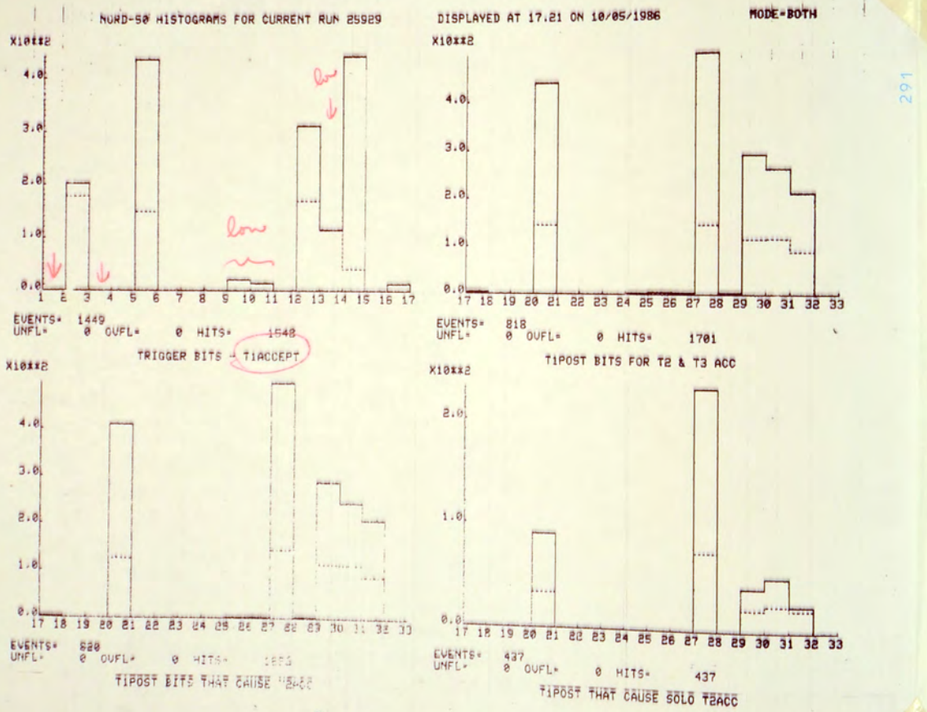
JADE LOGBOOK XIX Runs 25905 - 27657

Ein Brunnen-Erzeugnis

JADE LOGBOOK

XIX

Run 25905 ⇒ 27657



9/5/86 H. Mills and G. Weber still on shift 21.11

10.5.86

0^00 Kleinwort, Walker on shift

0^30 Gas check done

0^xx ~~z-chamber trip.~~

8.00 Chinn + Narovska

Chinn proceeds to Gas check. (and returns content.)

15^50 Idas restart anor 38 - missing dom bx 4 cont 1 JETC pair 502

1600 Cartwright + Komamiya on shift

1605 Z-chamber tripped

16.25 Jet ch + VTX ch soft trip

16^45 Have watched z-chr for last 35 min. No unusual behaviour. Finally gave up (bored)! *)
While there, noticed VXC pen recorder producing only 3 lines — replaced black ink cartridge.
Meanwhile back at the counting house YSPY says the lead glass is noisy — but TASSO are about to ask for a new fill anyway, so leave it.

1700 Z-ch tripped

*) Thank you (HC)

17^13 At Run 25929 :

T1 Acc Trigger looks very funny

→ NO EC-Bhabha, NO-Barrel Bhabha NO-multihadrons NO Lum events

But No HiV. errors during the run. → may be no beams.

Conclusion

We asked TASSO at Mark-J and found that they had also no-luminosity for the last 20 minutes of the last filling.

→ May be the beam currents ~~were~~ were high, but beams ~~were~~ well separated!

$e^- \leftarrow$ $\rightarrow e^+$ → { No collisions. Triggers are only from Cosmic + Beamgas

16 35 VTX-ch tripped (hand)

17^00 VTX-ch tripped (hand)

17 10 Z-ch tripped

23^16 Very bad beam for a few minutes (TOF > 10 V.) JC, VXC tripped, ZC switched off

Run	Date	Start	Stop	At Run Start I+	At Run Start I-	Dead Time %	Time (secs)	Records IN	Records OUT	ALL *10^6	T∅ Rej *10^6	T1 Acc Sum	T2 Acc Sum	T1 Bit2 E_LC>b_cm	T2 Bit17 27.Ev. ≫2T1	Processors N50	Processors MP-16	Processors TOF	Processors FA
25905	9/5/86	21:47	22:10	11.07	10.97	22.6	1385	4426	2755	360	81	2735	3050	700	10	ON	ON	ON	OFF
25906	"	22:10	22.54	10.27	10.18	21.4	2607	8002	4989	678	145	4988	5643	1210	46	"	"	"	"
25907	"	22.55	23.42	8.94	8.90	18.5	2758	8002	4716	718	133	5156	6521	1195	29	"	"	"	"
25908	"	23.42	0.37	7.79	7.78	17.1	2978	8002	4438	774	133	5096	5702	1140	33	"	"	"	"
25910	10/5/86	0.38	1.13	6.76	6.73	15.6	2000	5193	2755	529	82	3422	3624	746	16	"	"	"	"
25911	"	2.05	2.49	10.39	10.39	22.0	2611	8002	4899	679	149	4998	5687	1208	35	"	"	"	"
25912	"	2.49	3.40	9.05	9.07	19.9	2855	8002	4539	743	147	5021	5828	1193	51	"	"	"	"
25913	"	3.41	4:20	7.85	7.90	17.4	2180	5853	3378	568	99	3756	4149	869	28	"	"	"	"
25914	"	4:20	5:04	7.12	7.17	16.5	2613	6817	3807	680	112	4358	4806	973	37	"	"	"	"
25915	"	5.41	6.29	10.53	10.84	22.8	2615	8002	4734	679	154	4905	5706	1198	37	"	"	"	"
25916	"	6.29	7.16	9.14	9.42	19.4	2810	8002	4447	731	142	5022	5721	1157	32	"	"	"	"
25917	"	7.17	7.43	8.02	8.30	18.1	1519	4143	2401	395	72	2655	2863	593	13	"	"	"	"
25918	"	7.43	8.14	7.50	7.77	17.5	1794	4790	2654	466	81	3009	3435	675	21	"	"	"	"
25919	"	8.16	9.10	6.93	6.12	15.9	3153	8002	4282	820	130	5109	5642	1143	36	"	"	"	"
25920	"	9.10	9.23	6.10	6.34	14.9	717	1804	918	186	27	1159	1249	224	7	"	"	"	"
25921	"	9.57	10.45	10.53	10.64	23.3	2644	8002	4732	687	159	4835	5482	1188	39	"	"	"	"
25922	"	10.45	11.32	8.93	8.86	19.7	2792	8002	4519	726	143	5122	5373	1155	36	"	"	"	"
25923	"	11.32	12.20	7.88	7.81	19.0	2831	8002	4414	736	140	5162	5275	1154	34	"	"	"	"
25924	"	12.20	13.07	6.98	6.92	16.9	2790	7602	4035	726	122	4905	4967	964	29	"	"	"	"
25925	"	13.40	14.22	10.68	10.68	26.0	2472	8002	4925	643	167	5004	5182	1169	41	"	"	"	"
25926	"	14.22	15.08	9.36	9.39	24.6	2552	8002	4827	663	163	4884	5549	1194	32	"	"	"	"
25927	"	15.08	15.57	8.15	8.18	22.8	2620	8002	4409	682	155	4885	5337	993	29	"	"	"	"
25928	"	15.58	16.52	7.21	7.25	16.5	3033	7857	4238	789	130	4940	5448	972	31	"	"	"	"
25929	"	16.55	17.13	6.47	6.47	15.0	1009	2387	402	262	39	1451	1744	202	5	"	"	"	"
25930	"	18.26	19.11	10.45	10.57	26.8	2464	8002	4750	640	172	4777	5229	1094	35	"	"	"	"
25931	"	19.11	19.54	9.13	9.21	21.3	2586	8002	4574	673	143	5050	5243	1145	21	"	"	"	"
25932	"	19.55	20.42	8.10	8.17	19.0	2798	8002	4474	728	138	5129	5149	1140	32	"	"	"	"
25933	"	20.42	21.32	7.11	7.19	16.6	2952	8002	4372	767	127	5207	5085	1158	26	"	"	"	"
25934	"	21.32	21.42	6.23	6.30	16.8	255	692	376	66	11	434	439	96	1	"	"	"	"
25935	"	22.47	0.16	10.95	10.79	25.4	2550	8002	4695	663	168	4869	5109	1088	29	"	"	"	"
25936	11/5/86	0.16	0.32	7.40	7.04	19.6	929	2720	1437	241	47	1716	1654	365	10	"	"	"	"
25937	"	0.32	1.21	7.12	6.90	17.5	2884	8002	4104	750	130	5135	5029	1061	21	"	"	"	"
25938	"	1.22	1.35	6.38	6.09	18.4	789	2182	1189	205	37	1379	1332	272	6	"	"	"	"

<L> 10^30 cm^-2 s^-1	Bhabha ∫Ldt nb^-1	∫Ldt Exp. Energy	Output IBM/TAPE	At Run Start TOF [V]	At Run Start ID [MA]	Online Reject Sum Proj ac (T1/Y)	Online Reject Nor 50 (T1+T2)/Y	Σ Bhabha	M/H	E_Beam	Mag Field -1+C	Remarks
7.92	11.50	19322.33	IBM	1.8	0.4	50	39	202	2	17.500	4834	Stopped due to LC noisy
6.68	19.92	19342.25	"	1.7	0.35	51	39	350	5	17.501	4834	
5.82	17.71	19359.96	"	1.4	0.25	53	42	311	5	17.500	4834	
4.22	1372	19373.68	"	1.25	0.20	54	46	241	4	17.501	4835	25909 lost (Vahlbig pkg on dump YPAPA)
3.56	8.32	19382.50	"	1.1	0.20	56	48	155	4	17.500	4834	Beam dumped.
7.03	19.76	19402.26	"	1.8	0.4	52	40	347	3	17.501	4835	
5.47	16.62	19418.88	"	1.6	0.25	54	45	292	4	17.500	4834	
4.31	10.87	19429.75	"	1.3	0.2	54	44	191	4	"	"	stopped due to LC noisy
3.87	10.02	19439.77	"	1.1	0.2	54	46	178	5	"	"	beams dumped
6.76	18.67	19458.44	"	1.7	0.4	51	42	328	4	17.501	"	
5.21	14.91	19473.35	"	1.5	0.4	353	46	262	7	17.500	"	
4.57	7.40	19480.75	"	1.2	0.3	54	44	130	5	17.501	4836	noisy LC
3.94	7.86	19488.61	"	1.2	0.25	53	46	138	2	17.501	4836	MOP out of Step
3.40	11.39	19500.00	"	1.2	0.25	54	48	200	1	17.500	4834	
3.14	1.71	19501.71	"	0.9	0.2	55	51	30	0	17.501	"	beams dumped.
6.57	17.59	19519.30	"	2.1	0.55	48	42	309	10	"	"	
5.17	16.22	19535.52	"	1.3	0.4	51	45	285	4	17.500	"	
4.26	13.95	19549.47	"	1.2	0.4	52	46	245	4	17.501	"	
3.77	11.04	19560.51	"	1.1	0.4	51	49	194	1	17.500	4836	dump
7.23	19.30	19579.81	"	1.8	0.7	48	40	339	3	"	4834	
6.57	18.33	19598.14	"	1.6	0.6	50	41	319	6	"	4835	
4.06	11.50	19609.64	"	1.6	0.45	47	47	202	1	17.501	4835	
2.32	7.40	19617.04	"	1.1	0.38	52	48	130	1	"	"	only cosmic + Beam gas
0	0	19617.04	"	1.0	0.3	53	57	0	0	"	"	← TRIGING + LC trigger look crazy ! dumped
7.22	19.24	19636.28	"	1.75	0.85	45	42	338	6	17.500	"	
6.81	16.05	19652.33	"	1.35	0.6	49	44	282	5	"	"	
5.50	16.62	19668.95	"	1.2	0.45	51	46	292	5	"	4836	
4.85	15.37	19684.32	"	1.0	0.35	51	47	270	2	"	"	
3.82	1.25	19685.57	"	0.8	0.25	50	48	22	0	17.501	"	Beams dumped
5.96	16.17	19701.74	"	1.8	0.8	46	43	284	3(-1)	"	4837	
3.93	4.33	19706.07	"	1.1	0.45	47	49	76	6	"	"	run jammed white lite on T box
3.57	11.67	19717.74	"	0.9	0.30	49	51	205	2	"	4836	
3.05	2.05	19719.79	"	0.5	0.40	50	55	36	3	"	4837	beam dumped

11-May-1986 0°° H Mills & J. Spitzer on shift

Gas check completed.

12:27 RZ trip
12:49 "
3:00 Large LG activity at beginning of fill. (dead time 23%)

8:00 Kado and Walker on shift — Gas check done.

8:04 Z-chamber trip
8:23 VSAY means about LG hits rate again.
8:42 scans from 33 - missing layers in 3 or 4 : z-ch parts!
9:47 ID and VTXC soft trip - same currents back ~10m later.
9:50 we discovered "MOP ist im Wald" → blanc screen; only in column 80: random characters running over the screen / <CNTL) C and "rein Zimmani" brings it into live again !?*)
10°° z-ch trips.
10²⁶ " " + VTX-ch. value Equilibre. (at same time!)
12°° Reloaded ID-processes. Monitor works again. (>13)

*) but it refuses to display any statistics! <B>, <N>, <E> and <F> does not help — nothing unusual on EVP screen

13⁰⁸ VTX-ch trip. (soft trip Q1)
14⁵¹ VSAY - LG again...
14⁵⁷ ...and again.

16 h Olson & Haidt on shift — Gascheck done

16²⁶ VTX solo trip
17²⁰ All ch. trip
20³⁰ FePs reload (Monitor hanging)
Since 25561 - run problems with pedestals (LG)
22⁰³ LG area around 1100 noisy
22⁴² Nord hang up - cannot be started following usual procedure. Fortunately, Jan Olson is on shift. Exchange power supply unit, since only 4.8 V, whereas 5.2 V necessary.

12 May 1986 Cartwright, Kriess

0°° Arrive to complete chaos — Jan Olsson taking Nord apart, all chambers tripped, no ~~PETRA~~ TV — and, it transpires, no PETRA! PKR says interlock shorted, won't be fixed for ≥ 3 hours (they have to find the short, then get everything going again).
(I reset all the chambers, and also replaced blue cartridge in VXC pen recorder, which was in the act of running out, had gone all faded.)
Gas check done, all OK.
1³⁰ Nord had a broken powersupply, exchanged with the one from N10 in the cellar. After replacement we found that system disc is broken. Attempting to copy from recent backup, Nord developed new sick symptoms. After finally being convinced that all tensions are OK, I decide to sleep before continuing with Delfs and ~~Robert~~ tomorrow. Meanwhile, Petra hopefully stays down... J.O.

2°° Since we cannot operate the detector and all voltages are down, there is no point in continuing to be here for the rest of this shift. Both jade-shifters go home.

8°° W Bartel & Walker on shift
8²⁵ Gas check ok
15°° The tension breakdown of yesterday found to have destroyed 1 memory card and the Camac-N10 interface card. Now rebuilding the system on the broken system-disc, then to take cosmics and write to tape. Petra still down, unsure when up again. J.O. [19¹⁰ Padac interface damaged as well (N10 card)]
15²⁵ Following rebuild of system and JOBS, the colour TV is corrupted as soon as I try to activate the IBIT and the TIBM program does not work either. The Nord-50 program cannot load either. [On reloading SINTRAN, this worked]

When system restarted & YTMAIL inhibited THEN tests seem to work!
With YTMAIL deactivated we contake data (Cosmic T_2) to tape !! — It really was PADAC ⇔ Nord10 interface.

16°° Haidt & Krehbiel on shift
16³⁵ Gas check done
19³⁵ Upon request of PKR run up magnet

~~13~~ 14 MAY 1986 Bartel/Zelst, Middleton

0²⁵ gas check done.
7°° several attempts to ramp the beams ended with total loss at ~ 17 GeV

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 $E_{LG}>66$	T_2 bit 17 2T. $E_T>2$	PROCESSORS ON/OFF NSO	MIP	TOF	FM
25939	11/5/86	2:27	3:09	10.43	9.48	23.6	2490	8002	4813	647	153	4957	5236	1187	29	ON	ON	ON	
25940	"	3:09	3:52	9.19	8.30	21.7	2570	8002	4892	661	145	5117	4995	1234	35	"	"	"	
25941	"	3:53	4:39	8.12	7.28	12.3	2701	8002	4592	718	131	5130	5264	1190	32	"	"	"	
25942	"	4:40	5:29	7.17	6.39	16.3	2949	7929	4236	757	123	5133	5215	1142	33	"	"	"	
25943	"	6:04	6:53	10.61	10.62	23.6	2505	8002	4721	651	153	4993	5220	1184	28	"	"	"	
25944	"	6:54	7:38	9.08	9.03	21.2	2626	8002	4588	683	134	5153	5119	1185	31	"	"	"	
25945	"	7:38	8:25	8.03	7.99	13.3	2720	8002	4553	709	129	5157	5180	1191	24	"	"	"	
25946	"	8:26	8:53	7.02	6.98	16.3	1627	4357	2306	423	68	2827	2904	623	11	"	"	"	
25947	"	9:33	9:40	10.76	10.79	24.3	430	1351	836	112	27	823	924	189	12	"	"	"	
25948	"	9:41	10:27	10.51	10.62	23.8	2535	8002	4672	659	157	5012	5204	1186	35	"	"	"	
25949	"	10:29	11:05	8.92	7.70	19.2	2181	6499	3947	567	108	4136	4283	972	14	"	"	"	
25950	"	11:44	12:01	11.23	10.77	25.7	988	3216	2031	256	65	1927	2118	460	18	"	"	"	
25951	"	12:03	12:44	10.56	10.14	26.6	2462	8002	5005	640	183	4786	5445	1313	33	"	"	"	
25952	"	12:45	13:30	9.22	8.81	25.2	2698	8002	4900	649	163	4943	5294	1317	34	"	"	"	
25953	"	13:30	14:14	7.90	7.53	21.3	2620	8002	4813	681	144	4998	5241	1306	32	"	"	"	
25954	"	14:15	15:02	6.83	6.46	18.5	2805	8002	4709	729	134	5111	5266	1234	36	"	"	"	
25955	"	15:03	15:19	5.91	5.58	17.5	913	2513	1382	237	41	1578	1696	347	13	"	"	"	
25956	"	16:23	17:08	11.31	11.53	30.0	2405	7908	5055	625	108	4569	5464	1264	37	"	"	"	
25957	"	17:08	17:53	9.85	9.90	28.2	2482	8002	4866	645	181	4715	5469	1259	35	"	"	"	
25958	"	17:53	18:40	8.51	8.50	22.7	2594	8002	4664	675	152	4937	5331	1283	35	"	"	"	
25959	"	18:40	19:24	7.36	7.24	20.1	2771	8002	4556	721	144	5036	5242	1217	31	"	"	"	
25960	"	19:24	1949	6,34	6,22	18,0	1099	3089	1769	286	52	1930	2086	456	11	"	"	"	
25961	"	21:11	21:26	10.84	11.10	35.8	886	2863	1776	230	82	1574	1978	399	9	"	"	"	
25962	"	21:26	22:22	10.29	10.55	33.5	2413	8002	5116	627	210	4725	5261	1203	34	"	"	"	
25963	"	22:23	22:30	8,91	9,16	29.3		4940	2555							"	"	"	
25965	13.5.86	11:40	12:01	6.93	6.32	15.7	1201	3744	1663	312	49	2014	2136	460	13	"	"	"	OFF
25967	"	12:40		5.34	5.84	14.7	1456	4798	2077	379	55	2287	2316	530	10	"	OFF	OFF	OFF
25968	"	14:30	14:59	9.85	9.96	22.0	1721	5373	3405	448	99	3483	3353	852	22	ON	ON	ON	ON
25969	"	15:01	15:46	8.89	9.01	19.5	2696	8002	4871	701	137	5154	5267	1314	32	"	"	"	"
25970	"	15:47	16:34	7.75	7.86	17.2	2826	8002	4539	735	126	5239	5185	1259	35	"	"	"	"
25971	"	16:37	17:26	6.71	6.78	15.2	2900	7654	4161	754	115	5069	4971	1188	28	"	"	"	"
25972	"	17:28	17:59	5.81	5.88	13.4	1851	4610	2498	481	64	3129	2974	726	15	"	"	"	OFF
25973	"	20:53	21:44	7.66	9.05	15.9	3000	8002	4438	780	124	5261	5376	1260	36	"	"	"	OFF
25974	"	21:44	22:37	6.74	8.04	15.4	3104	8002	4307	807	125	5319	5218	1227	30	"	"	"	"
25975	"	22:37	23:30	5,86	6,98	14,1	3174	8002	4374	825	116	5322	5356	1225	35	"	"	"	"
25976	"	23:30	0:00	5,01	6,17	14.2	1684	4156	2058	438	62	2712	2681	554	14	"	"	"	"

$\langle L \rangle$ $10^{30}cm^{-2}s^{-1}$	SHAGHA $\int L dt$ nb^{-1}	$\sum_{day} \int L dt$ nb^{-1}	OUTPUT IBM/TAPE	AT RUN START TOF V	AT RUN START ID μA	ONLINE RET SUM MUROC % T_2	ONLINE RET NSO % T_1T_2	Σ SHAGHA	MH	E_{BEAM}	MAG FIELD −1×G	REMARKS
7.64	18.76	19738.75	IBM	1.6	0.55	48	41	333	7	17.500	4836	
6.33	17.53	19756.28	"	1.45	0.5	48	40	308	11	"	"	
5.14	16.09	19771.37	"	1.2	0.4	51	44	265	6	17.501	4835	
4.22	13.26	19784.63	"	1.0	0.25	51	48	233	9	17.500	4834	Beams dumped
7.25	20.21	19804.84	"	1.2	0.6	48	43	305	7	"	"	
5.74	17.65	19822.49	"	1.4	0.5	50	44	310	6	17.501	4835	
5.37	14.74	19837.23	"	1.2	0.4	50	44	259	4	17.502	"	
4.63	8.88	19846.11	"	1.0	0.3	53	49	156	4	17.501	4834	Beams dumped.
5.60	2.90	19849.01	"	1.9	0.4	51	40	51	1	17.502	"	1811 link problem. New run started OK.
5.88	17.42	19866.43	"	1.8	0.3	49	43	306	7	"	"	
6.05	14.58	19881.01	"	1.7	0.55	50	41	256	4	17.501	4836	Beams dumped.
7.25	3.03	19884.04	"	1.6	0.4	46	38	141	2	17.500	4837	Run stopped for work on MUROC.
7.64	21.01	19910.05	"	1.5	0.4	47	39	369	7	"	"	
7.40	20.04	19930.09	"	1.6	0.6	48	40	352	5	"	4838	
6.79	20.44	19950.53	"	1.5	0.5	49	41	359	6	"	"	
5.50	17.82	19968.35	"	1.2	0.4	51	43	313	4	17.501	4837	
4.77	4.72	19973.07	"	1.1	0.3	51	47	83	3	17.500	"	Beams dumped.
7.46	21.69	19994.76	"	2.5	1.0	45	38	381	7	17.501	4836	
6.81	18.79	20013.55	"	2.0	0.7	46	41	330	5	17.500	4837	
6.41	15.01	20032.56	"	1.6	0.6	48	43	334	3	"	4835	
5.34	15.77	20048.33	"	1.4	0.5	49	45	277	4	17.501	4836	
4.95	6.49	20054.82	"	1.3	0.2	50	44	114	0	"	4835	Beams dumped
6.85	6.43	20061.25	"	2.7	1.0	43	39	113	1	17.501	4835	
7.17	19.07	20080.32	"	2.2	0.8	45	37	335	6	17.500	4834	
5.88	9.85	20090.17	"	2.1	0.7					"	"	
5.49	7.06	20097.23	"	0.9	0.1	53	49	124	2	"	4821	Magnet setpoints nominal
4.27	7.12	20104.35	"	0.7	0.1	-1	59	125	1	"	4841	
9.26	17.19	20121.54	"	1.6	0.4	49	38	302	4	"	4838	HOT reload after Z-trip, pickup event.
7.95	23.68	20145.22	"	1.3	0.3	51	40	36	2	"	4835	
6.90	20.10	20165.32	"	1.2	0.1	52	45	353	6	"	4838	Not reloaded by Exhibition Hall.
6.02	20.49	20185.81	"	0.9	0.1	53	47	360	5	"	"	3811 link error. (Stopped accidentally).
4.98	10.59	20196.40	"	0.75	0.05	54	47	186	1	"	"	Pump OFF on request from Sun Observ.; beams dumped
5.46	18.05	20214.45	"	1.2	0.15	53	46	317	8	"	4837	
4.84	16.28	20230.73	"	0.9	0.1	54	48	286	5	"	4841	
4.99	15.94	20246.67	"	0.8	0.05	54	47	280	4	"	4844	
4.07	8.43	20255.10	"	0.7	0.05	52	52	148	1	"	4844	Beams dumped

13/5/86 8^{00} Elsen / Kuhlen
8^{12} Gas check okay
9^{50} When starting a run : DISC/DRUM TRANSFER ERROR
9^{33} HV overcurrent in Leadglas barrel 8; o.k. after off/on.
Errors happen immediately when other (blue) drive tried. Herr Rehlich can come only after lunch.
Herr Delfs & Teske came. Copied disc backup C to System. There were some memory errors. The general feeling it that its far too hot in the control room. HSO

11^{40} We are running again
11^{43} Magnetic field is -4829 (should be -4845) - can't be set by hand. Magnet people called.
12^{05} IBM link down. Will last ≈ 10 min. (according to operators). Since the magnet people are running the magnet up, and we want to do some tests, we shall not write to tape for this time.
12^{40} Fixed some Pedestal LG-ADC problems. Taking data again
12^{56} IBM Online-Job error check 2
15^{00} E-chamber trip, hard; PICKUP EVENT
Followed by missing "LTT at FEP Ready". FEP repeats ADDR-TIMEOUT → Restart MOP after endless run.

