from "Operate" to "Run/down" the magnet current runs down to 0 A with maximum speed.

Called MK1. They will come.

16.50 Now magnet works. Set to 1000 A (???)

17.10 ~~Energy-saving-time reverts to short break.~~

19.29 Injection

19.59 Luminosity - NORD happy.

23.00 Magnet at 7500 A. Was forgotten during last injection due to NORD trouble and LG repair work.

Nord still happy.

22.2.86 00.00 Kleinwort & Chin on shift. Gas check done.

03.10 Nord 10 has been repaired, got a new power supply from the N50 in the basement of Lab 7.

System Disc has rebuilt system. Datataking starts normally.

04 Heintzelmann replaces Kleinwort

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	<L> 10^{30} cm^{-2}s^{-1}	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ EXP. ENERGY	IBM TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ONLINE REJ. SUM MIPROC T_2-%	ONLINE REJ. NORD-50 T_1&T_2 %	Σ Bhabha	MH	E_{BEAM}	Mag. Field 1 x Gauss	Remarks

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4 - 4:20 Lots of missing LAM's JETC. Try JADEGO on MOP → ok.

5.40 BP - Valve failure.

6:20 missing LAM's JETC point 506 → JADEGO on MOP → ok.

8.00 Dieckmann & Kado

Switching on the TOF HV gives Alarm on leftmost unit of HV Supervisor Rack.

On the backcony mainframe 56 HV is off. We switched it on, but error remains.

To start the run, MFR56 FW HV is deactivated and switched off.

8.41 Missing LAM JETC Jadego → ok.

9.10 permanent JETC missing LAM 10.35 Gas check done.

STOP run, reload M68K processors, START new run → ok. (at the moment)

9.14 missing LAM JETC point 406

9.27 missing LAM J68K Bank

9.35 " " " " 4 times

9.47 " " " " 3 times + 1x JETC point 703

9.52 " " " "

10.20 " " " " also "illegal JETC data" on color TV

10.06 " " " " 3 times

10.08 " " " "

10.17 " " " " + Z chamber trip

10.24 " " " " 3 times + 1x point 703 + "illegal cont record" on color TV

11.01 " " " " 2 times + illegal cont record" on color TV

11.02 " " " " 3 times + 1x point 703

11.07 Z chamber trip

11.08 missing LAM J68K Bank 5 times

11.13 " " " " + point 506 + point 703

11.19 " " " " 24 times

11.21 " " " " 4 times + point 703

11.30 " " " " + point 502

11.35 " " " "

12.00 - 16.00 No data were taken due to Nord trouble. The system had to be rebuilt, as no appropriate Backup was available. Now it seems to be ok.

16.00 h T. Greenshaw & D. Haidt on shift

RUN	DATE	START	STOP	AT RUN START		DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{LG} > 6$GeV	T_2 Bit 17 $2T \cdot E_4 \cdot \geq 2TR$
				I^+	I^-										

PROCESSORS ON/OFF				$\langle L \rangle$	Bhabha $\int L\,dt$	$\int L\,dt$	IBM TAPE OUTPUT	At Run Start		ONLINE REJ.		Σ Bhabha	MH	E_{BEAM}	Mag. Field ~1 x Gauss	Remarks
N50	MIP	TOF	FAMP	10^{30} cm^{-2} s^{-1}	nb^{-1}	EXP. ENERGY		ID (μA)	TOF (V)	SUM MIPROL T_2 %	NORD-50 T_1 & T_2 %					

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you find the new log-book on top of the old one