16^{00} Ramcke & Chrin
16^{05} Gas check - okay.

17^{28} Start Run # 25972 with Famp off on request from Jan Olsson.

FAMP is put off, since: Scanning events which had been flagged for rejection, but passed the Reduce program, some 1-prong events (tagged trackstriggers) were found that are coming from origin (typically ee→eeee events). It is not clear why they are rejected, 1 reason can be that tracks which are close to the wire-plane sometime have "holes", i.e. missing hits, which could disturb the FAMP Algorithm. Another reason might be calibration. The constants which FAMP (and Nord 50) are using are from last year, and a wrong T0 may cause hits to disappear close to the wireplane. All events that were found are of this type, i.e. the track is close to the wireplane. Lauri Karlen will try to investigate later this summer. The decision to switch off FAMP analysis was taken in agreement with him.
Meanwhile, the effect of such problems on NSO patrec and filtering has to be investigated.
J.O.

Herr Riesberg stated yesterday that he had no reason to believe that T0 had changed HERE

20^{00} hrs. Magnet current drop to below 7400 Amps - try raising & lowering field but to no avail. Eventually - lowered field using the reset/run down switch. Then tried raising by hand / a computer - but still no response. Called MKJ and they attend to the magnet. At 20^{53} magnet raised to nominal value and we are able to start taking data again.

14.5.86

0^{00} Glanzer & Biedermann on shift.
Gas check OK
5^{00} There has been a fire in a magnet sector of the synchrotron, so PKR cannot refill probably until noon. Keep current fill as long as possible.
Magnet still walking a bit.

8^{00} Middleton & Hill on shift.
8^{20} gas check done.
8^{25} noticed nor action on MOP console. "Exception 402 at user address $0000 3484. Aborted". used "CTRL-C" and "RUN ZIMMONI" to restart monitor - OK.
9^{35} TASSO phone to ask if we think it is worth it to continue running. We say NO.
9^{04} Beams dumped & ID trip.
9^{12} magnet down to 5004.
9^{30} Magnet to 0. We are leaving. Will come back every ≈2 hours to make sure nothing has burnt down.
10^{15} RESTART : 15.5.86
12^{00} All quiet.
14^{30} No fires, earthquakes ... etc. All OK.

16^{01} Gas check and everything else ok. Kuhlen

19^{45} all quiet L. Becker
15.4.86 Stephens, Kado
0000 Total confusion. TASSO says that Mark J is coordinating exp., and Mark J says TASSO. Its MARK J. no one at PKR so we cannot find out status (if any). Give Mark J our phone Nos to call if anything happens (unlikely!!)
Gas check OK & in everything else

10 RUN	DATE	START	STOP	AT RUN START I+	AT RUN START I-	Dead Time %	Time (secs)	Records In	Records Out	All * 10^6	T0 Rej * 10^6	T1 ACC SUM	T2 ACC SUM	T1 BIT 2 E_LO 766eV	T2 BIT 17 2T.Eq >2TR	PROCESSORS ON/OFF NSO	MIP	TOF	FAN
25977	14/5/86	1:19	1:58	10.99	11.01	26.6	2308	8002	5207	600	159	5084	4983	1319	45	ON	ON	ON	OFF
25978	"	1:58	2:39	9.61	9.63	22.6	2400	8002	4873	624	140	5085	5196	1246	32	"	"	"	"
25979	"	2:39	3:23	8.46	8.47	19.4	2641	8002	4614	686	133	5197	5198	1249	33	"	"	"	"
25980	"	3:24	4:12	7.28	6.68	17.0	2889	8002	4497	750	127	5262	5299	1260	31	"	"	"	"
25981	"	4:12	5:05	6.40	5.83	15.3	3094	8002	4522	804	123	5305	5130	1265	32	"	"	"	"
25982	"	5:05	6:03	5.64	5.10	14.1	3234	8002	4003	841	118	5316	5236	1150	26	"	"	"	"
25983	"	6:03	7:01	4.97	4.46	12.7	3483	8002	3699	905	114	5309	5499	1089	23	"	"	"	"
25984	"	7:02	8:03	4.41	4.41	11.5	3623	8002	3637	942	108	5367	5424	948	24	"	"	"	"
25985	"	8:15	9:01	3.86	3.41	11.1	2926	6436	2823	763	84	4303	4306	825	20	"	"	"	"
25986	17/5/86	7:05	4:37	6.47	8.11	20.1	1852	5305	2791	482	97	3014	4223	783	~~19~~ 39	"	"	"	"
25987	"	4:44	5:08	6.31	7.94	16.2	1418	3745	1949	369	60	2163	3056	547	12	"	"	"	"
25988	"	5:09	6:02	5.03	6.51	14.4	3154	7970	3895	820	118	4219	6118	1104	23	"	"	"	"
25989	"	6:04	6:13	4.88	6.34	14.0	492	1213	608	128	18	700	940	173	10	"	"	"	"
25990	"	7:16	8:16	8.84	8.60	20.1	2697	8002	4420	702	140	4623	6320	1249	38	"	"	"	"
25991																			
25992	"	9:02	9:22	6.15	7.49	18.0	930	2462	1359	241	43	1570	1689	344	6	"	"	"	"
25993	"	11:19	12:02	10.16	10.53	21.4	2570	8002	4968	668	143	5002	5578	1271	27	"	"	"	"
25994	"	12:06	13:00	8.62	8.96	18.7	2815	8002	4832	732	137	5111	5479	1229	38	"	"	"	"
25995	"	13:01	13:52	7.21	7.52	16.7	2976	8002	4608	774	129	5125	5546	1146	24	"	"	"	"
25996	"	13:53	14:05	6.15	6.44	16.4	693	1859	1023	180	29	1163	1243	258	7	"	"	"	"
25997	"	14:52	15:37	10.40	10.44	22.3	2537	8002	5049	660	147	4981	5514	1295	37	"	"	"	"
25998	"	15:37	16:30	8.91	8.95	19.3	2716	8002	4860	707	137	5067	5436	1270	24	"	"	"	"
25999	"	16:31	17:19	7.49	7.51	17.0	2862	8002	4753	744	127	5244	5271	1294	22	"	"	"	"
26000	"	17:19	18:12	6.40	6.42	15.4	3150	8002	4414	8819	126	5195	5422	1156	29	"	"	"	"
26001	"	18:13	19:09	5.49	5.51	13.2	3373	8002	4133	878	116	5323	5414	1141	25	"	"	"	"
26002	"	19:10	19:40	4.71	4.73	13.2	1468	3364	1679	382	50	2213	2213	409	10	"	"	"	"
26003	"	20:32	21:18	8.88	10.23	19.7	2716	8002	4847	706	139	5094	5522	1205	41	"	"	"	"
26004	"	21:18	22:10	7.65	8.90	17.7	2873	8002	4708	748	132	5168	5481	1223	19	"	"	"	"
26005	"	22:10	23:00	6.52	7.68	16.2	2967	8002	4567	772	125	5270	5280	1176	30	"	"	"	"
26006	"	23:01	23:16	5.56	6.65	14.2	877	2246	1226	228	33	1463	1500	329	12	"	"	"	"
26007	18/5/86	23:53	00:36	9.94	10.66	20.0	2253	6908	4408	586	117	4401	4751	1187	39	"	"	"	"
26008	"	0:44	1:31	7.72	8.93	17.4	2814	8002	4745	732	127	5178	5350	1246	29	"	"	"	"
26009	"	1:31	2:23	6.55	7.68	16.4	2961	8002	4548	769	126	5198	5366	1226	29	"	"	"	"
26010	"	2:24	2:52	5.54	6.51	14.5	1647	4258	2297	428	62	2860	2746	616	14	"	"	"	"
26011	"	3:32	4:14	9.52	10.67	22.0	2501	8002	5153	650	143	5171	5188	1397	37	"	"	"	"

LL7 10^{30} cm^{-2} s^{-1}	Bhabha $\int L dt$ nb^{-1}	$\int L dt$ EXP. ENERGY	OUTPUT IBM/ FATE	At Run Start ToF [V]	At Run Start FD [mV]	Online Rejection sum mirror T_2%	Online Rejection NORSO T_1T_2%	Σ Bhabha	MH	E_{beam}	Mag Field -1 to 6	Remarks
10.37	26.87	20281.97	IBM	2.2	0.5	49	36	472	6	17.500	4844	
8.83	22.09	20304.06	"	1.7	0.3	49	40	388	4	"	"	
6.65	18.62	20322.68	"	1.5	0.2	51	44	327	5	"	4843	
5.72	16.91	20339.59	"	1.2	0.2	53	45	297	6	"	4844	Pedestal events occurs on VTX chamber
4.65	17.08	20356.67	"	1.0	0.1	54	45	300	7	"	4843	
3.73	13.61	20370.28	"	0.8	0.05	54	52	239	2	"	4844	
2.87	11.27	20373.15	"	0.6	"	56	56	198	7	"	4839	
2.37	8.57	20381.74	"	0.6	0.02	~~56~~ 55	56	151	3	"	4835	Magnet unit to hold
1.91	5.58	20387.32	"	0.5	~0.0	55	58	113	1	17.501	4839	beams dumped
—	13.09	20400.41	"	~~0~~ ?	?	51	49	336	4	17.500	4834	μ crate 12 missing. 2 gaps in JETC
~~1.4~~	9.79	20410.20	"	?	?	52	49	172	2	"	"	" " " " dumps failed
—	16.68	20426.88	"	0.9	~0	53	49	293	5	"	"	" " " " dumps failed
—	2.45	20429.33	"	0.8	~0	51	52	37	2	—	—	beams dumped " "
1.84	24.19	20453.52	"	1.0	0.2	51	46	425	8	"	4776	
												Only Pedestal events
5.70	5.29	20458.81	"	1.0	0.2	53	47	93	3	"	4842	Beams dumped
9.21	26.76	20485.57	"	1.6	0.3	51	39	470	6	"	4782	
7.42	23.06	20508.63	"	1.3	0.2	53	41	405	8	"	~~4783~~	
6.02	17.93	20526.56	"	1.0	0.2	53	44	315	4	"	4799	
5.72	4.38	20530.94	"	1.0	0.2	49	47	77	0	"	4775	Beams dumped
8.72	24.94	20555.88	"	2.0	0.35	50	38	438	6	"	4743	
7.21	23.57	20579.45	"	1.5	0.3	52	41	414	8	17.501	4753	
6.53	20.04	20599.49	"			53	42	352	2	17.500	4761	
5.40	18.45	20617.94	"	1.0	0.2	54	47	324	2	17.501	4713	
4.05	17.25	20635.19	"	0.8	0.19	55	50	303	5	17.500	4742	dumps failed
3.54	5.35	20640.54	"	0.65	0.15	54	52	94	1	17.500	4779	beams dumped. dumps failed
7.57	21.46	20662.00	"	1.6	0.3	53	41	377	4	17.501	4760	dumps failed
6.07	19.24	20681.24	"	1.3	0.25	54	43	338	6	17.501	4757	dumps failed
5.52	19.70	20700.94	"	1.1	0.2	54	44	347	7	17.501	4798	
5.19	4.33	20705.27	"	0.85	0.15	54	48	76	1	17.501	4797	beams dumped
9.63	24.76	20730.03	"	2.0	?	52	37	435	7	17.500	4799	magnet trip —
7.52	22.77	20752.80	"	1.25	0.25	52	42	400	7	"	4770	4880, mon kg 4840
6.18	20.44	20773.24	"	1.1	0.15	53	45	359	2	17.501	4836	
4.99	8.43	20781.67	"	0.9	0.1	54	48	148	3	"	4836	beams dumped
9.39	28.18	20799.85	"	1.7	0.2	50	37	495	7	"	~~4784~~	

ring or everywhere? Everywhere

0400 There has been a power failure at DESY !!! ~ 3⁰⁰ hrs.

Find many crates on overload and several alarms going. Manage to stop them all except L.G. which I have "switched off" on rack 6 (A box in the rack shows voltage failure). Not much I can do. K.S. (Things seem to be ok in Geo House)

0500 Zimmer and Greenshaw

LG problem cured by switching off LG supplies in racks 5 and 6 (hardware room). Leaving for a while and then switching on again.
Gas check done, "Kreislauf" too little ethane, "Zulauf" too much. "Zulauf" ethane flow reduced, check again in a couple of hours to see if it has stabilised in the right place!
FADC problem. Error in reading pedestals in crate 16. → Fixed by replacing "Scanner Module"
Many looking error messages on NORD system terminal including Disc/Drum transfer error.
MARK-J say that DESY computers are being closed and that testing will start soon.
NORD crashed (had stopped talking to terminals)
LG power supply failure (bottom of rack 6, hardware room). Unit left off to give it a chance to cool down.
Magnet cooling pumps failed at sometime during night. Ok'd one sending someone down to both of them

0903 PETR broadcast "Restart ca. 17⁰⁰ Hrs" and I decide to go for a coffee.
1022 FADC-System is working again
1040 Exchanged LG-power supply (6V) in rack 6. Seems to be o.k now. MH.
1120 Muon test works. IBM link to MUX also Ok
1200 All quiet
1405 Muon gas system "Zulauf", "Kreislauf" figures going in right directions.

1600 Spieler & H. Mills
"Restart ca. 22.00 29.4" Gas check OK

1634 No fires here
1645 Blue flash outside - a thunderstorm rather than a power supply!

17²⁰ To shift crew to start up again:
Call K-Group 3389 to switch on the magnet. U.Becker

17¹⁵ I will phone PETRA ~ 22:00 to find situation. HEM
22³⁰ TV says "Restart 16.05.86 - HIGH NOON" - someone has been watching too many cowboy films.
No Fires. HEM

16.5.86
0⁰⁰ Illenseer, Naroska
Gas check done, everything (except PETRA) o.K. C.K.
4.00 Everything looks all right. Switched on TOF power supplies.
When Petra comes back "TAG" has to be switched on manually.

8⁰⁰ Middleton & Hagemann on shift
TV says: "Restart 16.05.86 ca. HIGH NOON" (still)
8²⁸ Gas check done, Mr Seidel said that there is a problem with the O_2-monitor, the current O_2-values are less reliable. other things O.K.
11⁴⁰ TV says: "Restart 22222"
14⁴⁰ ID current alarm found (during 'plot check') on address 21 (~~FE2~~ 418) but no HV. Reset OK? reported to S. Komamiya. Otherwise all quiet.

16⁰⁰ Rieseberg + Komamiya on shift
Gas check O.K.
"Restart ca 19 Uhr"

19⁰⁰ Magnet: Water pumps on and current to the stand-by value of 500 A. PETRA ~ at 1.84 GeV
21⁰⁰ Magnet to 7500 A. Petra $I^+ = 11.8$, $I^- = 11.8$ at Injection Energy
22²⁰ Transmitter problem, expert will come about ½ hour late.

14 17.5.86

00[00] 17th May 1986. Allison + Ramcke on shift
0.[08] Gas check o.k.
3.[40] Beam again
5.[32] Runs 25986-8 had µ crate 12 missing most of the time. ~~Replaced~~ Changed SCC in crate #12.
6.[00] Stopped run to look at JETC problem. Run 25988 (& probably 6 & 7) had 2 gapping holes in hit map.
6.[15] Beam dumped for refill.
7.[14] Run 25990 started. Still problem with JETC. Waiting for experts. Magnet drifted down to 4777.
Tagging system / luminosity problem still present.
7.[20] Magnet down to 4588

8[00] Heinelmann and Diekmann on shift Gas check ok.
exchanged a V34 Power Supply -6V missing
Run Summary is printed only in pieces interrupted by INTLK blinking
Get a copy via F17, F4, ..., 5↵
Still Problem with the magnet.

16[00] Stephan a Knobbe on shift

Gas check ok.

17[50] '2' ch. trip.
18[10] Mark J - PAW says there is a problem with the synchronisation so we must keep with the fill for a while - probably until ~ 19[00]
19[30] Z, Vtx a ID all trip. ID hard trip always causes VTX and Z chamber to follow!
20[00] During injection we get I.D Vtx a Z ch trip alarms - all HT's were off.
I_D showed anode current (37.4, 021) all reset ok.

8.5.86
00[00] Hughes + Wagning. , Gas Check Done.
0[15] found magnet had sleep walked downwards, it does not react on the control buttons in the hardware room, we phone MKK, they promise to come.
0[16] found MOP had died at 17/05/86 at 18:09:40 with exception $03 at address 27704.
restart MOP by "run ZIMMONI" successful. EVP terminal looked normal
0[36] Magnet Trip caused by MKK people

18.5.86
0:43 magnet fixed
1:18 magnet still is unstable, this time it sleepwalked upwards to 7355 A.
"Reset rundown" pressed for x/2 sec. brought it down to 7500A again.
"Lower" & "Raise" buttons still not functioning.
1:35 soft trip ID + Vtx
1:51 magnet sleepwalking again, it was down to 7434 A, we managed somehow to get it up to 7500A again.
2:10 2-ch.-trip on its own
4:32 " " " "
magnet sleepwalked another time, called MKK to reset it to 7500A
7:00 magnet again down to 7440 A, does not react on remote control, call MKK again,
new MKK crew comes and finds switch in power house set from remote to manually,
they set it back to remote, so magnet is now under our control again.
they dont know why we had this trouble tonight.
7:53 found MOP dead again, exception $04 at addr. 0094 7:06:25, EVP looks normal, vestart OK.
7:54 2-ch-trip (only 2)

8:00 Middleton and Schmoll on shift.
8:10 Gas check done: ok
8:25 soft trip ID + VTX
8:55 soft trip 2 ch.
10:15 magnet current droped to 7390 A cannot be raised by hand - planed MK2.
10:30 soft trip ID + VTX
also magnet back to 7500A. - OK
13:20 MOP dead, exception $04 at addr. $ 000 28454, restart ZIMMONI - OK.
13:30 many "mon data 5 missing" messages during this shift (i.e. every 10-15 minutes).
14:30 message on system console "YSPY: cannot open constants file". Planed H. Miles when said not to worry for this fill. But,

PLEASE RE-LOAD NORD AFTER CURRENT FILL ← MESSAGE FOR NEXT SHIFT!
HA proven

16[00] J. Allison and H. Rieseberg on shift
16[40] Gas check ok
17[40] Beams dumped. Nord reloaded.
18[10] New filling ready. Magnet low. "YSPY: cannot open constants file" still there.
18[40] MK1 people push relais → Magnet ok

16 RUN	DATE	START	STOP	at run start I+ (mA)	at run start I− (mA)	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS out	ALL *10⁶	TG/RE7 *10⁶	T1 ACC Sum	T2 ACC Sum	T1 Bit 2 E_tot > 6 GeV	T2 Bit 17 ST. EN. > 2 TR	PROCESSORS on/off NSO	MTP	TOF	TAG
26012	18/5/86	4:14	5:00	8.14	9.20	18.8	2743	8002	4892	712	133	5256	5272	1304	33	ON	ON	ON	OFF
26013	"	5:01	5:51	6.92	7.91	16.4	3012	8002	4536	782	128	5211	5398	1230	24	"	"	"	"
26014	"	5:51	6:00	5.90	6.82	14.2	479	1240	672	123	17.6	848	753	185	1	"	"	"	"
26015	"	6:10	6:12	5.60	6.50	14.5	152	394	229	39	5.6	254	249	49	1	"	"	"	"
26016	"	7:00	7:49	10.77	10.87	22.0	2451	8002	5230	687	140	5188	5229	1418	29	"	"	"	"
26017	"	7:50	8:40	8.87	8.81	17.8	2740	8002	4759	713	128	5212	5270	1308	33	"	"	"	"
26018	"	8:40	9:26	7.50	6.81	15.3	2605	6600	3483	678	104	4271	4536	1007	21	"	"	"	"
26019	"	10:13	11:07	10:03	10:47	20.8	2487	8002	5100	649	136	5253	5115	1442	35	"	"	"	"
26020	"	11:07	11:54	8.4	8.81	18.4	2694	8002	4873	701	129	5171	5195	1370	24	"	"	"	"
26021	"	11:54	12:42	7.2	7.6	16.5	2862	8002	4574	745	123	5255	5196	1322	42	"	"	"	"
26022	"	12:43	13:33	6,18	6.54	15.2	3029	8002	4453	787	120	5438	5168	1345	31	"	"	"	"
26023	"	13:34	13:35	5,33	5.66			no event											
26024	"	14:28	15:11	8.63	10.46	19.3	2611	8002	4978	679	131	5234	5230	1369	30	"	"	"	"
26025	"	15:12	15:58	7.33	9.05	17.5	2785	8002	4760	724	126	5309	5252	1389	35	"	"	"	"
26026	"	15:59	16:48	6.21	7.83	15.8	2942	8002	4467	764	121	5351	5167	1383	23	"	"	"	"
26027	"	16:48	17:41	5.29	6.83	14.4	3144	7893	4200	818	118	5239	5203	1281	27	"	"	"	"
26028	"	18.14	18.15						87										
26029	"	18:48	18.29	10.73	10.73	23.0	607	2029	1344	158	36	1266	1372	379	11	"	"	"	"
26030	"	18.34	19.16	10.15	10.14	21.3	2503	8002	5095	651	139	5245	5182	1503	53	"	"	"	"
26031	"	19.16	20.00	8.74	8.73	18.8	2611	8002	4956	679	128	5319	4985	1436	21	"	"	"	"
26032	"	20⁰⁰	20⁵¹	7.53	7.51	15.9	3005	8002	4404	781	124	5278	5350	1294	29	"	"	"	"
26033	"	20:51	21:41	6.58	6.58	15.3	3002	8002	4431	781	120	5245	5334	1234	24	"	"	"	"
26034	"	21:42	21:52	5.73	5.70	14.4	592	1549	841	154	22	1028	983	232	6	"	"	"	"
26035	"	23:13	23:52	10.22	10.73	26.2	2347	8002	5440	610	160	5069	5296	1442	39	"	"	"	"
26036	"	23:53	0:36	8.84	9.32	19.9	2561	8002	4950	666	132	5201	5100	1402	35	"	"	"	"
26037	13/05/86	0:36	1:30	7.62	8.07	16.3	2874	8002	4785	747	126	5138	5267	1351	28	"	"	"	"
26038	"	1:30	2:21	6.52	6.90	14.6	2460	6100	3156	639	93	3948	4180	884	17	"	"	"	"
26039	"	3:43	4:34	9.77	8.21	19.4	2696	8002	5016	700	136	5252	5340	1373	47	"	"	"	"
26040	"	4:34	5:25	8.45	7.64	17.5	2772	8002	4747	721	126	5286	5185	1307	34	"	"	"	"
26041	"	5:26	6:19	7.22	6.33	15.6	3018	8002	4547	784	122	5286	5282	1213	36	"	"	"	"
26042	"	6:20	6:29	6.24	5.37	14.8	552	1432	790	143	21	993	918	208	48	"	"	"	"
26043	"	7:03	7:48	10.40	10.49	21.2	2442	8002	5216	635	135	5186	5116	1496	44	"	"	"	"
26044	"	7:51	8:36	8.75	8.84	19.3	2573	8002	4876	669	128	5147	5250	1383	22	"	"	"	"
26045	"	8:37	9:31	7.49	7.42	16.7	2575	7127	4209	670	112	4638	4709	1184	34	"	"	"	"

17	<L> (10³⁰ cm⁻² s⁻¹)	BHABHA SL dt (nb⁻¹)	SL dt Exp. Energy (nb⁻¹)	IBM TAPE OUTPUT	at run start TOF (V)	at run start ID (μA)	ONLINE REJECT SUM MUPRO T2 (%)	ONLINE REJECT NORDSO THIZ (%)	Σ Bhabha	MH	E_Beam	MAG FIELD *-1 (G)	REMARKS
	7.74	23.34	20823.19	18m	1.3	0.15	53	40	410	9	17.501	4838	
	5.97	17.88	20841.07	"	—	—	53	45	38	6	"	4844	
	5.20	2.56	20843.63	"	0.9	0.1	54	47	45	0	17500	4831	~~Beams Dumped~~ Unable to fill so continue
	4.90	0.80	20844.43	"	0.9	0.1	53	44	14	0	17.500	4834	Beams Dumped !
	10.96	28.98	20874.41	"	2.0	0.2	51	36	503	8	17.500	4798	
	7.24	22.20	20896.61	"	1.5	0.1	52	42	390	7	"	4837	
	4.30	12.75	20909.36	"	1.1	0.1	54	49	224	3	17501	"	beams dumped
	10.45	28.07	20937.43	"	1.75	0.2	51	37	493	8	17.500	4735	
	8.31	~~23.54~~ 24.30	20961.97	"	1.25	0.15	53	40	431	8	17.501	4835	
	6.72	20.67	20982.64	"	1.1	0.1	52	44	363	3	17.501	4838	
	5.36	18.13	21001.77	"	0.95	0.1	55	45	336	8	17.500	4838	
													beams dumped
	9.41	26.08	21027.85	"	1.6	0.2	52	39	458	7	17.501	4841	
	7.75	~~27.59~~ 23.80	21051.65	"	1.25	0.2	53	42	418	7	17.500	4842	
	6.02	20.38	21072.03	"	1.0	0.2	54	46	358	5	17.501	4834	
	4.90	15.94	21087.97	"	0.9	0.1	54	48	280	2	17.500	4834	beams dumped
													Run not started properly, started too soon. Low B
	11.32	6.43	21094.40	"	1.8	0.2	50	35	113	2	17.501	4762	
	9.69	26.30	21120.70	"	1.7	0.2	52	37	462	6	17.500	4774	at run start, Hand
	8.53	23.17	21143.87	"	1.3	0.15	51	35	407	7	17.500	4843	
	5.09	18.44	21162.31	"	1.1	0.1	54	46	324	4	17.500	4841	
	5.14	15.94	21178.25	"	1.0	0.1	53	46	280	3	17.500	4841	
	4.40	2.79	21181.04	"	0.7	<0.1	53	48	49	1	17.500	4839	beams dumped
	10.03	25.90	21206.94	"	2.3	0.25	50	33	455	7	17.500	4834	
	8.32	25.79	21232.73	"	1.7	0.15	50	39	457	5	17.500	4835	
	6.13	21.12	21253.85	"	1.4	0.10	54	42	371	3	17.501	4835	
	3.58	8.37	21262.12	"	1.1	0.10	54	50	147	2	17.501	4834	beams dumped
	8.85	26.13	21288.25	"	1.8	0.2	53	38	459	5	17.500	"	
	7.41	22.94	21311.21	"	1.4	0.1	52	42	403	4	"	"	
	5.88	17.54	21328.75	"	1.1	0.1	53	44	308	5	17.501	4835	
	5.22	2.68	21331.43	"	0.9	.05	53	47	47	1	17.500	4836	beams dumped
	10.85	29.32	21360.75	"	1.8	0.2	50	36	515	6	17.501	4839	
	8.40	25.67	21386.42	"	1.5	0.1	50	40	451	5	17.500	4822	
	6.66	19.30	21405.72	"	1.3	0.1	52	42	339	5	17.500	?	

		19:28	21:05
Pedestal maps σ-deviations > 35%	3	14	0
Puls area σ-deviations > 80%	2	1	12

} mehrmals davor und danach

18⁴⁵ VTXC-Error : Pedestal maps σ-deviations > 35% 3 | 14 | 0
Puls area σ-deviations > 80% 2 | 1 | 12 } mehrmals davor und danach
19¹⁹ Muon crates 5,6 & 9 missing for first few minutes of 26031.
21⁵² Stop for refilling
22²⁵ Magnet walks down to 7350 A. "Raise" button brings to 7420 max. . Call MK1 - They push the relay → ok.
Note: Yentape of the dumpjob of ~ 19⁴⁰ not yet there?
23¹⁰ New fill ready.

19.5.86

0:00 Zimmerle Steffen on shift
gas check done
0:50 Soft Trip VTX / JETC
0:50 VTX Chamber: "Pulse Area Distribution - Error" → Histogram (σ-Pulsarea) Values little bit high but Histogram looking normal
1:13 Soft Trip
1:30 Soft Trip
2:30 Magnet skeepwalks to 7400 A no reaction on pushing the "Raise"-button → Call MK1
2:50 Magnet on 7500 A again
3:50 News fill ready
4:55 soft trip VTX+JETC
5:35 " " "
6:25 problems with Petry: no new fill possible at present
~~6:30~~ ~~no~~ new fill required, beam changed
7:00 new fill, problems with magnet

8:00 W. Bartel & G. Hughes
8:10 gas check ok
9:02 Many trips, soft + hard.
9:15 We may have lost some runs #25987, 25988
#26001, 26002, 26003, 26004
due to I/O-errors on the IBM. Some of the data may be recovered by repeating part of the DUMP-job. Especially with the 26000-series we have a good chance to recover the major part of the data

10:00 call K to kick the relais in the p magnet power supply. Afterwards magnet ok again.
11:45 Z-chamber trip
12:15 Std. histograms look ok except for $E^{\pm}$ timing hist 1 and 2, where a second peak developed.
It is not due to a 2nd bunch in the next RF-bucket (checked by PKR)
No action taken, we will keep an eye on these histograms
13¹⁵ Gould paper changed; Paper drive rollers cleaned with water
13:30 Timing histograms recovered during the last run

16⁰⁰ Greenshaw & Allison.
16¹¹ Vertex chambers: 19 events with pulse area deviation >80%. Histograms look Ok.
16¹⁴ Gas check done. all Ok.
18⁰⁰ Vertex chambers: 31 events this time. Histograms look OK.
19³⁵ FADC monitoring program hung up. cntr C. Run Zimmerli on MOP terminal didn't work with it. Despite fact that Readout of JETC operating Ok, processors reloaded in order to get monitoring program working.
In order to try and cure the 'Y-spy "cannot open constants file" problem (see system console) reloaded NORD. (following KERN's advice to earlier shift crew)
20²⁷ Y-spy still "cannot open constants file", but MOP is now Ok.
20³⁰ TOAS readout error 33 - Missing Lam br. 3 cr. 4, Z chamber part 1.
20³³ ———— " ———— br. 4 cr 1, JETC point 401
In standard histograms taken at end of run 26056 with e⁻ timing tests had subsidiary peaks. These have now vanished (run 26057) and all looks normal. (Is this due to low currents in last run?).
21⁴ TOAS readout error 33 - Missing LAM br. 2 cr. 6 Leadglass ADC 1.
22⁰⁰ Occasional minor magnet misdemeanors
23¹⁷ TOAS readout error 66 AC2044 TOF 2 9, X missing sta. = 3 reladdr. = 0.

20.5.86

0:00 Stephens & Steffen on shift.
0:15 gas check done
At start of # 26062 Tags MP 63 did not come on (on other 478 events)
FADC monitoring program hung up cntr C, RZIMMERLI also didn't work
JETC readout looks fine until end of run (not long) and reload processors
MOP working ok now.

Run	Date	Start	Stop	I^+	I^-	Dead time %	Time sec	Rec in	Rec out	MU $\times 10^6$	T_0^{mu} $\times 10^6$	T_1^{bac} sum	T_2^{acc} sum	T_1^{bit2}	T_2^{bit17}	MO	MIO	TOF	THO
26046	19/5/86	10.05	10:46	10.47	10.47	22.4	2420	8002	6176	629	141	5267	5147	1502	39	ON	ON	ON	OFF
26047	"	10.46	11.35	9.06	8.69	18.3	2679	8002	4880	697	128	5261	5159	1406	40	"	"	"	"
26048	"	11.36	12.25	7.43	6.32	15.7	2979	8002	4521	775	121	5306	5124	1311	35	"	"	"	"
26049	"	12.26	12.57	6.43	6.41	14.4	1830	4715	2498	475	68	3153	3070	694	13	"	"	"	"
26050	"	13.37	14.19	10.91	10.91	22.4	2455	8002	5327	639	143	5157	5290	1468	42	"	"	"	"
26051	"	14.19	15:02	9.33	9.30	19.8	2537	8002	5007	660	131	6257	5173	1412	41	"	"	"	"
26052	"	15:08	15:55	7.81	7.51	16.9	2802	8002	4727	729	127	5290	5823	1308	23	"	"	"	"
26053	"	15 55	16 46	6.72	6.43	16.0	2958	8002	4528	769	129	5270	5208	1280	26	"	"	"	"
26054	"	16 46	17 39	5.80	5.53	16.6	3109	8002	4319	888	118	5706	5146	1184	17	"	"	"	"
26055	"	17 39	18 35	5.04	4.79	13.0	3325	8002	4131	865	112	5356	5196	1147	27	"	"	"	"
26056	"	18 35	19 31	4.39	4.15	12.0	3320	7584	3692	864	104	5168	5095	996	25	"	"	"	"
26057	"	20 27	21 10	10.12	9.87	20.6	2534	8002	5141	860	176	5316	5118	1410	37	"	"	"	"
26058	"	21 10	21 58	8.67	8.44	19.0	2637	8002	4997	685	130	5262	5087	1405	33	"	"	"	"
26059	"	21 58	22 46	7.39	7.17	18.2	2776	8002	4847	722	131	5299	5077	1383	32	"	"	"	"
26060	"	22 46	23 35	6.40	6.14	16.5	2917	8002	4596	759	125	5324	5052	1218	36	"	"	"	"
26061	"	23 35	23 38	5.56	5.36	14.7	134	420	224	35.0	5.15	251	230	57	1	"	"	"	"
26062	20/5/86	0.22	1.05	10.44	10.38	24.1	2403	8002	5292	625	151	5110	5326	1666	40	"	"	"	"
26063	"	1:08	1:52	9.26	9.16	21.2	2502	8002	5118	651	138	5248	5043	1475	29	"	"	"	"
26064	"	1:52	2:42	7.94	7.85	18.8	2714	8002	4818	706	132	5246	5157	1366	44	"	"	"	"
26065	"	2:43	3:05	6.76	6.67	17.3	1068	3011	1683	278	48	1997	1947	468	14	"	"	"	"
26066	"	4:18	4:58	10.83	10.78	22.8	2380	8002	5403	619	141	5248	5048	1502	45	"	"	"	"
26067	"	5:04	6:00	9.14	9.09	20.6	2542	8002	5006	661	136	5273	5102	1393	31	"	"	"	"
26068	"	6:00	6:50	7.26	6.18	18.2	2978	8002	4404	774	141	4998	8884	1125	33	"	"	"	"
26069		6:51	6:53	6.48	5.47	17.7	109	320	196	28	5	197	207	46	3	"	"	"	"
26070	"	7.32	8 12	10.71	10.64	23.3	2338	8002	5338	609	141	5246	4980	1545	31	"	"	"	"
26071	"	8 12	8 57	9.2	8.14	20.4	2576	8002	5097	655	133	5297	5179	1448	34	"	"	"	"
26072	"	8 57	9 46	7.83	7.55	17.9	2766	8002	4870	720	124	5282	5136	1277	27	"	"	"	"
26073	"	9 48	10 32	6.67	6.41	16.5	2651	7273	4160	690	113	4780	4764	1094	37	"	"	"	"
26074	— no run —																		
26075	"	11:02	11:42	10.88	10.36	23.3	2392	8002	5230	623	145	5118	5205	1398	38	"	"	"	"
26076	"	11:42	12:26	9.39	9.45	20.0	2619	8002	4916	682	136	5212	5171	1366	24	"	"	"	"
26077	"	12 27	12 50	8.09	8.15	17.7	1382	4073	2433	359	63	2706	2584	721	26	"	"	"	"
26078	"	13 39	14 08	10.85	10.94	24.6	2366	8002	5176	617	152	5061	5187	1463	35	"	"	"	"
26079	"	14 09	14 51	9.30	9.38	21.2	2509	8002	4863	654	138	5023	5199	1321	25	"	"	"	"

∠L7	Bhabh [cal] nb^{-1}	∫Lat Exp	IBM / Tape original	TOF EW3	ID [μA]	Σ_{prim} T_2 %	N50 T_1+T_2	Σ Bhab	TH	E_{prim}	$\bar{B}$ [1+Jaun]	
10.88	26.53	21 432.25	IBM	1.8	0.2	50	36	466	7	17.501	4746	Magnet walking.
8.06	23.40	21 455.65	"	1.6	0.15	52	40	411	7	"	4837	
6.05	19.43	21 475.58	"	1.2	0.1	53	45	350	3	"	4838	
4.79	10.36	21 485.94	"	1.0	0.1	54	48	189	3	"	4838	Beams dumped
11.27	29.15	21 515.09	"	2.0	0.2	51	34	512	13	17500	4838	
9.54	26.64	21541.73	"	1.5	0.2	52	38	468	10	17501	4839	
7.38	21.35	21563.08	"	1.2	0.15	52	42	375	5	17501	4839	
5.89	18.05	21581.48	"	1.1	0.1	53	45	317	12	"	"	
4.61	16.11	21597.59	"	0.9	0.095	53	47	283	7	"	4838	Beams kept despite low luminosity due to anticipated injection problems.
3.59	13.38	21610.97	"	0.8	0.05	54	50	235	4	17500	"	"
2.81	11.22	21622.19	"	0.7	0.025	56	53	147	0	"	4837	Beams dumped
10.46	27.10	21649.29	"	1.8	0.2	52	37	476	10	"	4836	
8.80	24.99	21674.28	"	1.4	0.125	51	39	439	9	17501	4829	Magnetic field fluctuated between -4814 G and -4867 G.
6.92	23.91	21698.19	"	1.25	0.1	53	41	420	7	"	4844	
5.74	17.36	21715.55	"	1.2	0.1	53	44	305	6	"	4840	
5.53	0.68	21716.23	"	0.9	0.08	36	44	12	0	17500	4844	Beams dumped
10.25	27.9	21744.13	"	2.3	0.35	51	35	490	10	17501	4838	
9.09	28.58	21772.71	"	1.7	0.25	51	37	502	12	17501	4837	
7.23	23.74	21796.45	"	1.4	0.20	52	41	417	6	17500	4838	
5.67	6.72	21803.17	"	1.2	0.18	54	45	118	3	17500	4837	beam dumped
11.53	30.97	21834.14	"	2.0	0.35	51	34	544	11	"	"	
9.04	24.93	21859.07	"	1.6	.25	51	39	438	3	"	4839	
8.87	13.49	21872.56	"	1.7	.25	54	47	237	2	17501	4837	
4.80	.63	21873.19	"	1.5	.20	51	43	11	—	"	4840	beam dumped
11.53	33.47	21886.66	"	2.1	.35	50	34	588	9	"	4840	
9.40	27.72	21914.38	"	1.6	0.30	52	37	487	4	17500	4841	
~~7.37~~	20.89	21935.27	"	1.3	0.20	53	41	367	5	"	4840	
~~5.98~~ 5.98	16.68	21951.95	"	1.1	0.10	~~52~~ 53	~~24~~ 44	293	3	17501	4841	Beams dumped
				2.2	0.30							
10.32	27.27	21979.22	"	~~1.8~~	~~0.10~~	50	36	479	4	17501	4844	
8.62	24.20	22003.42	"	1.5	0.20	51	40	425	8	"	"	
~~7.03~~	12.24	22015.66	"	1.25	0.15	52	41	215	4	"	"	Beams lost
10.63	28.86	22044.52	"	2.0	0.3	49	37	507	10	17500	4844	
8.74	23.29	22067.81	"	"	"	48	41	409	7	17501	"	

20/5/86

1 40 Z ch trip
2 15 Vtx & IO soft trip
2 35 Z ch trip
5:00 Nord is dead after end of run 26066 : no response on any key (cured by pressing "line")
5:03 Z-chamber trip
5:45 several trips of JETC + VTXC : beam losses (typical Monday morning effect ; today on Tuesday)
20/5/86 8 00 test + Warming on shift

8 10 Gas check o.k.
8 30 Z-chamber trip
8 50 Jet + VTX chamber soft trip
9 30 MOP reloaded, Z-chambers trip
9 46 YSPY task rebuilt - this has probably cured the file opening problem. HKH
10 58 run 26074 terminated during parameter setting by system crate watchdog flag.
11 17 BP-Ch. Error (IBM-PC) : Pulse area 5-deviations >80% : 4
12 50 beams lost all chambers trip
13 43 BP-Ch-Errors on IBM-PC : Pulse area 5 - deviations >80% : 17 } cannot see anything grossly wrong
Pedestal 5 - " >35% : 2 }
→ no action
14 02 -ditto- 1 + 1 -"- -"-
14 11 JDAS readout error 33 Missing Lam by 3 or 4 (Z-ch,1)
14 24 BP-Ch- Error on IBM-PC : Pulse area 5 - deviations >80% : 3 -"- -"-
14 31 Z-Ch trip
15 00 JDAS readout error 33 - missing Lam by 3 or 4 (Z-ch,1)
15 02 Z-Ch trip
15 04 BP-Ch - Error on IBM-PC : Pulse area 5 deviations > 80% : 5 -"- -"-
15 10 several times loud peep from the air condition control ; temperature is 21.0 °C at the back of the hardware room, and 18.3° at the door. I phoned MK3, a technician will come
15 35 air condition has been serviced, filters have been exchanged, the technician claims everything is normal.
→ he proposes the water sprinkler to be installed on the roof again ?
it is installed since ~ 2 weeks W. Bartl

16 00 Beckes + Hughes.
Gas Check Done

16 42 MOP Terminal program crashed, Restarts with $RUN ZUMMONI exam immediately.
Inform Matsumura.
Pause Run. Run Jadego then MOP restarts.

Beate phones to say : Wednesday 21st May – Shutdown in afternoon for CELLO access. exact time not yet known.

20/5/86
17 40 MARK-J : Unable to get new filling – problems with DESY
17 56 Beams dumped.
18 35 Beams Ready.
19 09 Very High backgrounds – some beam loss. – all lost !
19 53 Beams Ready ; SCB histogs examined
23 06 Beams Dumped : Refill.
23 40 High background : optimisation in progress. Run Stat 23 42.
23 54 BP HV Trip.

21/5/ 0 00 Krebbiel + Warming.
2 00 Short after start of Run 26093 Z chamber trip. After that pertinent error "NO LATCH BANK" Run stopped. New run started. O.K.
2 55 gas check o.k.
4 02 Vtx-ch + ID trip soft.
after Vtx ch was up again : JDAS readout error 74 : wrong LAM by 1 or 1 (BP ch)
and shortly afterwards : JDAS readout error 33 : missing LAM by 4 or 1 (Jete point 602
10x (177777) -1 -1 177777 -1 3x (177777) 8786 177777
since start of new fill : magnet stuck at 7420 A, called MARK to knock it back to 7500 A
4 25 only with much difficulties MARK managed to bring magnet back to 7500 A
Vtx-ch + ID soft trip
from PAUSE/continue the MOP derived a "DOWN" command – how could that happen ???
4 40 Z ch trip
4 43 soft trip ID + Vtx ch.
4 48 " "
5 23 Z ch trip
5 57 " "
found MOP had crashed, in last column various characters scrolling down like mad.
can't get it work, wait for end of run, try later
6 40 Z ch trip
phone call from MARK J, Desy is unable to make a new fill

Run	date	start	stop	at run start I+	at run start I−	Dead Time (%)	Time (sec)	Records in	Records out	ALL ×10⁶	T6 Rej ×10⁶	T1 Acc Sum	T2 Acc Sum	T1 Bit 2 Eeg > 6 GeV	T2 Bit 7 2T. E4. ≥ 2 TR	Processors out NSO	MIP	TOF	Trg
26080	20/5/86	14 51	15 37	8.04	8.11	18.2	2736	8003	4772	712	130	5287	5062	1297	27	ON	ON	ON	
26081	"	15 38	16 27	6.93	7.00	16.7	2876	8002	4515	749	125	5071	5113	1213	26	"	"	"	
26082	"	16 27	17 21	5.96	6.03	15.3	3090	8002	4448	804	123	5336	5090	1139	20	"	"	"	
26083	"	17 22	17 55	5.12	5.18	14.5	4012	4809	2602	510	74	3175	3168	657	18	"	"	"	
26084	"	18 37	19 08	10.70	10.72	20.3	1693	5416	3474	441	98	3455	3632	381	11	"	"	"	
26085	"	19 53	20 35	10.48	10.33	22.2	2463	8002	5344	641	142	5187	5251	1474	45	"	"	"	
26086	"	20 35	21 20	8.98	8.86	18.8	2677	8002	4899	697	131	5267	5101	1336	43	"	"	"	
26087	"	21 21	22 08	7.67	7.48	17.7	2776	8002	4785	723	128	5355	4810	1281	27	"	"	"	
26088	"	22 08	22 58	6.59	6.41	15.8	2961	8002	4612	770	122	5280	5057	1189	29	"	"	"	
26089	"	22 58	23 06	5.48	5.51	14.6	435	1124	615	113	16	745	721	140	4	"	"	"	
26090	"	23 42	0.24	10.81	10.49	21.7	2453	8002	5237	638	139	5160	5248	1373	25	"	"	"	
26091	21/5/86	0.25	1.10	9.31	9.01	19.1	2638	8002	4901	686	131	5206	5192	1313	28	"	"	"	
26092	"	1:11	1:57	8.11	7.82	18.3	2802	8002	4766	729	133	5201	5356	1207	32	"	"	"	
26093																			
26094	"	2:04	2:52	6.98	6.71	15.7	2820	7439	4187	733	115	4854	4983	1068	32	"	"	"	
26095	"	3:28	4:12	10.88	10.82	23.4	2441	8002	5229	635	149	5131	5331	1339	37	"	"	"	
26096	"	—	40	events	—														
26097	"	4:28	5:16	8.93	8.87	21.5	2805	8002	5022	652	140	5263	5120	1405	39	"	"	"	
26098	"	5:16	6:00	7.63	7.57	19.9	2608	8002	4942	678	135	5182	5160	1320	36	"	"	"	
26099	"	6:00	6:48	6.60	6.55	17.5	2832	8002	4846	736	129	5267	5274	1291	34	"	"	"	
26100	"	6:49	7:11	5.72	5.66	15.8	1292	3492	1945	337	53	2307	2272	534	11	"	"	"	
26101	"	9:42	10:33	12.62	11.05	27.8	2642	8002	5224	687	150	5181	5605	1334	39	"	"	"	
26102	"	10:33	11:33	6.65	6.11	18.2	2797	7774	4470	728	133	4933	5497	1185	28	"	"	"	
26103	"	17:33	18:06	10.44	10.99	27.1	1930	6870	4800	502	136	4374	4395	1219	38	"	"	"	
26104	"	18:06	18:47	9.22	9.73	23.5	2466	8002	5149	641	151	4964	5319	1344	43	"	"	"	
26105	"	18:52	19:36	7.93	8.42	20.4	2633	8002	4949	685	140	5155	5193	1293	22	"	"	"	
26106	"	19:37	20:28	6.67	7.11	18.0	2794	8002	4719	727	131	5231	5115	1244	31	"	"	"	
26107	"	20:29	20:31	5.66	6.06	17.5	110	378	210	28	5	227	221	59	2	"	"	"	
26108	"	21:06	21:46	10.23	9.94	23.9	2400	8002	5359	624	149	5214	5087	1455	46	"	"	"	
26109	"	21:47	22:18	8.71	8.45	20.7	1720	5421	3574	448	93	3496	3458	984	31	"	"	"	
26110	"	22:19	23:11	7.76	7.51	18.9	2692	8002	4858	700	132	5219	5087	1391	40	"	"	"	
26111	"	23:12	0:00	6.53	6.17	16.4	2803	7673	4293	729	120	5042	4963	1198	24	"	"	"	
26112	22/5/86	0:34	1:28	11.02	10.98	20.6	2581	8002	5168	671	139	5191	5247	1409	35	"	"	"	
26113	"	1:29	2:17	7.36	6.37	17.0	2864	8002	4711	745	127	5270	5151	1295	30	"	"	"	
26114	"	2:19	3:09	6.29	5.43	16.4	2987	8002	4482	777	128	5275	5170	1169	33	"	"	"	

<L> (10⁻²⁷ cm⁻²)	Bhabha ∫Zdt (nb⁻¹)	SL dt Exp Energy	IBM/TAPE	at run start TOF (V)	at run start ID (μA)	ONLINE rej. MIPEC T2 (%)	ONLINE rej. NOISO LATCH (%)	Σ Bhabha	MH	E Beam	MAG. Field ±(−1) (G)	Remarks
		22067.81										
7.14	22.66	22090.47	IBM	1.25	0.2	52	42	398	10	17.500	4846	
6.09	18.22	22108.69	"	1.1	0.15	52	45	320	5	17.500	4847	
4.72	14.46	22123.15	"	0.9	0.1	53	46	252	9	17.500	4846	
3.88	8.71	22131.86	"	0.8	0.1	55	48	153	5	17501	4847	Beams Dumped
8.2	16.79	22148.65	"	1.9	0.3	52	37	295	5	17.500	4846	Beams lost.
10.49	27.15	22175.80	"	1.9	0.3	51	34	477	6	17.500	4845	
8.78	24.71	22200.51	"	1.4	0.2	52	39	434	5	17.501	4844	
7.33	22.26	22222.77	"	1.2	0.1	52	42	381	5	17.501	4844	
5.73	17.82	22240.59	"	1.0	0.1	52	44	323	3	17500	4844	
4.98	2.11	22242.70	"	0.8	0.08	55	47	37	0	17501	4844	Beams Dumped
9.45	25.10	22267.80	"	1.9	0.2	51	36	441	5	17500	4844	
7.30	23.00	22290.80	"	1.5	0.17	51	40	404	8	17501	4843	
5.56	17.25	22308.05	"	1.4	0.15	54	42	303	4	"	"	
												Forget this run: 251 records out with perman. NO LATCH BANK Error.
4.37	12.87	22320.92	"	1.2	0.1	53	45	226	5	17500	4840	Beams Dumped
9.36	24.08	22345.00	"	1.85	0.2	51	36	423	8	17.501	4796	
		— 40 events —										Magnet problems
7.86	22.26	22367.26	"	1.75	0.2	52	39	391	7	"	4830	
7.21	21.07	22388.33	"	1.5	0.15	51	40	370	6	"	4807	
5.88	18.50	22406.83	"	?	?	53	41	325	7	17.500	4796	
5.06	6.49	22413.32	"	1.15	0.1	53	46	114	1	17.501	4799	Beams dumped
7.49	19.81	22433.13	"	2.9	0.3	55	36	348	5	17.501	4842	
4.24	14.00	22447.13	"	1.6	0.15	55	44	246	4	17.500	4843	beams dumped
11.03	22.32	22469.45	"	2.3	0.4	49	31	392	8	17.500	4838	run ended Read glass pattern (YSPY) see ~~note~~
9.31	24.25	22494.70	"	1.8	0.4	49	37	426	9	17.501	4838	NO YSPY for most of the Run
7.61	20.21	22514.91	"	1.5	0.35	51	40	355	3	17.501	4838	YSPY reloaded.
5.85	16.68	22531.59	"	1.3	0.2	51	42	293	6	17.501	4838	
5.33	0.57	22532.16	"			41	47	10	1	17.501	4837	dumped
10.26	26.87	22559.03	"	2.1	0.3	51	34	472	8	17.501	4780	
8.19	16.80	22575.83	"	1		50	35	295	4	17.501	4787	run ended Read glass pattern or above
6.23	18.85	22594.68	"	1.4	0.15	51	41	331	3	17.501	4772	
4.84	15.60	22610.28	"	1.2	0.1	52	46	274	2	17.501	4796	beams dumped
8.27	23.97	22634.25	"	2.1	0.25	52	37	421	10	17500	4840	
5.62	16.91	22651.16	"	1.3	0.1	52	43	297	4	17.500	4840	
4.47	15.83	22666.99	"	1.0	0.05	53	46	278	3	17501	"	

21/5/86

8:00 Kado and Hellenbrand on shift
gas check done
MOP still down, <CNTL> C didn't work, also switching the terminal OFF and ON had no effect.
Finally I tried the brute force method: pressing abort and reset on the processor itself, caused a succesfull restart of the system.
8:20 "short break"
8:40 magnet walked down to 7200 amps, current unstable, "raise" and "lower" buttons are not functioning
MK1 informed
9:15 phone call from the power house: the magnet is set to "manual"; the MK1 man will try to switch it to "automatic". – ok – as soon as he did it, the current went up to 8100 amps!
I tried <F14>, <F6>, 7500, <CR> – ok – it worked again.
9:33 new beams ready, but high background (TOF rate > 10V!)
"background optimization"
9:38 TOF rate now below 3V, chamber switched ON
10:02 ID and VTXC soft trip (Q1) – partial beam loss
10:05 " " " " " (TOF-rate)
10:25 YSPY detected that average blocks/event >20 in last 1000 events – probably a pedestal problem (temperature in hadron room ~20°C) Starting a new run (and taking new pedestals) normally helps. No
10:37 new run started and Michael Kuhlen informed
11:01 ID and VTXC soft trip (Q4)
11:07 " " " " (Q1)
11:12 " " " " (TOF-rate); Z chamber hard trip
11:29 Z chamber hard trip (at same time "Pick up event?")
11:33 beams dumped – short break Magnet => ~~5~~ A OA
13:22 Air condition control alarms for about 20 sec, appeared several times
15:20 magnet to 7500 A

16:00 Steglow & Heinzelmann on Shift
16:01 "Short break" R.K.R say it should be ~30 min so will close the magnet.
16:25 "Injection"
17:15 Gas check OK
17:30 Beams

17:50 4) YS(4) Detected Error "Lead Glass Problem. Av. Block/event > 20 in last 1000 events. See Hist 131 – peak @ bin 3 – must be at start. Also look at some events!"
We look at histogram etc – don't really help because we don't have a comparison.
18:02 Message repeats so we follow Kuhlen's advice see 10:25 on previous page and we start new run.
New Run System consol says "error 31 in 35333 & 51042 – Permit violation"
This mean YSPY isn't functioning so we must reload whole consortium.
YSPY reloaded succesfully before run # 26105
19:25 Z ch. trip
20:00 ID + Vtx chamber soft trip
20:05 ~~Z~~ ch. trip
22:15 YSPY Error "Lead Glass Problem – – –" as above; run ended.
22/5/86
0:00 Kuhlen, Klüwer
0:10 Gas check done
0:15 Magnet was at 7400 A, "raise" don't helped, lowered to 7000 A, then up to 7500 A, o.k. raised
1:00 "Background optimization" → several ID/VTXC trips (due to TOF rate), peak of beams lost, Z-CH1 trip
5:13 YSPY: Lead glass blocks/event > 20 at a end 7500. Wait for new run

0:80 Greenshaw Hughes
Gas Check done

8:09. TV screen switches from "Energie Änderung" to "Kuge Unterbrechung" E in new 17.522.
New filling requested by Mark-J RUN 26130 very short + wrong energy

Vertex Chamber gas bottle pressure low – if we get a reading/error message TELEPHONE Kado et al DO NOT EUROBLEEP as Klüwer has test there
9:01 sep 80 just gone off night shift
11:08 Stopped run a restart new run to get new Pb Glass pedestals
11:07 YSPY reports peak in blocks/ev >200 already
11:39 VTXCh gas alarm, VTXCh HV Trip [redacted]
Cannot contact Kado, Ranke, Petersen, Hagemann. – Greenshaw chasing Klüwer!

RUN	DATE	START	STOP	AT RUN START I⁺	AT RUN START I⁻	DEAD TIME %	TIME [s]	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·E₄ ≥2TR	PROCESSOR ON/OFF NSO	μ 16	TOF	FAKE
26115	22/5/86	3:09	3:12	5.47	4.67	43.8	146	406	222	38	5	250	247	56	1	ON	ON	ON	OFF
26116	"	4:36	5:18	9.99	10.34	22.5	2456	8002	5339	638	143	5139	5209	1340	38	"	"	"	"
26117	"	5:19	6:02	8.59	8.92	20.3	2512	8002	5180	653	132	4982	5024	1330	29	"	"	"	"
26118	"	6:25	7:13	6.88	7.17	17.4	2830	8002	4675	735	128	5223	5024	1167	40	"	"	"	"
26119	"	7:13	8:03	5.96	6.24	16.3	2982	8002	4455	776	126	5253	5094	1155	29	"	"	"	"
26120	"	8:04	8:09	6.14	5.38	13.2	259	671	355	67	8	442	410	26	2	"	"	"	"
26121	"	10 33	11 01	10.32	10.81	28.3	1584	7837	6135	412	116	6034	3152	854	26	"	"	"	"
26122	"	11 01	11 42	9.33	9.82	21.6	2462	8002	5338	625	135	5359	4799	1362	23	"	"	"	"
26123	"	11 42	12 26	8.05	8.51	19.2	2619	8002	5005	680	130	5253	5113	1366	28	"	"	"	"
26124	"	12 27	13 16	6.90	7.33	19.9	3001	8002	4868	781	156	5364	5106	1302	23	"	"	"	"
26125	"	13 16	14 09	5.85	6.26	16.2	3154	8002	4549	821	133	5312	5247	1177	29	"	"	"	"
26126	"	14 37	14 55	4.63	4.99	13.4	1036	2514	1299	269	36	1689	1562	349	9	"	"	"	"
26127	"	17 02	17 43	10.51	10.14	21.7	2470	8002	5153	642	139	5181	5093	1363	33	"	"	"	"
26128	"	17 43	18 26	8.91	8.55	21.3	2566	8002	4971	667	142	5162	5098	1314	29	"	"	"	"
26129	"	18 27	19 19	7.71	7.37	18.5	2772	8002	4839	721	133	5186	5266	1241	35	"	"	"	"
26130	"	19 19	20 10	6.54	6.23	16.4	3009	8002	4529	782	128	5259	5266	1200	31	"	"	"	"
26131	"	20 10	20 32	5.66	5.36	15.4	1305	3339	1845	339	52	2179	2159	416	14	"	"	"	"
26132	"	21:17	22:05	10.34	10.24	22.0	2539	8002	4937	661	145	4961	5277	1197	37	on	on	on	off
26133	"	22:06	22:51	8.66	8.44	20.3	2666	8002	4828	693	140	4914	5170	1228	32	"	"	"	"
26134	"	22:58	23:57	7.47	7.18	18.3	2866	8002	4516	745	136	5111	5296	1157	27	"	"	"	"
26135	"	23:52	0:47	6.35	6.13	17.0	2963	8002	4479	771	131	5111	5213	1106	21	"	"	"	"
26136	23/5/86	0:47	1:02	5.44	5.23	15.6	860	2203	1175	224	35	1408	1390	287	7	"	"	"	"
26137	"	1:45	2:27	10.32	10.38	21.9	2480	8002	5284	645	141	5249	5053	1420	43	"	"	"	"
26138	"	2:27	3:11	8.83	8.87	20.1	2607	8002	4967	678	136	5214	5106	1274	41	"	"	"	"
26139	"	3:11	3:58	7.63	7.66	18.7	2786	8002	4781	724	135	5257	5200	1274	35	"	"	"	"
26140	"	3:59	4:51	6.64	6.66	16.5	2978	8002	4467	774	128	5258	5254	1187	29	"	"	"	"
26141	"	4:51	5:17	5.75	5.76	15.5	1388	3666	1998	361	56	2411	2328	529	16	"	"	"	"
26142	"	6:02	6:48	9.85	9.78	20.0	2607	8002	5106	678	135	5185	5268	1344	34	"	"	"	"
26143	"	6:48	7:31	8.54	8.81	19.0	2453	7298	4494	638	121	4756	4786	1223	37	"	"	"	"
26144	"	7:40	8:27	7.06	7.02	16.8	2837	8002	4798	738	124	5308	5112	1261	28	"	"	"	"
26145	"	8:28	9:10	6.09	6.05	16.1	2772	6085	3588	591	95	4021	3956	923	19	"	"	"	"
26146	"	10:01	10:45	11.27	11.22	31.9	2250	8002	5469	585	187	4878	5220	1460	32	"	"	"	"
26147	"	10:46	11:25	9.55	9.22	25.6	2365	8002	5763	615	157	5070	5234	1367	36	"	"	"	"
26148	"	11:26	12:09	8.27	7.96	22.4	2569	8002	5030	668	150	5035	5210	1325	33	"	"	"	"

<L> 30 cm⁻² s⁻¹	BHABHA ∫Ldt nb⁻¹	∫Ldt Exp. ENERGY	IBM/TAPE OUTPUT	AT RUN START TOF [V]	AT RUN START I D [μA]	ON LINE REJECT Sim MUP20C T₂ %	ON LINE REJECT NOD3D T₁T₂ %	Σ BHABHA	MH	E_BEAM	MAG FIELD −1× G	REMARKS
4.09	0.68	22667.67	IBM	0.8	<0.5	45	48	12	0	17.500	4839	beams dumped
9.64	24.65	22692.33	"	2.0	0.2	50	84	433	8	"	4846	
8.17	22.32	22714.65	"	1.6	0.15	52	36	392	5	"	4847	
5.96	21.01	22735.66	"	1.2	0.1	51	43	369	12	"	"	
5.04	16.11	22751.77	"	1.1	0.05	52	46	283	5	17.500	4847	
3.59	1.31	22753.08	"	0.7	0.05	51	49	23	0	17.522	4848	← NOTE ENERGY has wandered. Dumped
10.08	16.74	22769.82	"	2.0	0.3	49	29	294	3	17.501	4844	
9.89	27.84	22797.66	"	1.7	0.2	51	34	489	8	17.501	4845	
8.10	24.08	22821.74	"	1.4	0.15	51	38	423	11	17500	4847	VTX ⚙ - gas alarm.
6.33	22.43	22864.17	"	1.2	0.1	54	41	394	5	"	"	
5.03	16.97	22881.14	"	1.0	0.1	54	45	298	7	"	"	
3.55	4.61	22885.75	"	0.8	0.05	54	51	81	2	17501	4848	Beams Dumped
9.91	27.27	22913.02	"	2.0	0.4	49	37	479	7	17.500	4847	
8.08	21.97	22934.99	"	1.5	0.35	50	39	386	6	17.500	4847	
6.51	20.78	22955.77	"	1.2	0.25	52	41	365	4	17.501	4848	
5.09	17.65	22972.42	"	1.0	0.2	53	45	310	6	17.500	4847	
4.10	4.72	22977.14	"	1.0	0.15	53	47	83	1	17.500	4847	beams dumped
8.52	21.24	22998.38	IBM	1.8	0.4	48	40	373	6	17.500	4838	
6.65	18.90	23017.28	"	1.4	0.25	47	41	332	4	"	4838	
5.42	17.14	23034.42	"	1.2	0.40	51	45	307	2	"	4837	
4.62	15.43	23049.85	"	1.1	0.4	50	46	271	4	"	"	
4.09	4.95	23054.80	"	0.9	0.3	49	49	87	2	"	4835	beams dumped
10.20	27.84	23082.64	"	2.0	0.4	51	35	489	4	"	4835	
8.11	20.04	23102.68	"	1.6	0.25	52	39	352	3	17.501	"	
5.98	19.53	23122.21	"	1.4	0.2	53	42	343	4	17.501	4837	
4.88	16.51	23138.72	"	1.2	0.2	53	46	290	3	17.501	4836	
4.21	6.60	23145.32	"	1.0	0.15	52	47	116	1	17.501	4837	beams dumped
8.78	24.25	23169.57	"	1.9	0.3	52	37	426	7	17.501	4760	
7.56	21.86	23191.23	"	1.3	0.2	51	40	384	10	17.501	4839	run skipped enter 50 in 34727
6.60	20.95	23212.18	"	1.1	0.2	52	41	368	9	17.500	4838	
5.01	12.75	23224.95	"	1.0	0.2	53	42	222	4	17.501	4840	beams dumped
10.17	27.61	23252.56	"	2.2	0.4	46	33	485	5	17.500	4840	
9.37	23.23	23275.79	"	2.1	0.6	50	37	408	9	17.501	4841	
7.68	23.12	23298.91	"	1.5	0.25	50	39	406	8	17.501	4843	

9[10] Shift crew now have a "peeper". If one member of the shift crew wants to go for a coffee, to repair his/her car or bike, use the flight simulator in Ramcke's office eh... he/she should take the peeper with him/her. To contact the person in question dial

10 2563 (number you want the person to dial)
(normally 2563 again)

eg. 10 2563 2563. and then wait until series of short period beeps.

11[01] → 11[39] see page 27.

the "gasalarm" was just a valve failure. No reason to worry about (FH) oops!

12[52] IBM link lost. Re-link successful
(IBM transfer error 000053 (oct) subsr 00000 err. count 00..1)

13[39] IBM busy for ~ 60 secs

14[37] ZDAS failed, NORD reloaded and ZDAS rebuilt.

14[50] PHR confess to having LINAC I problems and will thus keep the fill to the last electron/positron or until the LINAC is repaired, whichever happens first.

15" "Wasserabladen im LINAC 1; Wiederbeginn ca 16:30 UHR"

15[51] Injection.

[16]00 Hellenbrand & Magnussen

16[10] Gas o.k.

20[37] no beams: magnet fluctuating; it was down to 7296 A and went back to 7345 A. Putting it back to 7000 A via Comp. did not work. Taking down the current to 7000 A and then back to 7500 A worked.

21:40 VTX chamber valve failure, reset o.k.

23/5/86

0:00 Hagemann + Heinzelmann

0:25 Gas check done, Kreislauf 10.3 ⇒ Methan flow decreased a bit

1:17 during injection: magnet current decreased to 7400A. Only decreasing current to 7000A and afterwards increasing to 7500 A by hand worked.

6:20 run paused to raise magnet current back to 7500A.

7:40 Error 50 in 34727. Stop run does not stop error messages. ⇒ EXIT, REBUILT YMAGNT, START NEW RUN ⇒ ok

23.5.86

8:00 Ramcke + Smolik on shift

8:05 Gas check o.k.

10:17 ID soft trip

12:36 IBM down, run #26149 stopped, run #26150 output to tape JDAS05

13:05 ID soft trip, Tof rate 2 – 8 V, PKR improves the beamconditions again.

13:29 DL300 monitoring crashed, run ZIMMONI now seems alle O.K.

14:05 VTX chamber valve failure, reset O.K.

16[00] Kodo + Chrin, gas check done.

16:30 ID and VTXC soft trip (Q4)

17:06 2 chamber trip (together with "pick up event?")
Numbers on MOP terminal are flashing: Fep 00, Fep 01, Fep 26 ... Fep 37 ≡ 1452 (steady)
Fep 02 ... Fep 25 ≡ 1477 (flashing)
wire map looks ok – the run is finished anyway, so processors reloaded and new run started

17:38 IBM BUSY ↘ "no events ..." for ~ 2 minutes, then IBM transfer error 000053 subsr 00000
link successfully restartet.

17:46 again IBM BUSY ~ 1.5 minutes – no problem with the link this time

17:50 JDAS readout error 33: missing LAM br.4 cr.1: JETC point 701
no way to recover from this ⇒ run stopped, 68K processors reloaded, new run started

18:16 2 chamber trip (together with "pick up? event")

18:40 New JADE record 1986: 16 multihadronic events in a run!

19:20 2 chamber trip (together with a VTXC valve failure)

21:35 Another JADE anti-record in 1986: only 1 multihadronic event in a full 1000 run at start of fill!
It's nature's way of giving us a lesson or two in statistics!

23[00] When viewing standard histograms – notice that channels 162+163 on LL IBM Map Endcap Histograms are really MUCH higher than normal!

23[07] End of Run A26160 – notice that the beam energy for this run (as read from the run summary sheet) has wandered to 17,523 GeV.

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (SEC)	RECORDS IN	RECORDS OUT	ALL $*10^6$	TØ Raj $*10^6$	T_1 ACC SUM	$\frac{1}{2}$ ACC SUM	T_1 BH2 $E_{LG}>66$	T_2 BH17 2T. E4 2 STR	PROCESSORS ON/OFF NSO	HIP	TOF	FAIL	$\langle L \rangle$ 10^{30} cm^{-2} s^{-1}	BHABHA $\int L dt$ nb^{-1}	$\int L dt$ Exp. ENERGY	IBM/TAPE OUTPUT	AT RUN START TOF (V)	AT RUN START IO (μA)	ONLINE RESET SUM Hidroc T_2%	ONLINE RESET NORDSO T_1T_2 %	Σ Bhabha	MH	E_{beam}	MAG. FIELD -1.×G	REMARKS
26149	23.5.86	12:09	12:36	7.16	6.87	20.8	1595	4850	4643	415	86	3156	3087	831	21	ON	ON	ON	OFF	6.25	10.82	23 309.73	IBM	1.5	0.2	52	41	190	5	17.500	4.844	
26150	"	12:46	13:39	6.40	6.13	18.7	2870	8002	4673	747	140	5123	5333	1240	33	"	"	"	"	5.03	17.71	23327.44	TAPE	1.5	0.2	52	43	311	6	17.501	4 844	output on tape JDAS05
26151	"	13.40	14:01	5.50	5.25	17.9	1269	3399	1898	330	59	2183	2246	486	14	"	"	"	"	4.48	6.43	23333.87	IBM	1.1	0.15	52	46	113	2	17.500	4844	beams dumped
26152	"	16:24	17:13	10.24	10.87	21.5	2739	8002	4854	713	153	5075	5588	1227	44	"	"	"	"	6.57	18.39	23352.26	"	1.9	0.25	53	41	323	5	17507	4844	
26153	"	17:15	17:51	8.80	9.40	24.5	2107	6038	3683	549	134	3703	4140	986	28	"	"	"	"	6.46	16.11	23368.37	"	1.4	0.2	49	40	283	8	"	"	JO8K problem
26154	"	17:56	18:39	7.78	8.34	21.5	2591	8002	4897	674	145	5184	4995	1382	35	"	"	"	"	7.77	22.49	23390.86	"	1.4	0.2	50	40	395	16	"	"	
26155	"	18 40	19.26	6.73	7.25	19.1	2744	8002	4795	713	136	5248	5100	1284	35	"	"	"	"	6.19	19.13	23409.99	"	1.3	0.2	52	42	336	10	"	"	
26156	"	19.27	20.16	5.84	6.33	17.0	2945	8002	4766	765	129	5212	5191	1144	24	"	"	"	"	5.03	14.57	23424.56	"	1.1	0.2	52	42	256	3	"	"	
26157	"	20.17	20.26	5.09	5.54	16.1	545	1474	821	141	22	969	933	223	5	"	"	"	"	4.38	3.02	23427.58	"	1.0	0.15	53	46	53	0	"	"	beams dumped
26158	"	20.53	21.35	10.49	10.69	22.8	2467	8002	5084	641	146	5067	5184	1343	33	"	"	"	"	9.12	23.17	23450.75	"	2.0	0.6	49	38	407	1	17500	"	
26159	"	21.36	22.20	8.97	7.82	21.1	2625	8002	4900	682	143 ~~148~~	5065	5285	1313	32	"	"	"	"	7.35	20.95	23471.70	"	1.6	0.3	50	40	368	11	"	"	
26160	"	22.20	23.04	7.81	8.13	20.7	2610	8002	4871	678	140	5047	5153	1299	43	"	"	"	"	7.16	19.98	23491.68	"	1.3	0.45	48	41	350	10	17.523	"	
26161	"	23.04	23.51	6.79	7.09	18.8	2777	8002	4761	722	136	5178	5079	1244	31	"	"	"	"	6.09	18.05	23509.72	"	1.3	0.2	50	42	317	6	17.501	4842	
26162	"	23.52	0:39	5.91	6.19	17.1	2799	7667	4605	728	124	4960	4857	1164	19	"	"	"	"	4.61	13.72	23523.44	"	1.1	0.15	51	44	241	4	"	"	
26163	24/5/86	1:16	2:09	10.90	11.02	27.6	2366	8002	5327	614	169	4852	5245	1315	39	"	"	"	"	8.71	22.20	23545.64	"	2.1	0.6	47	35	370	7	17.500	4834	
26164	"	2:07	2:51	8.80	8.84	22.5	2472	8002	4908	648	145	4977	5294	1310	34	"	"	"	"	7.59	19.81	23565.41	"	2.0	0.35	48	40	348	4	"	"	
26165	"	2:52	3:36	7.72	7.76	17.2	2883	8002	4738	750	129	5106	5327	1186	34	"	"	"	"	5.26	15.71	23581.12	"	1.6	0.25	51	46	276	5	"	4835	
26166	"	3:36	4:22	5.82	5.24	16.9	1552	4187	2222	403	68	2589	2679	574	15	"	"	"	"	4.26	7.69	23588.81	"	1.6	1.0	47	49	135	2	17.501	4834	beams dumped
26167	"	5:50	6:30	10.63	11.10	23.2	2418	8002	5249	628	146	5061	5116	1374	34	"	"	"	"	10.44	27.16	23615.97	"	2.0	0.25	48	36	477	10	17.501	4833	
26168	"	6:31	7:13	9.16	9.48	21.2	2542	8002	4912	661	140	5077	5047	1330	33	"	"	"	"	8.61	25.79	23641.76	"	1.5	0.35	47	40	453	6	17.502	4832	
26169	"	7:14	7:59	7.94	8.25	19.1	2662	8002	4746	693	132	5128	5072	1276	31	"	"	"	"	7.51	22.15	23663.91	"	1.2	0.2	48	42	389	9	17.501	4832	
26170	"	7:59	8:07	6.86	7.15	17.8	424	1339	767	110	20	851	781	221	4	"	"	"	"	6.56	4.17	23668.13	"	1.0	0.2	44	44	75	0	17.500	4860	stopped by pressing HV-down instead of continue
26171	"	8:11	8:43	6.62	6.96	17.1	1841	5164	3034	479	82	3368	3253	737	14	"	"	"	"	6.28	11.90	23680.08	"	1.0	0.2	50	42	209	1	17.501	4859	LG Problems
26172	"	8:43	9:15	6.03	6.30	15.0	1855	4951	2779	483	72	3238	3064	733	23	"	"	"	"	5.22	11.56	23691.64	"	0.9	0.2	49	45	203	3	17.500	4847	Beams dumped
26173	"	9:36	10:39	10.26	10.65	19.4	2572	8002	5112	661	128	5337	4837	1367	25	"	"	"	"	9.94	28.98	23720.62	"	3.0	0.25	50	37	509	4	17.501	4847	
26174	"	10:40	11:31	8.89	9.27	17.0	2765	8002	4738	719	122	5356	4955	1277	35	"	"	"	"	8.16	24.93	23745.55	"	1.0	0.05	52	42	438	8	17.500	4	
26175	"	11:32	11:37	6.00	7.96	15.2	304	891	502	79	12	562	537	119	6	"	"	"	"	6.00	2.68	23748.23	"	0.4	"	45	45	47	0	17.501	"	beams dumped
26176	"	12[38]	12[39]	10.49	10.74	40.4	56	246	163	15	6	140	119	42	2	"	"	"	"	9.61	0.80	23749.03	"	2.6	0.2	29	37	14	2	"	"	Stopped to rebuild YMAGNT
26177	"	12[41]	12[59]	10.33	10.57	21.1	1080	3349	2187	281	59	2198	2167	616	11	"	"	"	"	10.89	12.24	23761.27	"	1.8	0.15	52	36	215	2	17.500	"	Stopped for LG pedestals
26178	"	13[00]	13[41]	9.71	9.95	20.3	2482	8002	5161	646	131	5234	5106	1397	37	"	"	"	"	9.77	29.49	23790.76	"	1.5	0.1	51	37	518	8	"	"	
26179	"	13[42]	14[26]	8.42	8.64	19.4	2638	8002	4817	686	133	5197	5088	1293	29	"	"	"	"	8.07	23.80	23814.56	"	1.25	<0.1	50	40	418	6	"	"	
26180	"	14[26]	15[14]	7.21	7.53	?	?	8003	4582	?	?	5271	?	?	?	"	"	"	"	?	19.64	23834.20	"	1.2	<0.1	?	44	345	5	"	"	Run summary corrupt.
26181	"	15[14]	15[52]	6.15	6.57	15.5	2228	5862	3153	580	90	3904	3717	835	23	"	"	"	"	5.80	12.14	23846.44	"	0.9	<0.1	53	48	215	3	"	4848	Beams dumped
26182	"	16[20]	17[20]	10.12	10.55	?	?	7624	6455	?	?	3697	?	931	33	"	"	"	"	?	12.16	23858.62	"	2.6	0.4	?	38	214	3	"	4850	"incomplete" due to computer playing silly games

23 55 30 Amps fuse blown – μ crate 4. (Luckily just 5 minutes before 9 was To leave!). Replaced fuse.

24th May 1986 0° H. Mills + N. Magnussen on Shift

Gas check performed OK

The MOP is going mad – Stopped it & Ran ZITHONI – picture appears but moves up 1 line for each timearound loop!!

1 26 BP + JETC soft trip. BPCH pen recorder runs out of paper.

1 71 " " " " PKR optimise beam, I change BPCH plotter paper.

3 25 See that previous JADDUMP has been in JDATA step for 5 1/2 hours! Thus current job cannot run & soon our disc will be full. Decide that only sensible(!) thing to do is to cancel the hanging job (it has two tapes but nothing moves) and let next run & hope experts can fix second step. Thus.

3 47 The waiting JADDUMP job dumps the disc & goes into JDATA step. Think an expert should look into problem before REFORM jobs are run.

5 18 Again Error 29 in 34237. Rebuild YMAIL. Now o.K.

7 30 Magnet sleepwalking (down to 7470A)

8 00 Cartwright, Klein next

8 25 Gas back down, VTX valve failure reset

8 30 Called Luke Baker, he will come in to look at the JADDUMP problem

8 47 Called Karl-Heinz Hellenbrand re insane MOP-terminal: he says re-initialise JADEGO at the end of this run, using the Micros-CTRL JDAS menu (JG8K option)

9 16 Beams dumped, JG8K reloaded

9 56 MOP terminal OK again.

11 15 all 3 chambers tripped, part of ct lost

12 38 YMAGNT falls apart – multiple error messages on system console. Run stopped, YMAGNT rebuilt. (This also happened yesterday morning – see p30).
Run 26176 is very short (< 1 min) & has no VTX readout as VTX tripped at 12 37!

12 55 JDAS readout error G4 – AC2099 TOF-2 Q,X missing stn = 3 subaddr = 0 (never seen that one before!)
Also YS8Y complains about LG pedestals. Start new run.

14 17 Found +z side z-chamber anode current > 10 μA (–z side ~ 1 μA). Nothing apparently wrong, but this is far too high for safety! Switched it off for 3 minutes (this used to work 18 months ago when it did this quite a lot). 14 34 anode current still normal after 10 minutes running. (Note there was a z-ch trip at 14.05 – connected? cause & effect? or vice versa?!)
Also very large number of pickup events in relevant run – 87 (3x normal 10 or so)

15 07 JDAS readout error 33 – missing LAM br 3 cr 4 : z-ch part 1

15 20 Run summary for run 26180 is partially garbled (<L> = 0, int L = 0, $\Sigma T_2 = 0$ etc) 26179 was OK and run-to-for for 26181 is OK. Odd.

15 30 IBMPC complaining of absurd deviations in VTXC histograms. Claus returns at just the right time for me to pass this on to him!

15 40 Try to phone MKT to ask for a new fill (Jan Olsson is waiting) – they don't answer. Asleep?! (Successful at 4th attempt, & they then agree that a new fill is a good idea)

16 00 Kuhlen + Walter on duty.

16 31 1D + VTX-ch. trip during "optimisation" (soft).

17 06 YS8Y complains about LG.

17 13 1D + VTX-ch. trip again.

17 14 Missing LAM br. 4 cr. 1 : JETC print 703.

17 19 JDAS control terminal goes crazy (just as YS8Y detects another (or maybe same) LG error. NIO records no. starts up to > 32000 (and = 70156) + run stops, tape paper jams in serial printer. HELP!!!
JDAS terminal ~~typical [illegible]~~ in "warning" loop. Rebuild computer. ← what does this mean?

20 03 Vertex chamber valve failure; reset in the gas house

20 58 JDAS readout error 33 – missing LAM br 4 or 1 : JETC print 405 : 177777 17777 ...

22 20 JDAS console reported an error when making the run summary. Sorry, I can't give more details because I hurried to start the new run and the error message was overwritten. I thought I could find the run summary stored between the old ones. This was not the case. I'm afraid the run summary is missing. What can be said is that run 26187 was a full run with 8000 events in ...

25th May 1986 00° Spitzer and Greenshaw on shift.

Instruction manuals for JADE phone and beeper are now filed as appendices 15 and 16 respectively in the JDAS Operator's Manual.

00 08 Gas check done, all OK.

00 30 Magnet drifts down to 7440 A and stays there, doesn't respond to either computer or hand control, but seems stable.

2 55 Valve failure (together with z-ch. trip). Reset in gas house ok.

6 50 ZC soft, VXC hard trip 3x Then both soft.

7 07 ZC trip, valve failure.

7 26 Run 26197 stopped early as LG noisy – see if new pedestals in run 26198 help – they do.

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME %	TIME sec	RECORDS IN	RECORDS OUT	ALL ×10⁶	TØ REST ×10⁶	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT 2 $E_{tot}>66$GeV	T_1 BIT 17 $2T, E_{tot}>27K$	PROCESSES ON TAPE N50	MIP	TOF	FAN
26183	24/5/86	17.38	18.22	8.31	8.51	19.0	2607	8002	4914	674	131	5406	5018	1383	26	on	on	on	on
26184	"	18.23	19.11	7.17	7.36	16.8	2554	8002	4731	742	124	5416	5007	1340	24	"	"	"	"
26185	"	19.12	20.07	6.17	6.35	14.9	2915	7655	4172	758	113	5094	4870	4130	29	"	"	"	"
26186	"	20.48	21.31	10.48	10.71	20.7	2521	8002	5139	656	135	5193	5161	1370	33	"	"	"	"
26187	"		22.15					8002											
26188	"	22.17	23.04	7.96	8.05	17.2	2810	8002	4670	730	125	5324	5037	1327	26	"	"	"	"
26189	"	23.04	23.47	6.89	6.97	16.1	2481	6778	3850	645	103	4526	4305	1038	19	"	"	"	"
26190	25/5/86	00 32	1:15	10.28	10.62	20.6	2557	8002	5186	669	136	5174	5176	1307	25	"	"	"	"
26191	"	1:16	2:01	8.87	9.22	18.2	2595	8002	4913	700	127	5325	5038	1341	30	"	"	"	"
26192	"	2:02	2:50	7.69	8.03	17.0	2883	8002	4719	748	126	5375	5129	1314	26	"	"	"	"
26193	"	2:51	3:47	6.66	6.98	15.8	3002	8002	4570	720	123	5276	5134	1159	23	"	"	"	"
26194	"	3:48	4:09	5.67	5.96	14.4	1229	3089	1627	319	45	2010	1970	408	7	"	"	"	"
26195	"	5:01	5:45	9.47	10.62	21.1	2602	8002	5182	675	142	5155	5316	1323	39	"	"	"	"
26196	"	5:46	6:31	8.17	9.25	18.4	2715	8002	4814	704	129	5164	5326	1317	32	"	"	"	"
26197	"	6 31	7 20	7.06	8.08	17.0	2623 +250	8002	4665	682	116	0772	4695	1128	23	"	"	"	"
26198	"	7 30	7 46	5.41	6.66	15.1	881	2742	1725	229	36.6	1560	1649	368	5	"	"	"	"
26199	"	8 17	9:00	10.37	10.27	20.7	2501	8002	5130	650	135	5164	5077	1387	34	"	"	"	"
26200	"	8.59	9:44	9.00	8.88	19.7	2594	8002	4919	675	133	5212	4979	1374	28	"	"	"	"
26201	"	9.44	10.30	7.81	7.76	17.3	2760	8002	4675	718	124	5374	4966	1287	34	"	"	"	"
26202	"	10 31	11 46	6.82	6.71	17.4	529	1431	808	138	24	913	893	203	4	"	"	"	"
26203	"	11.24	12.13	10.62	10.72	23.0	2512	8002	5357	653	150	5194	5145	1474	32	"	"	"	"
26204	"	12.13	12.56	8.92	9.01	18.9	2604	8002	4963	677	127	5271	5027	1411 E	31	"	"	"	"
26205	"	12.57	1344	7.72	7.80	17.1	2789	8002	4686	601	123	5283	5064	1308	24	"	"	"	"
26206	"	13.45	13.52	6.69	6.76	16.0	437	1229	710	113	18	819	749	198	2	"	"	"	"
26207	"	14.31	15.12	10.55	11.02	21.0	2434	8002	5258	633	133	5763	4989	1407	27	"	"	"	"
26208	"	15.13	16.01	9.04	9.49	18.7	2652	"	4872	689	128	5233	4985	1327	27	"	"	"	"
26209	"	16 01	16 48	7.64	8.01	17.0	2782	8002	4872	725	123	5286	5019	1272	33	"	"	"	"
26210	"	16 49	17 26	6.56	6.91	16.0	2029	5553	3076	528	84	3692	3474	859	16	"	"	"	"
26211	"	18 10	18 54	8.22	9.41	19.1	2584	8002	5152	672	128	5185	5004	1365	30	"	"	"	"
26212	"								≈1000										
26213	"	~~19 08~~	~~20 24~~	~~7.83~~	~~8.99~~	~~16.3~~			~2000							"	"	"	"
26214	"	~~20 26~~ 19 08	20 24	7.15	8.26	16.3	2930	8002	4685	762	124	5294	5069	1231	39	"	"	"	"
26215	"	20 26	21 07	6.10	7.13	16.1	2394	6229	1002	622	100	4261	3328	951	26	"	"	"	"
26216	"	21 42	22 23	10.48	10.66	22.1	2467	8002	5205	641	142	5099	5112	1386	36	"	"	"	"
26217	"	22 27	23 08	8.89	7.91	19.7	2421	7291	4498	629	123	4828	4564	1200	27	"	"	"	"
26218	"	23 10	23 58	7.70	7.85	16.4	2842	8002	4711	759	121	5345	5014	1245	34	"	"	"	"

<L> $10^{30}cm^{-2}s^{-1}$	BHABHA $\int Ldt$ nb^{-1}	$\int Ldt$ exp. energy nb^{-1}	IBM/TAPE OUTPUT	AT RUN START TOP V	AT RUN START ID mA	ONLINE REJ SUM MUROL % T_2	ONLINE REJ N50 % $(T_1 T_2)$	Σ BHABHA	MH	E_{BEAM}	MAG FIELD -1×5	REMARKS
7.85	25.45	23834.07	IBM	1.3	0.2	54	40	447	5	17.501	4850	
6.35	21.46	23905.53	"	1.2	0.1	53	42	377	4	17.500	"	
5.14	17.76	23933.29	"	1.0	0.1	52	47	312	5	"	4847	beams dumped
9.47	26.19 ?	23959.48	"	1.8	0.2	50	37	460	10	"	"	
			"	1.5	0.1					"	"	error for run summary, run summary missing
6.99	22.89	23982.37	"	1.3	0.1	52	43	402	8	"	"	
5.97	15.83	23998.20	"	1.0	0.1	52	44	278	8	"	"	beams dumped
9.07	24.14	24022.34	"	1.9	0.25	51	36	424	6	"	4802	
7.42	21.80	24044.14	"	1.4	0.20	52	40	383	7	"	4818	
6.40	19.70	24063.84	"	1.1	0.2	53	42	346	6	"	4814	
5.10	16.97	24080.81	"	1.0	0.15	52	44	238	4	"	4796	
4.63	5.64	24086.45	"	0.8	0.1	53	49	99	1	"	"	beams dumped
8.42	24.14	24110.59	"	1.6	0.25	52	36	424	5	"	"	
7.21	21.07	24131.66	"	1.5	0.20	51	41	370	5	"	4819	
5.87	18.79	24150.45	"	1.2	0.2	52	43	330	4	"	4799	
5.44	5.52	24155.97	"	0.8	0.15	54	45	97	2	"	4804	beams dumped
9.94	26.41	24182.38	"	1.5	0.2	50	37	464	5	"	4841	
8.50	24.42	24206.80	"	1.4	0.3	50	40	429	8	"	"	
6.74	19.70	24226.50	"	1.2	0.2	53	43	346	8	"	4849	
5.39	3.42	24229.92	"	1.0	0.1	51	46	60	0	17.501	"	beams dumped
10.38	30.40	24260.32	"	1.7	0.2	51	34	534	7	17.500	4844	
8.65	26.13	286.45	"	1.4	0.2	51	39	459	6	"	"	
7.07	21.40	307.85	"	1.1	0.2	52	43	376	3	"	"	
6.14	2.85	24310.10	"			52	44	50	0	"	"	beams dumped
11.08	28.41	24338.51	"	1.6	0.2	48	35	493	10	"	4845	
8.89	25.33	363.84	"	1.2	0.2	50	40	445	10	"	4847	
7.16	21.35	385.19	"	1.0	0.15	51	41	375	9	17.501	4846	
5.77	13.55	398.74	"	0.8	0.1	52	46	238	7	"	4844	beams dumped
9.88	27.73	24426.47	"	1.4	0.2	49	37	487	13	"	4844	
	~10.0		"	1.1	0.15					"		Gould plotter hangup, Nord 10 ok 214
		24436.47	"	1.0	0.15					"	4844	" " "
6.45	19.59	24456.06	"	0.8	0.1	52	43	344	3	"	"	
5.05	14.35	470.41	"	0.7	0.1	52	47	252	6	"	4843	beams dumped
10.13	26.58	496.99	"	1.6	0.2	49	35	467	9	17.500	4842	
8.16	20.27	517.26	"	1.2	0.2	51	40	356	3	"	"	
6.85	19.01	24536.27	"	1.0	0.17	52	42	324	4	"	4843	

7⁴⁰ JDAS Readout Error CC - AC2099 TOF-2 Q, x missing station 16 subaddress 7
7⁴¹ Phone MH1 and persuade them to come and have a look at the magnet.
7⁴⁹ Magnet at 7513 A

8⁰⁰ Matsumura & Naroska
Gas check done
8³² Z chamber Trip
8³³ Muon Digitizers Missing 41 of 51
9³⁶ Z chamber Trip
11⁴⁰ FEP 16 Time Out JADEGO OK
13.18 Looking at the luminosity ~~curve~~ decrease in filling I tried to convince the other experimnats to refill now.
Cello agreed, Tasso objected violently (too much noise), and Mark J said in 1½ hours.

16⁰⁰ Obrtn, Fest on shift Gascheck done, Methan found low, at 11
both z-chamber meters read 5-6 μA
16¹⁰ Mark J tries to strike a compromise between refill (JADE) and keep it (TASSO).
17⁰⁰ Soft trip Jete + VTXC
18¹⁵ muon crate 4 missing, crate has no power, Peks Warning comes for it, O.K. after exchange of fuse
18⁴⁰ Z-ch trip, VTXC gas alarm (valve failure), reset OK.
19⁰⁰ Plotter paper dried out, malfunction and no run summary. Printing old summary in next run led to NIO hangup on Level 14, had to reload. Run summary of R 26212 lost, will try printing of 26211 in next fill period.
19³⁰ R 26213: YSPY reports >20 Blocks LG / event. Stopping run leads to malfunction of plotter, also error 28 in YRUNST. Rebuilt YRUNST, start new run. Run Summary not saved!
Temp behind LG racks 39°, no wonder that Pedestals drift!
found Copy key on Lvn 34 permanently on "copy". After releasing it, plotter works again!
Immediately after, μ crate 4 permanently missing. All 4 fuses are OK, after turning on powerpack again it works!?
20¹⁹ Missing Lam FEP Ready, Monitor Black. Restarting ZIMMONI fails, "Output record too long"
Reload FEPs, OK!
20²⁹ Missing Lam FEP Ready, Zimmoni not affected this time. Z-ch. trip
21¹⁰ VTX-chamber valve failure
23⁰⁰ the timing test distributions are considerably broader the previously
23¹⁰ Fep Lam missing repeatedly, Reload FEPs, OK. LG Pedestals had drifted again, start new run

23⁵⁷ Z-ch trip, Valve failure VTXC Same time, for the 2nd time in this shift!

26/5/86 Becker + Walther on shift. Gas check OK.

0²⁰ Mark-J says PETRA have injection problem ⇒ no new fill for a while.
0³⁰ Missing LAM FEP ready (etch) + at 3.00.
0³² Z-ch trip.
0⁴⁵ VTXC gas alarm as HT runs down.
2²² Z-ch trip + VTXC valve failure
Muon crate 4 requires to be reset + YSPY reports digitizers 37-51 missing
" " " " " " in netwatch too. Called J.C. ⇒ problem solved.
(3DA see again.)
3⁰⁵ Missing muon chambers 3 (mainly), also 5, 6, 1 (sometimes) and high dead-time. ← dead time comes from elsewhere but not from μ-chambers Pet
MP-16 INST. rejection = 0% for most of run 26222. (, AND. ?)
3⁵⁷ ~~some more~~
It's all happening tonight !!! JDAS ZMAS ERROR terminates run 26223 after 15 s.

4⁰⁰ Dead time ~ 40 %, abnormal T1 Histogram

5⁰⁰ Magnet Current 7400 A : Try to reset : not possible, phone to MH1 - they will come
5²⁵ " " o.k.

7³⁰ Soft trip JET-ch. + BP-ch.

7⁵⁰ YSPY err: (# of blocks) / event > 20

8⁰⁰ Henriczmann, Fest
Gas check done Kreislauf 0.80 raised to Kanal from 17.4 to 19.4

9⁰⁶ muon crate 4 no power again

10⁰⁰ Z-chamber sick — crazy wiremap, ultrahigh +X anode current. Probably due to bad gas (Kreislauf is apparently 9.0, Jan Chin is looking for a leak). LEAVE CHAMBER OFF UNTIL FURTHER NOTICE. Taken out of readout via CHANGE-READOUT-PATTERN 77774B.

20³⁰ J. Chin found a gas leak. Leaking chamber disconnected (77 45). Leak seems to have gone or never been there
See also p 46/47

Run	Date	Start	Stop	Currents at Run Start I^+	Currents at Run Start I^-	Dead Time %	Time (secs)	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 $E_{lab}>6GeV$	T_2 bit 17 27.Eq. >2Hz	Processors on/off NSO	MIP	TOF	FANA
26219	25/5	23[55]	0.45	6.63	6.77	16.9	2646	~~7225~~	4320	696	117	4713	4626	793	29	on	on	on	off
26220	26/5	1.29	2.10	10.68	10.77	23.3	2446	8002	5544	609	142	4697	4730	1222	29	"	"	"	"
26221	"	2.10	2.49	9.15	9.21	~~43.7~~	2924	8002	4226	603	263	4267	3774	847	20	"	"	"	"
26222	"	3.00	3.40	~~7.80~~	~~7.85~~	40.1	~~2624~~	8002	3902	630	252	~~4348~~	3213	~~774~~	24	"	"	"	"
26223	"	3.41	3.41	6.81	6.85	18.5	15	66	36										
26224	"	3.45	4.24	6.82	6.87	41.5	2336	7521	3474	607	252	3975	2807	642	23	"	"	"	"
26225	"	4.57	5.46	10.64	10.77	44.3	2335	8002	4276	606	265	4225	3283	805	21	"	"	"	"
26226	"	5.46	6.30	8.71	8.79	41.2	2411	8002	3898	628	258	4328	3275	844	17	"	"	"	"
26227	"	6.31	7.13	7.57	7.63	41.4	2508	8002	3151	652	270	4161	3064	685	21	"	"	"	"
26228	"	~~6.43~~ 6.51	7.58	6.77	6.82	39.0	1596	5238	2125	416	162	2774	1935	470	9	"	"	"	"
26229	"	~~10.43~~ 10.49	~~10.43~~ 10.53	10.19	10.33	44.7	2617	8002	3331	687	304	4273	3025	744	21	"	"	"	"
26230	"	9[45]	9[53]	6.85	7.49	41.5	412	~~1720~~	~~798~~	107	44	1123	417	138	3	"	"	"	"
26231	"	10:33	10:39	5.93	6.53	8.2	350	563	426	91	7	387	291	151	2	"	"	"	"
26232	"	13:03	13:06	3.96	4.45	6.8	177	196	137	46	3	118	127						
26233	"	13:07	13:34	3.92	4.41	11.2	1595	3338	1526	416	46	2171	2252	317	11	"	"	"	"
26234	"	14:11	14:26	10.63	10.71	22.1	903	3071	2038	235	52	2007	1861	533	11	"	"	"	"
26235	"	14[31]	15[14]	9.87	10.01	20.0	2528	8002	5756	658	131	5296	5026	1426	38	"	"	"	"
26236	"	15[15]	16[00]	8,38	8,50	17,9	2710	8002	4814	705	126	5341	5039	1416	36	"	"	"	"
26237	"	16[01]	16[33]	7,17	7,29	16,3	1894	5340	3280	483	80	3579	3294	857	23	"	"	"	"
26238	"			J	U	N	K												
26239	"	164°	17[32]	6,23	6,29	14,9	3125	8002	4603	813	121	5307	5146	1231	31	"	"	"	"
26240	"	17[32]	17[55]	5.22	5.18	12.7	1310	3188	1570	341	43	2143	1982	433	13	"	"	"	"
26241	"	18[45]	19[29]	10,51	10,60	21,1	2444	8002	5266	635	134	8263	4924	1504	26	"	"	"	"
26242	"	19[29]	20[12]	8.88	8.96	18,9	2581	8002	4882	672	127	5257	5047	1354	44	"	"	"	"
26243	"	20:13	20.53	7.61	7.69	17.4	2756	8002	4680	717	124	5275	4886	1329	29	"	"	"	"
26244	"	21:40	22:19	10,64	10,51	23.0	2357	8002	5278	612	141	5136	4889	1467	31	"	"	"	"
26245	"	22:20	23[01]	9.03	9.34	20,9	2463	8002	5011	640	134	5308	4833	1453	38	"	"	"	"
26246	"	22:02	23:47	7.82	8.06	17.8	2699	8002	4696	701	125	5352	4738	1410	28	"	"	"	"
26247	"	23.48	0:37	6.71	6.93	16.0	2949	8002	4759	767	122	5263	5053	1234	25	"	"	"	"
26248	27.5	0.39	0.51	5.77	5.98	15.0	711	1958	1084	184	27	1316	1163	300	3	"	"	"	"
26249	27.5	1:29	2:10	10.25	10.27	21.6	~~2443~~	8002	5356	635	137	~~5172~~	5039	1428	40	"	"	"	"
26250	"	2:10	2:54	8.73	9.04	19.5	2574	8002	4968	669	130	5256	4864	1388	36	"	"	"	"
26251	"	2:54	3.41	7.54	7.83	18.2	2760	8002	5070	718	130	5270	5064	1317	30	"	"	"	"
26252	"	3.41	4:02	6.55	6.81	15.7	1247	3513	1936	324	50	2282	2223	527	16	"	"	"	"
26253	"	4.39	5:19	1089	10.59	24.3	2347	8002	5414	610	148	5032	5116	1449	30	"	"	"	"
26254	"	5:19	6.03	9.41	9.13	19.3	2580	8002	5015	671	129	5189	5149	1356	35	"	"	"	"

Run	$\langle L \rangle$ 10^{30} cm^{-2}s^{-1}	Bhabha SLdt nb^{-1}	SLdt EXP. Energy	IBM / Tape output	At Run Start TOF [V]	At Run Start I.D. [μA]	Online Rej. Sum Mproc T_2 %	Online Rej. Nom 50 T_1+T_2 %	Σ Bhabha	Muon	Ebeam	Mag Field -1 xG	Remarks
26219	4.49	13.53	24548.80	IBM	0.7	0.1	52	42	220	2	17.501	4841	Beam dumped.
26220	10.14	25.16	24573.96	"	1.55	0.2	52	31	442	3	"	4839	
26221	5.79	15.26	24589.22	"	1.3	0.15	50	41	268	5	17.500	4838	
26222	4.92	13.32	24602.54	"	1.1	0.1	50	46	234	3	17.501	4837	
26223					1.0	<0.1							
26224	3.73	8.60	24611.14	"	"	"	53	43	151	5	"	4837	Beams dumped.
26225	6.24	13.66	24624.80	"	1.4	0.2	50	41	240	4	17.500	4771	
26226	5.42	14.75	24639.55	"	1.3	0.15	50	46	259	4	17.501	4844	
26227	3.42	10.19	24649.74	"	1.1	0.1	52	55	178	4	"	4844	
26228	3.37	6.66	24656.40	"	0.8	0.1	51	53	117	3	17.500	4844	
26229	4.91	14.29	24670.69	"	1.4	0.2	51	46	257	3	17.501	4845	
26230	4.23	2.85	24673.54	"	1.2	0.2	54	50	50	1	"	"	at end of run TOF-HV off
26231	6.29	2.39	24675.93	"			53	26	42	0			Reduced triggers
26232	3.48	0.57	24676.50	"			54	~~634~~	10	1	17.500	4841	— " —
26233	2.84	4.84	24681.34	"	0.5	<0.1	54	56	85	1	17.501	4841	normal trigger — readout pattern 077777 B ≙ no Zch
26234	11.87	11.50	24692.84	"	1.6	0.2	48	35	202	5	17.501	4844	without ℓ-chamber
26235	10.06	29.77	24722.61	"	1.4	0.2	51	37	523	18	17.500	4844	"
26236	7,80	25,85	24748,46	"	1.2	0.15	52	41	454	7	17501	4844	"
26237	6,43	14,63	24763,09	"	0,9	0,1	52	40	257	6	17501	4847	" Run stopped to reset LO pedestals.
26238					~~1.2~~	~~0.2~~							BPch + 10 too after pedestals set
26239	4,44	16,38	24779,47	"	1,2	0,2	53	44	287	8	17522	4847	Zch ON again.
26240	4.07	5.02	24784.54	"	0,65	0,7	52	52	83	1	17.501	4847	
26241	11,10	29,26	24813,80	"	1,8	0,2	50	35	514	11	17500	4847	
26242	8.80	22.72	24836,52	"	1,25	0,2	51	40	422	6	17,501	4846	
26243	7.00	~~21.89~~ 21.83	24858,41	"	1,1	0,15	51	43	384	4	17,501	4844	
26244	10.82	28.49	24887,30	"	1,8	0,3	48	35	528	10	17,500	4843	
26245	8,99	26,08	24913,98	"	1,35	0,2	50	39	488	6	17501	4841	
26246	7,10	23.91	24937,89	"	1,2	0,18	51	43	420	9	17,501	4841	
26247	5.61	17.88	24955,77	"	1,0	0,1	51	42	314	8	17.501	4839	
26248	4.93	3.59	24959,36	"	0.8	0.1	50	46	63	1	"	4840	Beam dumped
26249	10.19	28.69	24988.05	"	1.7	0.3	50	34	~~5~~04	7	"	4838	
26250	8.08	22.94	25010,99	"	1,3	0,2	49	39	403	5	"	4838	
26251	6,34	20.55	25031.54	"	1.1	0.2	52	38	361	6	"	4839	
26252	5.48	7.91	25039.45	"	1.0	0.1	50	46	139	1	"	4841	Beam dumped
26253	10.60	27.33	25066.78	"	2.0	0.3	49	34	480	11	"	4839	
26254	8.55	24.42	25091.20	"	1.7	0.2	51	39	429	6	"	4840	

26/5/86

10[50] a sparking Neon tube removed from back of Rudsack - PWK

11[00] Mr. Lasa and Billat installing a new relay for the magnet to cure sleepwalk magnet down to 0000 A

13[00] Magnet ready

14[00] new fill dead time reasonable again

16[00] Zimmer + Hill on shift. Gas check done "kreislauf" at 9,8

16[20] YSPY error too many LG blocks per event. Looks noisy in event display. Will stop the run + restart to reset the pedestals. ID+MPC trip just as pedestals are set.

16[38] Turned the heap of junk — sorry I mean the z-chambers — back on. Will wait & see what happens. SLC

16[44] LG situation has improved.

17[55] Heap of junk has operated OK for one whole hour. I therefore declare it cured. (I bet it trips within 10 min of me leaving!) SLC

17[00] YSPY Error: T2 o/p missing 151. - probably front status. 1

19[10] Z ch. trip.

20[40] Z ch. trip

22[12] Wrong LAM br. 1 cr. 1 (JOAS ERROR 74)

22[13] VTX Chamber Valve Error

22[51] Z ch trip

0[00] Diekmann + Chin on shift 23[50] gas check done — 27.5.86

2[40] Exchanged the 30 Amp fuse in Power Supply of Muon crate 4. Fan placed immediately before crate.

3[24], 3[36] Yspy error - too many LG blocks per event.

4, 30 Gas check. In a kreislauf both reading 10.6 + reduced ethane flow + increased argon flow. It ~~not~~ seems that after the recent a sudden drop in kreislauf - the gas system is now stabilising.

7[01], 7[07], 7[13] Yspy Error - too many LG blocks per event. — Believe it!!

8.00 Narros Va, Spitzer
Gas ok.

9.00 Turned on water for cooling the roof.

10 sec short break. Magnet => 4000A to see effect on

1,20 Injection; run magnet to 7500A

1,30 JDAS READOUT ERROR 52 entered 1000; YSPY: AV LG Blocks/event 720

27/5/86

12[00] Z CH trip, valve failure

12[40] " "

13.20 No data to IBM any more. Call ~~IBM~~ IBM, they say everything ok
Call 758, they say IBM doesn't take data, we will call IBM.

13.23 IBM link ok again
No triggers
New run started, old run has disappeared.

15[30] At the (second) partial beam - as everything tripped, valve failure.
Due to large background the chambers can not be switched on.
The background improved soon, however we ask for a new fill due to large asymetry (i.e. beam 60, 8 — 4).

16[00] D. Darrill and U. Schneekloth on shift

16[10] During the gas check a technician arrived telling that he had a gas alarm indication (in Kalthalle?) Eventually he found an illuminated red LED, pushed the reset button and the alarm went away - we shall see whether or not this is serious - I guess if there is still a problem we shall get another alarm.
Meanwhile I continued with the gas check and found nothing out of the ordinary.

16[40] O.K. So now we think we know the source of the above gas problem. There is a gas leak from the Union on valve 71. Technische Notdienst called us to say they had another alarm, we looked and found this leak. We called them and now await the man with the spanner.

17[00] We still have no beam - PKR say there is a problem with electrons but they don't say what or how long.

17:16 Now we have e+ & e- and acceleration starts

IF GAS ALARM ~~goes off~~ is activated again - then - Technische Notdienst will call and switch off ethane supply. B2 will ~~then~~ investigate tommorrow morning.

~~Haralite~~ - Do not power up Z chamber - & call on-call muon chamber expert at a reasonable hour. SJC.

18 03 no triggers, stop + continue didn't help, start new run, everything is ok.

RUN	DATE	START	STOP	At Run Start I+	At Run Start I−	Dead Time %	Time (secs)	Records in	Records out	All ×10⁶	TØ Reg ×10⁶	T_1 Acc Sum	T_2 Acc Sum	T_1 Bit 2 $E_{LG} > 66$	T_2 Bit 1 2T. Et ≥ 2TR	Processors ON/OFF N50	MIP	TOF	FAH
26255	27.5.86	6:03	6:49	8.14	7.88	17.6	2718	8002	4588	707	124	5351	4899	1351	30	ON	ON	ON	OFF
26256	"	6.49	7.28	7.06	6.81	15.4	2313	6284	3508	602	92	4175	3986	971	28	"	"	"	"
26257	"	8.11	8.31	10.48	10.49	22.5	1149	3788	2493	298	67	2424	2366	652	22	"	"	"	"
26258	"	8.33	9.16	9.69	9.71	20.6	2529	8002	4953	657	135	5244	4977	1370	34	"	"	"	"
26259	"	9:16	9.44	8.38	8.39	17.8	1672	5067	3020	435	97	3404	3051	820	12	"	"	"	"
26260	"	11:16	12:00	10.41	10.45	21.7	2606	8002	5325	678	146	5268	4978	1383	36	"	"	"	"
26261	"	12.00	12.44	8.87	8.90	19.8	2610	8002	5038	678	134	5168	4967	1326	41	"	"	"	"
26262	"	12.44	13.24	7.67	7.67			~7000											
26263	"	13.24	13.31	6.76	6.77	16.6	360 ~~1040~~	~~1040~~ 1040	598	~~678~~ 93	15	708	604	169	4	"	"	"	"
26264	"	17:37	17:39	10.76	10.70	20.3	1911	6006	3810	497	100	3879	3782	1018	31	"	"	"	"
26265	"	17.33	18.03	10.28	10.62	25.6	1842	6212	3822	479	122	3898	4155	331	30	"	"	"	"
26266	"	18.09	18.52	9.11	9.48	25.7	2298	8002	5023	598	154	5192	5022	1299	18	"	"	"	"
26267	"	18.52	19.16	7.82	8.16	23.1	1187	4021	2481	309	71	2571	2453	602	20	"	"	"	"
26268	"	20.17	21.07	10.59	10.55	23.0	2374	8002	6737	617	142	5242	5064	1354	42	"	"	"	"
26269	"	21.07	21.50	8.82	8.79	20.3	2577	8002	6549	657	133	5275	4996	1276	27	"	"	"	"
26270	"	21.50	22.26	7.67	7.67	19.2	1925	5744	4840	501	96	3688	3619	759	20	"	"	"	"
26271	"	23.03	23.44	9.29	10.53	23.4	2474	8002	6690	643	151	5087	5279	1264	41	"	"	"	"
26272	"	23:47	0:33	7.84	9.11	21.3	2546	8002	6814	662	141	5277	5021	1225	26	"	"	"	"
26273	28.5.86	0.33	1.20	6.86	7.94	19.3	2684	8002	6549	697	134	5264	5121	1198	31	"	"	"	"
26274	"	3.40	4.19	10.89	10.80	23.3	2345	8002	6779	610	141	5211	5036	1405	35	"	"	"	"
26275	"	4.19	5.01	3.41	3.43	22.2	2435	8002	6535	633	141	5183	5182	1341	32	"	"	"	"
26276	"	5.01	5.46	8.17	8.20	19.2	2680	8002	6512	687	134	5229	5215	1200	44	"	"	"	"
26277	"	5:46	6:38	7.11	7.14	17.1	2838	8002	6524	738	126	5411	4875	1255	25	"	"	"	"
26278	"	7:11	7:54	10,62	10,18	21.0	2528	8002	6552	657	138	5245	5089	1328	37	"	"	"	"
26279	"	7:54	8:39	9.16	8.75	19.0	2658	8002	6536	691	131	5224	5164	1206	23	"	"	"	"
26280	"	8:39	9:45	8.00	7.67	17.9	2697	8002	6513	701	126	5374	4854	1204	29	"	"	"	"
26281	"	9:50	10.00	6.43	6.08	8.9	547	956	704	142	13	662	508	268	4	"	"	"	"
26282	"	10:50	11:55	~~10.47~~ ~~9880~~	~~10.45~~ ~~10.47~~	~~12.6~~ ~~10.45~~	3880	8002	6610	1009	127	5361	4660	2285	61	"	"	"	"
26283	"	12:00	13:16	8.19	8.16	9.9	4560	8002	6158	1186	117	5364	4693	2795	44	"	"	"	"
26284	"	13:17	13:34	6.48	6.45	9.0	1019	1772	1287	265	24	1154	933	481	8	"	"	"	"
26285	"	16:44	17:54	10.11	10.34	13.7	3867	8002	6413	1006	137	5131	4907	2113	63	"	"	"	"
26286	"	17:54	19:11	7.78	8.64	10.1	4584	8002	6155	1193	121	5374	4619	2108	47	"	"	"	"
26287	"	19:11	19:34	6.27	6.85	8.9	1347	2164	1606	350	31	1419	1258	563	14	"	"	"	"
26288	"	21:15	21:45	10.77	10.79	11.6	4296	8002	6469	1118	130	5097	5196	2119	56	"	"	"	off
26289	No	meaningfull	run	summary	—	only	20	events											

$\langle L \rangle$ 10^{30} cm^{-2} s^{-1} LO	Bluebla- $\int L\,dt$ nb^{-1}	$\int L\,dt$ Exp. Swops	IBM TAPE Output	At Run Start TOF [V]	At Run Start ID [μA]	Online Reject. Sum Hipor T_2 %	Online Reject. Noise 50 T_1+T_2 %	Σ Blubla	M_H	E_{Beam}	Mag. Field −1×G	Remarks
7.18	22.49	25113.69	IBM	1.1	0.1	51	44	405	5	17.500	4840	
5.82	15.94	25129.63	"	0.9	0.05	52	45	280	5	"	"	beams dumpd.
10.02	11.96	141.59	"	1.7	0.2	49	35	210	2	17.501	4842	HOP reload
9.06	25.90	167.49	"	1.5	0.2	50	39	455	8	17.500	4841	
7.70	14.01	181.50	"	1.1	0.1	51	42	246	6	17.501	4843	beams lost
10.41	30.91	212.41	"	1.4	0.2	51	35	543	14	17.500	4847	
8.29	24.42	236.83	"	1.2	0.2	50	39	429	7	"	"	
~12		248.83	"	1.1	0.2							IBM problem Bb summary dis-appear
6.58	2.96	25251.79	"	?	?	53	44	52	0	"	"	Dump
9.23	19.91	25271.20	"	1.5	0.2	50	38	341	5	"	4850	Dump after partial Coffee
~~12~~ ?	12.81	25284.01	"	1.2	0.4	50	40	225	3	"	"	
8.42	23.00	25307.01	"	1.2	0.2	51	39	404	7	"	"	
7.55	8.82	25315.83	"	1.0	0.2	49	40	155	2	"	"	beams dumped
10.15	26.87	25342.70	"	1.2	0.25	50	16	472	3	"	"	no μ filter, no z chamber (gw problem)
7.93	22.26	25364.96	"	1.0	0.2	50	19	391	12	"	4847	" "
5.13	8.48	25373.44	"	0.9	0.2	49	16	149	3	"	4848	" "
8.99	23.51	25396.95	"	1.4	0.3	50	17	413	13	17.501	4846	" "
6.87	19.13	25416.14	"	1.2	0.2	51	15	337	8	"	4844	" "
6.15	17.59	25433.73	"	1.1	0.2	52	19	309	6	17.500	4844	Beams dumped"
10.47	27.67	25461.40	"	1.5	0.3	50	16	486	6	17.500	4842	
8.66	23.80	25485.20	"	1.4	0.2	51	19	318	8	17.501	"	
6.57	19.07	25504.27	"	1.3	0.2	52	19	335	5	"	"	
5.83	17.65	25521.92	"	1.0	0.1	53	19	310	7	17.500	4841	Beams dumped
8.61	24.48	25546.40	"	1.3	0.2	51	17	430	11	17.501	4844	
6.53	19.47	25565.87	"	1.1	0.2	51	19	341	3	"	"	
6.24	18.70	25583.91	"	1.0	0.15	51	19	378	6	"	"	
5.98	3.87	25587.78	"	0.8	0.1	50	28	68	0	17.500	4846	beams dumped REDUCED TRIGGERS
10.34	44.86	25632.64	"	1.3	0.2	49	18	788	9	"	4847	" "
7.08	37.63	25670.27	"	1.0	0.2	49	24	661	9	17.501	"	" "
6.02	6.60	25676.87	"	0.8	0.15	48	26	176	4	17.500	4849	beams dumped " "
9.23	39.51	25716.38	"	1.5	0.3	48	21	694	7	17.501	4834	" "
7.30	~~38.96~~	25751.34	"	1.0	0.2	49	24	614	5	17.501	4834	" "
5.84	9.05	25760.39	"	0.8	0.15	48	27	159	4	17.500	4833	" "
7.29	35.75	25796.14	"	1.2	0.2	50	20	628	8	17.500	4833	~~Beams lost~~
												Beams lost

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19^{10} high TOF rate, Z Ch. hard, VTX Jet Ch. soft trips
19^{15} VTX Ch. gas alarm, Valve Recline
19^{16} gas alarm (Ethan) appeared again
19^{16} beams dumped
20^{00} Jan Chrin turned ethan ↑ and μ filter high voltage ~~off~~ reduced ($U_k - U_D = 1.2$ kV)
changed readout pattern to : 0777705$_8$ NO μ FILTER + NO Z CHAMBER
20^{15} new fill ready, start new run 26268 Trigger 3 input - Muonchambers + Z chamber taken out of YSPY
20^{38} VTX and Jet Ch. tripped
22^{15} We see that the lead glass barrel has become noisy - many blocks going off in each event - YSPY says Average blocks/event >20 in last thousand events. We look to see why
22^{24} while we decide what to do about the lead glass barrel we see that now would be a good time to have a new filling before the PKR shift change - all other experiments agree
22^{29} Reform job submitted.
23^{02} New filling ready. we start run 26271 - The lead glass problem seems to have gone away. Maybe pedestal levels were corrupted or something?

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0^{00} Schmidt + Hill on shift
0^{11} Idas readout error 32 Mining Laser at FEP ready (JETCH).
0^{25} Standard histograms : Timing hist of σ_t and σ_r looks funny.
0^{30} TOP reloaded. Because parts of the display were being overwritten with blanks.
2^{56} "Short Break" Problems with a power supply ad PKR estimate it will last ~ ½ hour.
2^{35} luminosity.
6^{07} IDAS Read out error 33 - declaring CAM branch 2 crate 3 : TOF1 camac.

28/5/86

8:00 Warning and Kado on shift

8:17 G. Kessler (B2) was informed by W. Bartel about the JADE Gasproblems
8:25 YSPY sees T2 output missing — but histograms look ok
9:00 " " " " " " " " ⇒ YSPY Task rebuilded
9:12 phone call from Fegin to warn us, that the cooling water supply for the magnets heat shield may fail in a few minuts.
we informed PKR and ran the magnet down.
in fact we get a fault ("Vordruck Brunnenwasser <") a few minuts later; also the air condition failed (yellow lamp "1")
9:23 phone call from Fegin : everything ok again.
reset magnet ⇒ ok. current back to 7500 amps. Air condition system also ok.
9:37 continue running
9:45 new run, from now on : REDUCED TRIGGERS (as long as μ-chambers are off)
13:30 beams dumped, access for CELLO
16^{00}

Herr Seidel was here to deal the gas.
at present Zulauf is at 11.5 and will be reduced a little bit more
" Kreislauf is at 10.1 but this reading is the combination of 9.5 from the back flowing gas plus ≈10% of 11.5 from Zulauf
so please check Zulauf and Kreislauf about every hour,
reduce Aethan flow each time a little bit (normal value was ≈184 before)
make sure that Kreislauf stays slightly above 10.0 until ⇒ is reached.

16^{00} Darvill on shift Meinke also here now
17^{15} gas check done okay.
17.24 ID & Vertex chamber soft trip - PKR are optimising the background without an audible warning and we did not see the notice on the screen until after the soft trip. we pause and wait.
21.52 Short Break - problem with two cavities - they have to investigate,

0^{00} Olsson + Komamiya
Gas check done, everything OK. We debate what to do about μ-chambers, no clear statement on how long they have to be off after gas fixed. It is stupid to run with Reduced triggers because of the μ-filter, e.g. TBGNS is strictly limited to ID + LG, has nothing to do with μ-filtering!
0^{40} R26293 with TBGNS trigger included: Tlacc as before (155417$_8$), Tlpostp 75615$_8$ T_2 coinc 51377$_8$
Now only those triggers which require μ-filter in NSO for reduction are off, i.e. Krebbiel, IQ7+2.

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME %	TIME (SECS)	RECORDS IN	RECORDS OUT	ALL $*10^6$	T_0 REJECT $*10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT 2 $E_{LG}>6GeV$	T_2 BIT 17 $\Sigma E_i \geq 2TR$	PROCESSORS ON/OFF NSO	MIP	TOF	FPA
26290	28.5.86	23 16	0 16	10.79	10.75	13.6	3628	8002	6559	944	128	5238	4675	2216	58	ON	ON	ON	OFF
26291	29.5.86	~~23 16~~	~~0 16~~	Watch dog error, no events												"	"	"	"
26292	"	0,22	0,43	8,44	8,42	13,8	1907	2991	1834	314	43	1496	1344	897	23	"	"	"	"
26293	"	0,43	1 56	7 86	7 83	12.8	4355	8002	5860	1133	145	4868	5788	1868	39	"	"	"	"
26294	"	1 57	1 59	6.25	6.23	10.7	249	189	123	17	2	93	96	36	2	"	"	"	"
26295	"	2 31	2 33	10.76	10.73	16.8	100	274	209	25	4	151	163	60	1	"	"	"	"
26296	"	2 37	3 34	10.60	10.67	16.0	3396	8002	6192	883	142	4778	5745	2094	54	"	"	"	"
26297	"	3 34	4 41	8,49	8,65	13.0	3990	"	5952	1088	135	4863	5850	1971	48	"	"	"	"
26298	"	441	5 16	6,80	6,94	10.8	2031	3608	2626	528	57	2221	2645	874	22	"	"	"	"
26299	"	At most 1 event														"	"	"	"
26300	"	5 55	6,55	10.05	10,47	15,1	3563	8002	6096	927	140	4842	5798	2068	45	"	"	"	"
26301	"	6,55	8:05	8.08	8,56	11,7	4127	8002	5880	1073	128	4860	5808	1955	48	"	"	"	"
26302	"	8:05	8:30	6.52	6.76	10.5	1476	2611	1861	384	50	1579	1890	611	18	"	"	"	"
26303	"	9:49	10:55	10.63	10.39	15.6	3581	8002	6195	905	140	4802	5796	1982	51	"	"	"	"
26304	"	10:45	11:52	8.38	8.28	13.0	3961	8002	6052	1030	134	4868	5835	2052	43	"	"	"	"
26305	"	11:52	12:06	6.60	6.62	11.4	649	1215	906	169	19	731	883	295	6	"	"	"	"
26306	"	12:53	14:02	9.70	10.09	13.7	3828	8002	5948	996	137	4822	5857	1985	54	"	"	"	"
26307	"	14:02	14:19	7.52	7.93	12.0	1008	~~2034~~ 1988	1462	263	32	1216	1403	483	7	"	"	"	"
26308-11	"	erratic beams of IBM alternating up/down mode																	
26312	"	14:35	15:36	6.69	7.08	10.4	3601	6232	4452	937	97	3834	4486	1480	46	"	"	"	"
26313	"	16.21	17:22	10,34	10.62	14,4	3603	8002	6175	937	134	4824	5664	1983	51	"	"	"	"
26314	"	17:22	18:33	8.21	8.46	11.5	4238	8002	5826	1102	128	4951	5706	2079	50	"	"	"	"
26315	"	18:33	19:33	6.43	6.66	9.6	3526	5742	4060	917	88	3447	4329	1327	30	"	"	"	"
26316	"	20:20	21:22	10.92	10.99	14.3	3666	8002	6215	953	136	4806	5836	1957	45	"	"	"	"
26317	"	21:25	22:35	8.59	8.36	11.7	4148	8002	5737	1079	126	4856	5696	1897	56	"	"	"	"
26318	"	22:35	23 41	6.82	6.55	10.2	2684	4688	3313	698	71	2890	3325	1186	25	"	"	"	"
26319	30.5.86	0:00	01:00	10.53	10.83	14.7	3548	8002	6326	923	136	4890	5627	2049	44	"	"	"	OFF
26320	"	01:04	02:13	8.26	8.51	11.8	4171	8002	5818	1085	128	4853	5839	1988	46	"	"	"	"
26321	"	02:14	02:53	6.51	6.73	10.1	2343	3998	2768	610	61	2377	3014	948	24	"	"	"	"
26322	"	03:31	03:44	10.64	10.62	15.2	771	1787	1393	200	30	1068	1309	433	13	"	"	"	"
26323	"	04:30	05:31	10.61	10.48	14.4	3686	8002	6135	959	138	4703	5983	1965	48	"	"	"	"
26324	"	05:32	06:46	8.52	8.39	11.1	4427	8002	5752	1152	128	4848	5996	1976	49	"	"	"	"
26325	"	6:46	7:33	6.78	6.66	9.8	2760	4535	3181	718	70	2788	3412	1086	24	"	"	"	"
26326	"	9.27	10:34	9.63	11.02	13.1	3875	8002	6101	1008	131	4805	5858	1916	59	"	"	"	"
26327	"	10:34	11:46	7.38	8.76	11.5	4262	8002	5897	1110	127	4886	5753	1982	64	"	"	"	"

$\langle L \rangle$ $10^{30}cm^{-2}s^{-1}$	BHABHA $\int Ldt$ nb^{-1}	$\int Ldt$ EXP. ENERGY	IBM TAPE OUTPUT	AT RUN START TOF [V]	AT RUN START ID [mA]	ON LINE REJECT SUM MIPROC T_1 %	ON LINE REJECT NORD 50 T_1+T_2 %	Σ BHABHA	M/H	E_{Beam}	MAG FIELD kG	REMARKS
11.06	46,27	23796.14 25842.41	IBM	1,4	0,2	47	15	813	12	17501	4829	
			"	1.1	0.1					"		
8,81	11,33	25853.74	"	1,0	0,1	48	21	199	5	"	4831	
6.85	33.08	25886.82	"	0,9	0,05	51	28	581	7	"	"	TBGNS included in trigger
5.54	0.40	25887.22	"			18	38	7	0	"	"	Beams dumped
12.25	1.02	25888.64	"	1,4	0.2	40	26	18	0	17,500	4830	
10.45	41.39	25925.43	"	1.3	0.15	49	23	727	10	"	4831	
7.87	35.09	25961.12	"	1.1	0.1	51	26	626	10	"	"	
6.32	14.58	25975.70	"	0,8	0,05	52	28	256	4	17501	4831	Beams dumped.
			"	1.3	0,1							YPARA broken, reload bkP after NSO hangup.
9.96	41,11	26016.81	"	1,3	0,1	50	25	F22	14	"	"	
7.89	33.70	26050.51	"	1.0	0,05	51	27	592	6	"	"	
5.85	8.77	26059.28	"	0.8	0.03	50	30	153	5	"	"	Dump
10.98	38.58	26097.76	"	1.3	0.15	50	23	676	13	"	"	
8.07	37.56	26135.22	"	1.2	0.1	51	25	658	11	"	"	
6.59	5.51	26140.63	"	0.8	0.05	51	27	95	3	17500	4832	Dump
8.96	35.24	26175.87	TAPE 7DAS 05	1.5	0.2	50	27	619	17	17501	"	
7.79	7.85	26183.72	IBM TAPE 34	0.8	0.1	50	27	161	1	"	4833	
6.02	82.94	26206.66	TAPE 7DAS 06	0.7	0.1	51	30	403	6	"	4834	Dump
10.28	38.43	26245.09	IBM	1.2	.15	49	24	675	13	"	4833	
7.38	36.26	26281.35	"	0.9	0.1	51	28	637	12	17500	4832	
5.19	18.62	26299.97	"	.65	0.05	52	30	327	5	"	4833	Dump
9.69	37.46	26337.43	"	1.3	0.3	50	23	658	10	17501	4831	
7.28	33.48	26370.91	"	0.9	05	50	29	588	9	"	"	
5.64	18.39	26389.30	"	0.7	.03	50	30	323	5	"	"	Dump
10.78	43.90	26433.20	"	1,3	0,1	50	22	771	12	17.501	4831	
7.48	32.74	26465.94	"	1.0	0,1	51	28	575	8	17.500	4830	
5.46	14.01	26479.95	"	0.75	0.05	51	32	246	7	17.501	4831	Dump
10.59	7.80	26487.75	"	1,4	0,1	50	23	137	1	17.501	4831	Beams lost
9.15	38.15	26525.90	"	1,3	0,1	50	24	670	14	17.501	4830	
6.33	31.31	26557.21	"	0,9	0,05	52	29	550	11	17.500	4831	
5.15	15.48	26572.69	"	0,7	0,01	53	31	272	4	17.500	4831	Beams dumped
9.67	33.34	26612.03	IBM	1.2	0.1	50	25	691	17	17.501	4832	
7.43	35.64	26647.67	"	0.9	0.1	51	27	626	12	17.501	4831	Beams dumped

1.00 Miss LAM FEP Ready occurs intermittently since shift begin, not frequently enough to motivate reload.
YSPY claims T2 output 137 missing. Clear histogram to see, since no hole appeared.
seems to be statistics, no hole after refilling the histogram.
5.50 R26299: YPang Ring Violation, after rebuilding N50 hangs (inform dev.) ⇒ reload Nord, Ok.
7.45 We collected over 200 nb^{-1} this shift!
8.00 Knirr, Spitzer
Gas OK
12.30 IBM down – data to tape
14.00 Data transfer to IBM up
14.10 YSPY4: Trigger 2 output missing
14.20 IBM down – war für 4 min Augenblick
14.30 the "Augenblick" may last ½ to 1 hour!
16.00 Diekmann & Steffke on shift.
16.21 beam back.
18.45 geo clock done

30.5.86

0.00 D. Darvill and H. Rieseberg on shift. New filling ready. We are still running without μ-chambers and without z-chamber
0.15 Gas check ok
2.55 Beams dumped
3.44 Beams lost 15 min after New fill
4.25 New fill
7.30 Beams dumped
8.00 Narodka, Zimmer
Gas check ok, no O_2 values
Visitors: ~~with one~~
Seidel, Schulz, Benkel, Vasko
8.30 Sendo störung, Restart not before 9.00
9.00 Injection
10.30 YSPY: T_2 O/P S6 132 missing – seems to be statistics
11.30 " T_2 O/P 153 no hole in histogram apparent
11.45 Beams dumped ← 12.00 ~~Narodka~~ Ramcke
14.00 Komamiya is here for replacing lazy Zimmer by him.
14.50 Z-chamber and μ-filter back in readout. ←
15.15 Normal triggers restored from run 26332. ←
15.25 If the Z-chamber trips off constantly, ~~then~~ the wire map looks odd, please call expert(s)!!! CH. ← try him first!

16.00 Warning, Weber on Shift; injection going on
16.05 new fill ready, start run 26333
16.07 gas check o.k.
17.08 muon crate 4 missing, cannot be reset, call expert: T. Greenshaw promises to come in.
The 30 A fuse was burnt out, replaced, crate now Ok.
17.20 T1 Bit 2 rate has changed with respect to previous fill, first run.
reason is: since today 15:16 we run with full triggers again, rates are similar to those of 28.5.86 until 9:00
17~~4~~8 Z-ch tripped
17:59:55 FEP 22-31 Prozessor Timeout (on MOP), JDAS error 32 - missing LAM at FEP (on main console)
18:07:23 FEP 10...! " " " nothing on main console
18:29 JETC 68K Processors reloaded because of above problems
20:22 YSPY-MASTER changed such that it now checks Muon-digitizers and Z-ch-DC8's again PLA

31.5.86 0.00 S. Bethke, U. Schneekloth on shift
0.28 VTX CH. error: wiremap and pads area deviation.
1.51 error message: camac crate offline in branch 1, VTX CH. FADC crate off
fan defective, fan ~~re~~changed
Run 26348 with change readout pattern: no vertex chamber!
7.46 event display doesn't work, error message: YEDISP: STRANG ENTRY CODES
appeares on the line printer.
4.18 VTXCH valve failure. Resetted, ok.
6.00 after 2× beam-loss: Short break. Power supply problems.
~~7~~8.45 Jan Chrin came in and swapped chairs → colour TV gets dark, no data taking, main console OFF line. → switching online, stops run, EXIT, RT.... helps.
Colour TV back (chairs also swapped back!).

8.00 Ramcke, Chrin on shift.
8.15 gas check o.k.

12.00 Run # 26360 - pedestals only! stopped (accidentally) due to JDAS - system crash with/after message 067563 177777(oct) readaterm

16.00 Clarser, Kleinwort on shift
16.20 Gas check done
Valve behaves every time vertex chamber turns off and every time it trips off. 6 times / shift should be tested
? not z chamber ?

RUN	DATE	START	STOP	At Run Start: I+	At Run Start: I−	DEAD TIME %	TIME (Secs)	RECORDS In	RECORDS OUT	ALL *10⁶	T_φ Rej *10⁶	T_h Acc SUM	T_2 Acc SUM	T_h Sil 2 E_L6 >6GeV	T_2 B.T.T 2T.E_L6 2 Tr	Processors ON/OFF: NSO	MP	TOF	Fth
26328	30.5.86	12 40	13 40	10.80	10.99	14.9	3503	8002	6241	912	~~135~~ 1567	~~4567~~ 5875	5675	2043	44	on	on	on	4%
26329	"	13 40	14 48	8.65	8.82	12.4	4024	8002	5986	1048	130	4868	5716	2008	39	"	"	"	"
26330	"	14 48	14 50	6.84	6.99	11.2	66	128	94	17	2	79	76	31	0	"	"	"	"
26331	"	14 51	15 15	6.29	6.95	11.0	1753	2593	1979	273	41	1575	1897	637	12	"	"	"	"
26332	"	15:16	15:33	6.97	6.41	17.0	982	2801	1555	256	44	1843	1683	401	11	"	"	"	"
26333	"	16:07	16:51	10.01	10.21	19.4	2564	8002	5083	667	130	5361	4959	1356	26	"	"	"	"
26334	"	16:55	17:41	8.39	8.59	17.6	2783	8002	4976	724	128	5362	5117	1315	38	"	"	"	"
26335	"	17:42	18:30	7.14	7.32	16.6	2846	8002	4503	741	129	5385	4968	1211	30	"	"	"	"
26336	"	18:32	18.45	6.04	6.20	15.2	2809	2182	1172	209	32	1450	1350	303	9	"	"	"	"
26337	"	19:12	19,26	10.15	10.77	217	753	2517	1660	196	42	1652	1542	417	10	"	"	"	"
26338	"	19:28	20:10	9.47	10.11	20.4	2497	8002	5110	649	132	5279	5098	1398	28	"	"	"	"
26339	"	20:11	20.55	8.03	8.62	18.2	2663	8002	4936	692	128	5319	4983	1297	32	"	"	"	"
26340	"	20:56	21.44	6.83	7.38	16.5	2852	8002	4841	742	122	5311	4996	1229	35	"	"	"	"
26341	"	21:44	21:52	5.80	6.30	15.8	479	1335	732	124	20	884	833	179	3	"	"	"	"
26342	"	22.19	23.01	10.36	10.70	20.9	2458	8002	5173	650	136	5235	5070	1341	34	"	"	"	"
26343	"	23.02	23.19	8.77	9.12	18.8	1007	3195	2000	262	49	2148	1881	565	12	"	"	"	"
26344	"	~~0.08~~ 23.22	0.08	8.15	8.49	17.3	2768	8002	4784	720	124	5424	5016	1257	38	"	"	"	"
26345	31.5.86	0.08	0.55	6.95	7.27	16.0	2727	7605	4367	710	113	5066	4808	1150	28	"	"	"	"
26346	"	1 25	1 50	10.83	10.74	22.5	1439	4682	3074	374	84	2997	3026	761	28	"	"	"	"
26347	"																		
26348	"	2 03	2 25	9.41	9.37	19.4	1290	4088	2498	336	65	2708	2598	656	15	"	"	"	"
26349	"	2 26	3 12	8.67	8.60	17.0	2712	8002	4750	705	120	5394	4928	1247	287	"	"	"	"
26350	"	3 12	4 02	7.46	7.39	15.2	2961	8002	4417	770	116	5412	5012	1153	278	"	"	"	"
26351	"	4 03	4 10	6.47	6.35	14.9	727	1941	1026	189	28	1295	1232	270	58	"	"	"	"
26352	"	5:49	5:46	10.74	10.74	26.6	16	106	81	4,1	1,1	47	49	14	4	"	"	"	"
26353	"	6 49	7 33	10.72	10.86	18.6	2625	8002	4897	683	127	5293	4973	1243	29	"	"	"	"
26354	"	7 33	7 53	9.11	9.25	17.4	1302	3549	2163	307	53	2355	2162	570	15	"	"	"	"
26355	"	8 01	8 43	8.25	8.38	17.4	2795	8002	4761	727	126	5265	5049	1207	17	"	"	"	"
26356	"	8 43	9 35	7.06	7.16	19.3	2763	8002	4739	719	139	5078	5290	1143	33	"	"	"	"
26357	"	8 38	9.39	6.07	6.16	19.2	82	311	174	21	4	178	156	74	0	"	"	"	"
26358	"	10.26	11.19	8.82	10.71	18.9	2649	8002	4967	689	130	5299	4951	1268	22	"	"	"	"
26359	"	11.19	12.06	7.29	8.99	16.4	2818	800 2	4574	733	124	5265	5117	1177	23	"	"	"	"
26361	"	12.07	6.15	6.15	~~7.71~~	~~15.1~~	2727	7240	3818	709	107	4812	4711	966	24	"	"	"	"
26362	"	13.31	14.12	10.89	10.83	21.2	2477	8002	5171	644	136	5189	5046	1315	37	"	"	"	"
26363	"	14.13	14.57	9.26	9.21	18.7	2619	8002	4880	681	127	5305	4179	1327		"	"	"	"

⟨L⟩ 10^{30} cm^{-2}s^{-2}	BHABHA ∫Ldt nb^{-1}	SLdt Exp. Energy	IBM/ Output	AT RUN START: TOF [V]	AT RUN START: I0 [mA]	ONLINE RESET: SUM M.Peak T_2 %	ONLINE RESET: USD T_1-T_2 %	E Beam	HH	E_{Beam}	MAG Field −1 + 6	REMARKS
10.84	45.14	26692.81	y	1.5	0.12	50	23	793	12	17,500	4832	reduced trigg + TBG-NC
7.96	36.32	26729.13	IBM	1.1	0.1	50	26	638	7	"	4834	"
7.20	0.34	26729.47	"	0.8	0.07	58	31	6	0	"	4833	"
6.43	10.93	26740.40	"	0.8	0.07	51	25	193	2	"	4834	↓
5.59	6.21	26746.61	"	1.0	<0.1	51	46	409	2	"	"	Z-chamber ON ↓ Stopped to go back to full trigger / beams d.
9.92	29.66	**26776.27**	"	1.4	<0.1	52	38	521	5	"	4833	
7.46	23.06	**26799.33**	"	1.1	<0.1	54	39	405	7	17.501	4834	
6.43	19.70	**26819.03**	"	0.95	"	53	45	346	4	"	4835	
5.68	5.58	**26824.61**	"	0.75	"	51	48	98	0	17.500	4834	Beams dumped for refill
11.23	9,17	**26833.78**	"	1.5	0.15	50	35	161	0	17.501	4831	Run stopped after soft chamber trips
10.10	28.52	**26852.30**	"	1.4	0.10	51	37	501	5	17.500	4832	
8.19	24.54	26876.84	"	1.15	<0.1	51	40	431	9	"	4831	
6.63	19.30	26896.14	"	0.9	<0.1	51	41	339	7	17.501	"	
5.49	2.68	26898.82	"	0.7	<0.1	52	47	47	0	17.500	"	Beams dumped
10.00	27.21	26926.03	"	1.45	0.1	51	37	478	4	17.500	"	
8.73	11.10	26937.13	"	1.2	0.1	50	39	195	3	17.500	4831	run stopped because of readout error 368K
7.55	23.34	26960.47	"	1.1	0.1	53	41	410	6	"	"	
6.46	17.76	26978.23	"	0.8	0.1	52	44	312	3	"	"	beams dumped
10.29	16.23	26994.46	"	1.5	0.2	50	36	285	2	"	4829	
												no events
8.79	11.61	27006.07	"			51	40	204	4	"	4830	change readout pattern, no VT+ chamber
7.38	27.09	27028.16	"	1.0	0.1	51	42	388	6	"	4831	
5.43	18.90	27047.06	"	0.8	<0.1	53	46	332	4	"	"	
4.76	4.44	27051.50	"	0.7	<0.1	52	49	78	0	"	"	dumped
6.73	0.06	27057.56	"	1.6	<0.1	20	29	1	0	"	"	last
10.04	25.62	27077.18	"	1.7	0.2	50	40	450	4	"	"	
8.57	11.33	27088.51	"	0.8	<0.1	50	40	199	1	17.501	"	run stopped, TV display vanishes.
6.95	21.52	27110.03	"	0.9	<0.1	51	42	378	7	17.500	4831	
5.21	16.57	27126.60	"	1.2	<0.1	51	43	291	4	"	"	/
5.87	0.40	27127.00	"	1.0	<0.1	33	47	7	0	"	"	beams dumped
8.50	23.68	27150.68	"	1.3	0.1	51	39	376	8	"	"	
6.65	20.15	27170.83	"	1.1	<0.1	52	44	354	6	17.501	4832	Run # 26360 published only! (Copy typo #26360 on 1st modul error)
5.04	13.78	184.61	"	0.9	<0.1	53	49	242	5	"	"	dump
10.44	28.52	27213.13	"	1.6	0.15	49	37	501	10	"	4833	
8.86	26.30	27239.43	"	1.2	0.15	51	36	462	7	"	4834	

RUN	DATE	START	STOP	AT RUN START I+	AT RUN START I-	DEAD TIME %	TIME (SECS)	REC IN	REC OUT	ALL *10⁶	TΦ REJ *10⁶	T1 Acc SUM	T2 Acc SUM	T1 Bit2 EEG>660V	T2 Bit17 2T EEG >2TRG	PROCESSORS ON/OFF USO	MIP	TOF	FA
26364	31.5.86	14[57]	15:43	7,90	7,86	16.4	2764	7891	4500	719	118	5231	4896	1241	35	ON	ON	ON	OFF
26365	"	16[10]	16:52	10.80	10.71	21.6	2451	8002	5237	637	137	5173	5088	1319	39	"	"	"	"
26366	"	16:52	17:26	9,22	9.15	19.2	2580	8002	5130	668	128	5191	5110	1313	37	"	"	"	"
26367	"	17:37	18:02	7.92	7.75	17.7	1426	4239	2502	370	65	2804	2671	656	14	"	"	"	"
26368	"	18:29	18:46	10.91	10.83	23.3	975	3098	2031	240	56	2008	1928	510	14	"	"	"	"
26369	"	19:28	20:11	9.89	10.06	20.6	2524	8002	5086	656	135	5229	5132	1328	29	"	"	"	"
26370	"	20:11	20:52	8.89	8.58	19.5	2652	8002	4762	699	127	5227	5079	549	30	"	"	"	"
26371	"	20:55	21:37	7.15	7.33	16.7	2717	6186	3487	566	95	4074	3841	938	31	"	"	"	"
26372	"	22:00	22:43	10,16	10,03	20.9	2468	8002	5028	642	133	5249	4963	1334	36	"	"	"	"
26373	"			JDAS	DETECTED	ERROR		IN PEDESTAL	RUN										
26374	"	22:48	23:31	8.59	9.48	8.86	2690	8002	4836	699	129	5312	5064	1240	31	"	"	"	"
26375	"	23:30	00 02	7.30	7.19	17.3	1782	5034	2898	465	80	3324	3217	794	24	"	"	"	"
26376	1/6/86	—	01[49]	—	—	25.8	—	8002	5357	—	—	—	—	—	—	"	"	"	"
26377	"	02[33]	03[23]	7.32	7.30	16.5	2424	8002	4529	760	126	5198	5144	1110	24	"	"	"	"
26378	"	04[12]	04[55]	10.54	10.74	20.8	2550	8002	5205	663	138	5175	5175	1288	36	"	"	"	"
26379	"	04[55]	05[41]	8.91	9.02	19.0	2708	8002	4711	704	134	5170	5190	1181	24	"	"	"	"
26380	"	05[41]	05[52]	7.48	7.51	17.5	218	621	368	56	10	409	353	80	4	"	"	"	"
26381	"	06[48]	07[30]	10.52	10.77	21.2	2557	8002	5189	652	139	5165	5031	1347	38	"	"	"	"
26382	"	07[30]	08[16]	8.65	9.11	18.8	2697	8002	4732	702	132	5183	5296	1197	40	"	"	"	"
26383	"	08[16]	09[06]	7.39	7.83	16.7	2957	8002	4569	769	128	5204	5369	1146	29	"	"	"	"
26384	"	09[06]	09:15	6.32	6.72	17.5	384	1084	626	100	17	698	646	155	7	"	"	"	"
26385	"	9:53	10:40	9.73	10.07	20.2	2610	8002	5029	679	137	5122	5231	1304	27	"	"	"	"
26386	"	10:40	11:27	8.08	8.53	18.5	2746	8002	4791	714	132	5337	5092	1234	30	"	"	"	"
26387	"	11:27	12:01	6.42	7.33	17.7	1971	5521	3212	513	91	3590	3593	800	26	"	"	"	"
26388	"	12:41	13:24	10.62	10.74	21.1	2505	8002	5073	652	137	5216	5228	1291	41	"	"	"	"
26389	"	13:26	14:11	8.97	9.08	18.5	2653	8002	4883	690	128	5168	5158	1237	39	"	"	"	"
26390	"	14:11	14:36	7.65	7.74	18.1	1450	3997	2342	378	68	2618	2527	596	15	"	"	"	"
26391	"	14:38	14:57	7.00	7.09	21.0	1193	3023	1736	310	65	1991	1961	440	10	"	"	"	"
26392	"	15:01	15:13	6.49	6.57	20.0	715	1880	1026	186	37	1198	1200	272	12	"	"	"	"
26393	"	15[47]	16[29]	10.4	10.3	21.1	2549	8002	5117	662	139	5182	5117	1232	38	"	"	"	"
26394	"	16[51]	17[38]	8.00	7.76	17.6	2763	8002	4612	718	126	5361	4962	1248	34	"	"	"	"
26395	"	17[39]	18[02]	6.80	6.57	16.5	1386	4017	2270	360	59	2660	2443	602	12	"	"	"	"
26396	"	18[56]	19[38]	9.95	10.46	21.5	2484	8002	5760	646	139	5231	4962	1349	37	"	"	"	"
26397	"	19[39]	20[22]	8.41	8.92	19.5	2607	8002	4931	679	131	5244	5055	1236	34	"	"	"	"

<L> $10^{30}cm^{-2}s^{-1}$	BHABHA SLdt nb^{-1}	SLdt Exp. ENERGY	IBM/TAPE OUTPUT	AT RUN START TOF [V]	AT RUN START ID [mA]	ONLINE REJ SUM MIPBC T_1 %	ONLINE REJ NO50 T_2+T_2 %	Σ BHABHA	HADRON	E_{BEAM}	MAG FIELD -1*6	REMARKS (what was MU HA a supersymmetric particle)
7,21	20,89	27260,32	IBM	0.9	0.1	51	44	367	6	17,500	4834	beams dumped
9.83	26.15	2728 6,45	"	1.6	0.2	50	36	459	7	17,500	4834	
8,56	25.76	2731 2,61	"	1.3	0.1	50	37	451	7	17,500	4834	
7,11	12.13	2732 4,74	"	0.9	0.1	52	42	213	4	17.500	4834	beams dumped
10.94	11.56	2736.30	"	1.6	0.2	50	36	203	2	17,50	4834	beams lost
9.44	25.67	2736 1.97	"	1.5	0.3	51	38	451	13	17501	4834	
7.72	23.90	2738 5.77	"	1.1	0.2	51	42	419	6	17.500	4832	
6.30	14.09	2740 0.46	"	1.0	0.1	52	44	258	3	17.501	4831	Beams dumped
9.98	27.44	2742 7.90	"	1.5	0.2	50	38	482	9	17.501	4832	
			*									Run aborted by JDAS
7.94	21.91	27449.71	"	1.1	0.1	52	41	385	5	17.501	4831	BEAMS DUMPED.
6.30	13.49	27463.20	"	1.0	<0.1	52	44	237	5	17501	4831	
10.74	24.75	27487.95	"	1.7	0.15	—	—	—	—	---	4837	WORD HANGS DURING STOP. PROCEDURE.
6.08	20.27	27508,22	"	1.0	0.05	51	45	356	2	17501	4835	BEAMS DUMPED.
10.14	26.81	27535.03	"	1.5	0.2	51	36	471	5	17.500	4835	
7.04	19.13	27554.16	"	1.2	0.1	51	43	336	8	17.500	4836	
5.69	1.48	27555.64	"	1.0	<0.1	51	43	26	0	17.502	4837	beams dumped
9.80	26.76	27582.40	"	1.5	0.2	50	36	470	5	17500	4837	
7.26	20.49	27602,89	"	1.3	0.1	51	42	370	5	17.500	4836	
5.75	18.16	27621,05	"	1,2	0,05	53	44	319	5	17.501	4838	
5.16	1.99	27623.04	"	0.95	<0,05	51	45	35	0	17.501	4837	beams dumped
8.49	25.73	27648.77	"	1.5	0.2	50	38	452	8	17.500	4837	
6.37	19.89	27668.58	"	1.25	0.1	53	42	348	7	"	4838	
5.59	12.13	27680.71	"	1.1	<0.1	52	43	213	5	17.501	4839	Beams dumped
9.04	23.46	27704.17	"	1.7	0,15	52	38	412	7	17.501	4839	
7.76	21.18	27725.35	"	1.2	0,1	50	40	372	12	"	4840	
6.23	9.74	27735.09	"	0.95	<0.1	53	43	171	4	"	4838	run stopped due to fatal-Timeouts
6.05	7.86	27742.95	"	0.85	<0.1	52	44	138	1	17.500	4839	" " " "
5.48	4.50	27747.45	"	0.80	<0.1	49	47	79	2	17.501	4840	beams dumped
8.84	22.77	27770.22	"	1.9	0,2	51	37	400	8	17.501	4839	
6.81	19.53	27789.75	"	1.3	0.1	52	44	343	8	17.500	"	
5.71	8.94	27798.69	"	1.0	0.1	50	45	157	4	"	"	
9.96	24.88	823.57		1.6	0,2	48	37	437	8	"	4838	
8.29	21.01	27844.58	"	1.4	0.1	50	41	369	8	"	"	

00⁰¹ SMOLIK & HEDGECOCK
00¹⁰ Gas check OK
01¹⁹ NORD 10 HANGS DURING RUN STOP/SUMMARY SAVING PROCEDURE. [LEVEL 03]
COLOUR TV:- DISPLAY DRAWING N50 HISTOGRAM
FLASHES — RUN SUMMARY SAVING; HISTOGRAM SAVING.
After attempting to restart the NORD we get the following on the system console.
ERROR CODE OUTSIDE RANGE } NOTHING ELSE.
NO MAIN DIRECTORY }
01.⁴⁵ HE. MILLS is called and he will come in. RUN DOWN HT's.
System disc was on Orange drive (as it should be)
System disc does not work on blue drive - same symptoms.
~~Loaded~~ Mounted "special" system backup (from 20 May) on Blue drive - system loaded
Tried to copy to scratch disc (mounted on orange drive) - disc errors.
Decided to run using "special" backup disc as system disc on Blue drive. Changed run#
Conclusions System disc is corrupt
Orange drive probably has a h/w fault
CONTINUE light on Nord-10 panel probably broken.

With one disc drive broken we cannot copy any discs! Also the BLUE drive is known to be less reliable than the ORANGE one. BACKUP C - our latest official backup - must NOT be mounted until certain no h/w fault exists HEM

If no more errors happen - wait until Monday morning before calling Herr Delfs.
If problems occure, wait until reasonable hours, call Jan Olsson to call Herr Delfs.
05⁴⁰ Jet, VTX, Z - chamber tripped Rod
05⁴⁹ Jet- and VTX soft trip, PKR said: "switch off the HV"
04:45:50 FEP08 + 24 "Processor Timeout" on MOP console — no action
08⁰⁰ Warning & Darvill on shift.
gas check done, OK

08⁴⁰ Call round other experiments about new filling - Tasso is the most reluctant to agree - they say they still have good luminosity - so do we - but we compromise on 20-25 minutes - all other groups agree. Does this mean that Tasso shift crew are the only other ones to think about the optimum filling time?
08⁵⁷ IDAS readout error 33 missing LAM branch 3 crate 4 : Z chamber part 1.
09⁰⁶ Z chamber trip - reset normally.

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10¹⁴ Z-ch trip, reset ok
11²⁰ Z-ch trip, reset OK
at the same time error from VTX-ch-gas system, pressure wrong, was 1170
We followed the instructions for this case, P14 went down to 1130, but alarm stayed on.
11:53 Zch & Jet chamber trip — pressure error is now reset. Z chamber pressure now 1140

12:00 "Switch off the high voltage" I don't know why, but this has not been the best filling I have seen.
P.K.R. seem to have made up their own minds to refill - we have been somewhat busy with our own problems to look at things like this.
12:40 At last we have stable beams and start run 26388

13:13 No problem with the VTXC gas system. It seems to me, that it was just an ordinary valve failure at 11:20 which was misinterpreted as wrong pressure. The threshold for over pressure alarm is 1185 mbar, for under pressure 1135 mbar. So if you open the "blow out" valve to bring the pressure down to 1130 mbar, you will surely get a pressure wrong alarm! (HK)
No problem since 13:13, before problem was instructions out of date. Those led us to wrong conclusions.
In fact the instructions for a "pressure wrong" alarm was a bit out of date (1170mbar instead of 1185 mbar for upper threshold), sorry! But the instruction on the PC's screen read: GO TO THE RUCKSACK TO FIND EXACT ERROR SOURCE! This wasn't done; because this was no "pressure wrong alarm. PWA
13⁴⁷ Z-chamber trip. (HK)
14¹⁰ IDAS readout error 32 - missing CAM at FEP Ready (JETCH) at runs start
14¹⁴ Z-ch trip
14²⁰ J68K error flashing once on the colour TV, no message on MOP
14³⁰ Histograms checked, all look normal except E⁺ timing tests & old beam pickup phoned H. Krehbiel, he will come in and check it.
14³⁴ continuously IDAS readout error 33 - missing Lam J68K (JETCH), no message on MOP
stop run, reload FEP, but still occasionally missing Lams from J68K afterwards HHHHT
14:44:22 FEP22—31 Processor Request Timeout — Message on MOP, accompanied by missing LAMS (FEP)
14:46:17 FEP08 + 27 " " " " " " " " HHT
IDAS readout error 33 - missing Lam branch 3 crate 1 (ID)
6 more missing Lams — FEP Ready
stop run again, reload FEP processors, start a new run
14⁵⁹ Z-ch-trip
after a few minutes of running again IDAS -32-, Missing LAM at FEP Ready HHT

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16⁰⁰ R. Felst + H. Mills on shift

16²⁰ gas check O.K. H. Krehbiel working on the timing circuits

17⁰⁰ timing seem to be O.K. now

18²⁰ now fill delayed because of problems with septum magnet

20⁰⁹ REFORM job submitted.

20³⁰ z chamber trip

22⁴⁰ z chamber trip. Std histograms taken from run 26400

23¹⁹ " " "

2-6-86

0⁰⁰ Magnussen + Zimmer on shift

0⁰¹ z-chamber trip

1⁵⁰ z-chamber trip

2⁰⁵ VX +10 Syst trip

2²⁵ z-ch trip

3⁰⁴ JOAS Err. 33 Kriss. LAM Gr. 3 crate 4: Zch Part 1

3⁰⁶ several kriss. LAM's at FEP Ready → JADE60

8⁰⁰ Walther + Becker on shift - gas check OK.

9²⁵ z-ch trip.

9⁰⁵ " "

9⁰⁷ VTXC gas system valve failure.

9²⁰ The red drive was tested, it is ok. The system disc was really broken, it has been overwritten from the backup. ⇒ We are back running on the normal system disc and the red drive. All editing done since 11⁰⁰ 20/5-86 is lost!
The reason for this misery is again believed to be temperature, either of disk drive or NIO

10³⁰ PETRA ⇒ optimization. z-ch ⇒ trip. T.O.

13⁰⁰ Papier-Stau: Gold-Plotter, Rolle klebt - Hausbender informiert ← Rolle muß voraussichtlich erneuert werden

13⁰⁰ Problems with magnet current at DESY - no new fill possible continue runs with low currents.

15⁵⁰ : Break → 18⁴, Magnet: 500 A → 100 A

16⁰⁰ H. Mills + B. Naroska on shift

Gas check ok. No beams

19⁰⁰ No beams until 23⁰⁰.

19³⁰ Magnet reset/run down. Isolator off. I go home. R.N will come ~ 9 pm

20.00 Everything ok.

22.50 PETRA on Injection, raise magnet current

3/6/86

0⁰⁰ Walther + Schmitz on shift. Gas check ok.

0⁰⁵ Luminosity!

0¹⁵ VSPY says "80-ch wire nibs no hits: 198" HT II register as clock bunk — Believe the spy!!!!
Kado will see about it in the morning (later!).

1¹³ JOAS error 64 - AC2099 TOF-2 a,x missing str=3 subadd=0

1²⁰ 1st z-ch trip tonight.

3³⁰ Morning LAM Gr. 2 a.6: LG ADCs

3⁵⁵ 2nd z-ch trip + VTXC valve failure.

4.50 z-Chamber trip.

5:30 wire 188 of the beam pipe chamber is dead: (wire 99, -z side)

7:15 JOAS READOUT ERROR 53 - System wrote wakeup flag PARTS=067563 177777 Coctar

7:25 μ-Crate 13 could only be reached at the crate placed in the hall

7:44 FADC broken, current run stopped, new run without VTXC to allow repair work. (HK)

8⁰⁸ Ramcke + Chain on shift, gas check O.K.

8:31 Run #26432 - Vertex chamber back in the readout.

8:32 Error a system console: Error in opening file for Read 44442 2.
No information from Joas now This error message.

8:45 VTXC FADC System is working again. (IC in line receiver circuit in FADC module broken) (HK)

11:00 Petra Info link down. Problems with Petra-computer

11:12 JOAS-Readout Err 64 AC2099 TOF-2 a,x missing str=3 subadd=0

1:30 Petra Info link returns.

60 Run	date	start	stop	I+ [mA]	I− [mA]	dead time	time	records m	records mt	all	TO rej	T1 Acc Sum	T2 Acc Sum	T1 &t2 Eee766	T2 &t 17	NSD	MIP	TOF	Th
26398	1.6.86	20:25	21:43	7.10	7.57	16.3	2858	8002	4676	743	121	5334	4910	1230	25 243	ON	ON	ON	
26399	"	21:43	21:47	6.01	6.44	16.2	198	591	352	51	8	377	364	96	0	"	"	"	
26400	"	21.55	22.58	9.34	10.62	21.0	2526	8002	5087	657	138	5216	4987	1344	42	"	"	"	
26401	"	22.38	23:24	7.89	9.06	19.3	2658	8002	4844	691	133	5208	4829	1217	36	"	"	"	
26402	"	23:24	0:12	6.69	7.78	16.6	2886	8002	4588	750	124	5184	5091	1125	26	"	"	"	
26403	2.6.86	0:13	0:21	5.67	6.67	15.2	423	1134	652	110	16	788	703	170	2	"	"	"	
26404	"	1:03	1:41	9.86	10.46	21.6	2538	8002	5122	660	142	5135	5204	1338	42	"	"	"	
26405	"	1:48	2:38	8.27	8.88	17.1	2734	8002	4766	726	124	5415	4365	1333	38	"	"	"	
26406	"	2:39	3:03	6.88	7.31	15.3	1757	4755	2655	457	68	3138	3020	697	15	"	"	"	
26407	"	3:11	3:20	6.17	6.56	14.3	483	1379	761	127	18	896	793	203	6	"	"	"	
26408	"	3:57	4:43	10.51	10.68	19.7	2556	8002	5112	665	131	5219	5029	1264	23	"	"	"	
26409	"	4:43	5:29	8.58	8.57	17.9	2315	8002	4755	706	126	5283	4867	1208	24	"	"	"	
26410	"	5:29	6:16	7.27	6.94	16.2	2158	7401	4108	717	116	4894	4633	1104	28	"	"	"	
26411	"	6:51	7:37	10.37	10.78	21.2	2567	8002	5093	667	134	5218	5147	1335	46	"	"	"	
26412	"	7:34	8.19	8.70	9.15	18.4	2700	8002	4811	702	129	5328	5075	1321	27	"	"	"	
26413	"	8.20	9.06	7.35	7.77	17.3	2544	8002	4698	740	128	5294	5068	1250	35	"	"	"	
26414	"	9.08	9.21	6.21	6.60	16.7	733	2071	1200	190	31	1328	1292	280	9	"	"	"	
26415	"	10:17	10:58	10.22	11.26	21.4	2467	8002	5236	641	137	5240	4997	1333	46	"	"	"	
26416	"	10:59	11:44	8.66	9.60	18.9	2681	8002	4897	697	131	5213	5238	1245	47	"	"	"	
26417	"	11:44	12:32	7.32	8.13	16.0	2886	8002	4537	751	120	5284	5256	1181	34	"	"	"	
26418	"	12:33	13:25	6.17	6.88	15.0	3051	8002	4306	801	120	5240	5270	1132	36	"	"	"	
26419	"	13:26	14:30	5.20	5.84	13.4	3253	8002	3259	848	114	5286	5306	1065	38	"	"	"	
26420	"	14:31	15:29	4.29	4.86	12.4	3478	8002	3884	905	112	5405	5274	987	33	"	"	"	
26421	"	15:30	15:50	3.63	4.24	11.8	1140	2615	1224	287	35	1403	1721	303	6	"	"	"	
26422	3.6.86	0.12	0.56	9.04	9.60	19.9	2605	8002	4961	677	135	5160	5217	1214	24	"	"	"	
26423	"	0.56	1.44	7.66	8.27	18.1	2631	8002	4792	736	133	5156	5315	1207	42	"	"	"	
26424	"	1.44	1.51	6.51	7.09	16.5	368	1022	609	95	15	672	663	154	6	"	"	"	
26425	"	3.13	3.58	10.29	9.87	17.3	2668	8003	4971	694	134	5258	5100	1356	33	"	"	"	
26426	"	3:58	4:45	8.75	8.38	17.0	2785	8002	4745	725	123	5280	5015	1201	32	"	"	"	
26427	"	4:46	5:44	7.47	7.14	15.6	3018	8002	4509	785	123	5242	5181	1121	36	"	"	"	
26428	"	6:32	7:17	10.51	10.48	20.0	2546	8002	5022	655	131	5252	4867	1303	31	"	"	"	
26429	"	no beam																	
26430	"	7:21	7:48	8.68	8.63	18.8	1568	4836	2992	408	78	3166	3012	778	29	"	"	"	
26431	"	7.49	8.14	7.87	7.88	17.6	1249	3619	2108	325	57	2419	2371	559	16	"	"	"	
26432	"	8:31	8:58	6.79	6.80	17.0	1346	3665	2086	350	60	2418	2361	593	12	"	"	"	

61	10^{30} cm^{-2}sec^{-1} <L>	Sh.of.Rm ∫Ldt nb^{-1}	∫Ldt Exp	IBM/ TAPE	TOF [V]	I0 [mA]	SUM MIPP	Vrdso	Σ Sh.of.Rm	MH	E_{beam}	Magn. field	
	6.52	19.53	27864.11	IBM	1.1	0.05	51	43	343	6	17.500	4838	
	5.47	1.42	27865.53	"	0.8	0.03	49	42	25	0	"	"	beams dumped.
	9.85	26.53	27892.06	"	1.5	0.1	49	39	466	9	17.501	4835	
	7.86	22.20	27912.26	"	1.2	0.03	49	41	390	4	"	"	
	5.85	18.27	27940.53	"	1.0	0	50	44	321	5	17.500	4834	
	5.36	2.39	27942.92	"	0.8	0.01	48	47	42	0	17.501	4835	beams dumped
	9.81	28.18	27971.10	"	1.5	0.1	51	37	455	14	17.500	4834	
	7.67	25.28	27996.38	"	1.2	0.1	53	42	444	14	17.500	4834	
	6.36	11.35	27988.33	"	0.8	0.05	53	45	210	5	17.500	4834	→ Missing LAYer
	5.73	2.56	27990.89	"	0.7	0.05	52	44	45	0	17.501	4833	beams dumped
	9.53	26.02	28016.91	"	1.3	0.1	51	37	457	5	17.500	4834	
	7.22	21.35	28048.26	"	1.0	0.05	51	42	375	9	17.501	4834	
	5.76	17.14	28065.40	"	0.8	0.05	52	46	301	6	17.501	4837	beams dumped
	10.03	26.64	28092.04	"	1.5	0.1	51	38	468	7	17.501	4834	
	8.08	23.57	28115.61	"	1.2	0.1	52	41	414	10	"	"	
	6.61	21.23	28136.84	"	1.0	<0.1	52	43	373	8	17.500	"	
	5.53	3.93	28140.77	"	0.9	<0.1	50	44	69	0	"	"	Beam dumped
	10.13	26.24	28167.01	"	1.5	0.1	50	36	461	3	"	"	
	7.80	23.85	28190.86	"	1.3	0.1	52	40	419	3	"	"	
	6.51	18.67	28209.53	"	1.0	<0.1	53	45	327	9	"	"	
	4.82	16.80	28226.33	"	0.8	<0.1	53	48	285	8	"	"	
	3.70	13.27	28239.60	"	0.7	<0.1	53	51	233	1	"	4837	
	2.85	11.27	28250.87	"	0.4	≈0	56	53	198	1	17.501	4838	
	2.44	2.85	28253.72	"	0.5	≈0	52	55	50	0	17.500	4837	beams dumped.
	8.78	23.91	28277.63	"	1.5	0.2	51	39	420	8	"	4836	
	7.06	22.26	28299.89	"	1.3	0.1	52	42	391	5	"	4846	
	6.47	2.96	28302.85	"	1.0	<0.1	54	42	52	1	"	4845	Beams dumped.
	9.43	28.92	28331.77	"	1.5	0.1	51	39	508	8	"	4844	
	7.98	22.66	28354.43	"	1.2	<0.1	51	42	388	4	12501	"	
	6.40	18.53	28373.96	"	1.0	<0.1	51	45	343	5	12500	"	Beams dumped
	10.29	28.47	28402.43	"	1.4	0.1	50	38	510	7	12501	4842	
					1.25	0.1							
	9.06	14.52	28416.95	"	1.25	0.1	50	39	255	3	"	4844	NO VTXC
	7.87	10.76	28427.71	"	1.1	<0.1	53	43	189	5	12500	"	Run stopped so as to get VTX. back in Readout.
	6.42	8.94	28436.25	"	0.9	<0.1	53	45	157	3	"	"	VTX chamber back in readout. Beam dumped

Wire 99, −Z side in VTXC missing

62 Run	Date	Start	Stop	At Run Start I^+	At Run Start I^-	Dead Time %	Time (secs)	Records Bn	Records Out	ALL $\times 10^6$	TØ Rej $\times 10^6$	T_3 Acc Sum	T_2 Acc Sum	T_1 Bit 2 E_{LG} 766V	T_2 Bit 17 2 Γ $E_T \geq 27K$	PROCESSORS ON/OFF NSO	MIP	TOF	FB
26433	03.06.86	9:38	10:20	10,68	10,91	21.6	2489	8002	5230	648	140	5172	5035	1353	38	on	on	on	
26434	"	10:20	11:03	9,04	9,26	19.6	2567	8002	4962	668	131	5224	5034	1319	31	"	"	"	
26435	"	11:05	11:53	8,07	8,25	17.5	2832	8002	4614	737	129	5229	5041	1223	31	"	"	"	
26436	"	12:51	13:26	11,02	10.85	23.1	2018	6830	4444	538	124	4393	4355	1134	40	"	"	"	
26437	"	14:08	14:51	10,88	10,82	22.3	2428	8002	5120	631	140	5186	5041	1289	27	"	"	"	
26438	"	14:52	15:35	9,17	9,17	19.7	2569	8002	4845	668	131	5243	5086	1213	23	"	"	"	
26439	"	15:35	16:22	7,82	7,83	17.4	2816	8002	4686	733	128	5211	5107	1163	39	"	"	"	
26440	"	16:23	16:26	6.64	6.64	15.3	136	444	271	35	5	288	238	26	1	"	"	"	
26441	"	17:05	17:20	10.29	10.43	21.8	898	2998	1983	233	51	2005	1757	528	16	"	"	"	
26442	"	17:21	18:04	9.67	9.81	20.8	2555	8002	4986	665	138	5215	4913	1266	29	"	"	"	
26443	"	18:07	18:54	8.20	8.32	17.9	2809	8002	4615	731	131	5234	3196	1177	26	"	"	"	
26444	"	18:54	19:43	7.02	7.13	16.9	2915	8002	4532	758	128	5206	5219	1109	42	"	"	"	
26445	"	19:44	19:45	6.05	6.15	17.6	69	211	112	18	3	124	130	28	0	"	"	"	
26446	"	20:37	21:19	10.75	10.96	22.8	2484	8002	5094	646	147	5083	5192	1246	31	"	"	"	
26447	"	21:19	22:01	9.17	9.38	21.0	2499	8002	4969	650	137	5258	5046	1359	30	"	"	"	
26448	"	22:02	22:24	7.87	8.06	15.3	1296	3501	1867	337	52	2303	2260	495	14	"	"	"	
26449	"	23:24	23:55	10.82	10.48	22.7	1738	5929	3706	452	103	3838	3527	874	27	"	"	"	
26450	4/6/86	0:50	1:34	10.63	10.46	21.3	2477	8002	5045	644	137	5216	5103	1329	40	"	"	"	
26451	"	1:34	2:18	8.99	8.89	19.8	2628	8002	4788	684	135	5167	5056	1306	30	"	"	"	
26452	"	2:19	3:07	7.71	7.61	17.2	2880	8002	4593	749	129	5322	5112	1212	32	"	"	"	
26453	"	3:09	3:14	6.57	6.49	16.7	294	844	488	78	13	554	519	116	3	"	"	"	
26454	"	3:53	4:35	10.56	10.45	21.1	2492	8002	5012	648	137	5190	5029	1354	32	"	"	"	
26455	"	4:35	5:20	8.95	8.92	19.3	2642	8002	4834	687	133	5276	5041	1326	28	"	"	"	
26456	"	5:20	6:08	7.67	7.65	17.2	2861	8002	4551	744	128	5321	5042	1223	43	"	"	"	
26457	"	6:09	6:13	6.52	6.53	15.9	251	685	385	65	10	428	452	103	2	"	"	"	
26458	"	6:43	7:25	10.25	10.18	20.8	2479	8002	4980	645	134	5239	5016	1299	43	"	"	"	
26459	"	7:26	8:13	8.69	8.67	18.1	2733	8002	4762	711	129	5295	4975	1289	30	"	"	"	
26460	"	8:13	8:59	7.37	6.58	16.4	1822	5188	3025	474	77	3451	3175	811	19	"	"	"	
26461	"	9:40	10:22	11.04	10.78	23.2	2431	8002	5274	632	146	5163	5059	1352	39	"	"	"	
26462	"	10:23	11:07	9.32	9.15	19.3	2550	8002	5183	663	128	4936	4937	1220	26	"	"	"	
26463	"	11:07	11:54	7.98	7.83	17.6	2785	8002	4531	725	128	5248	5024	1174	28	"	"	"	
26464	"	11:54	12:38	6.93	6.69	16.9	2151	5932	3444	589	94	3993	3745	848	19	"	"	"	
26465	"	13:26	14:08	10.76	10.62	21.1	2475	8002	5026	644	136	5300	5019	1314	33	"	"	"	
26466	"	14:10	14:56	9.03	8.95	18.7	2694	8002	4833	701	131	5275	4960	1282	31	"	"	"	
26467	"	14:57	15:45	7.67	7.59	17.2	2873	8002	4620	748	128	5229	5208	1144	38	"	"	"	
26468	"	15:46	15:56	6.51	6.44	17.2	612	1733	1015	159	27	1118	1072	269	11	"	"	"	

$\angle L7$ $10^{30}\,cm^{-2}s^{-1}$	Bhabha $\int L dt$ nb^{-1}	$\int L dt$ Exp. Energy	IBM/HAPE output	At Run Start TOF [V]	At Run Start ED [mA]	Online Rejection SUM MIPROC	Online Rejection NORDSO $T_1 T_2$ %	Σ Bhabha	MHs	Ebeam	Magn. Field -1 %	Remarks
10.48	26.94	28463.24	IBM	1.5	0.1	49	36	474	10	17.501	4844	
8.62	25.11	28488.35	"	1.2	0.1	50	39	441	4	"	4845	
6.68	21.75	28510.10	"	1.0	<0.1	51	44	382	4	"	4847	beams dumped
10.53	22.94	28533.04	"	1.7	0.2	50	36	403	7	"	4848	beams lost
9.93	26.19	28559.23	"	1.5	0.2	50	37	460	8	"	4850	
8.38	23.97	28583.20	"	1.0	0.2	51	41	421	4	"	"	
6.80	18.33	28601.53	"	1.0	0.15	31	43	322	9	"	"	
6.80	1.25	28602.78	"	0.8	0.1	44	41	22	0	"	"	beams dumped
10.17	10.02	28612.80	"	1.4	0.2	50	35	176	3	17.500	4835	stopped to investigate "FILE PROBLEM".
8.64	22.89	28635.69	"	1.2	0.2	49	39	402	10	17.501	"	
6.17	18.50	28654.19	"	1.0	0.1	52	44	325	9	"	4832	
4.98	16.28	28670.47	"	0.9	0.05	52	45	286	3	17.500	4831	
3.81	0.28	28670.75	"	—	—	46	51	5	0	17.501	4830	beams dumped
9.51	23.23	28693.98	"	1.5	0.15	50	38	408	6	17.500	4828	
8.59	25.45	28719.43	"	1.5	0.15	51	39	447	5	17.500	4828	
5.10	7.86	28727.29	"	1.2	0.1	52	48	138	2	17.501	4828	beams dumped
10.04	18.45	28745.74	"	1.5	0.6	47	39	334	6	"	4827	beams lost, lost, lost dumped
9.92	28.92	28774.66	"	1.5	0.2	50	38	508	9	17.500	4828	
8.20	23.23	28797.89	"	1.2	0.15	51	42	408	9	17.501	"	
6.29	18.39	28816.28	"	—	—	53	44	323	8	17.500	"	
5.77	1.99	28818.27	"	0.85	<0.1	52	44	35	1	"	"	beams dumped
9.68	27.67	28845.94	"	1.45	0.2	49	39	486	6	17.501	4827	
7.96	22.43	28868.37	"	1.2	0.1	52	41	394	11	"	"	
6.07	16.51	28884.88	"	1.0	0.1	53	45	290	5	"	4826	
5.01	1.14	28886.02	"	0.7	0.05	51	46	20	1	"	4827	beams dumped
9.50	24.88	28910.90	"	1.4	0.2	50	39	437	8	17.501	4834	
7.48	21.69	28932.59	"	1.2	0.1	51	42	381	7	"	"	
6.06	12.47	28945.06	"	1.0	0.1	51	43	219	1	17.501	4835	beams dumped
9.98	25.11	28970.17	"	1.5	0.1	51	36	441	9	"	"	
8.19	21.81	28991.98	"	1.2	0.1	52	37	383	4	"	"	
6.32	19.47	29001.45	"	1.0	0.1	51	45	342	4	"	"	
5.58	14.35	29015.80	"	0.8	<0.1	52	43	252	4	"	4834	BEAMS DUMPED — Data glass error after beam dump required. Made HISTOGRAMS
10.00	26.99	29042.79	"	1.5	0.1	51	38	474	8	17.501	"	
8.21	22.66	29065.75	"	1.2	0.1	51	41	398	3	"	"	
6.54	18.10	29083.85	"	1.0	0.1	52	44	318	6	"	"	
5.58	4.54	29088.25	"	1.0	<0.1	50	43	79	1	"	"	beams dumped

16⁰⁰ Kleinwort & Swidzik

~~16⁰⁰~~ gas check OK

17²⁹ The "ERROR in OPENING FILE" problem ~1 min after start of each run seems to have been YVOLTS.
Task rebuilt. HEM

4/6/86

0⁰⁰ Warming & Hagemann on shift

gas check done OK

0⁵⁵ shortly after run start MOP pgm crashed
Screen black except 5 lines:

Check your Frame - Parameters
No display possible
4 5 6 4 76 2 16 32
-5
Press Enter to continue

same picture repeat after every ENTER
pause run,
stop MOP by Ctrl+C
type "JADE60",
continue run after "READY" message,
get JDAS error 32 - Missing LAM at FEP Ready immediately afterwards.

1⁴⁵ VTX ch errors on IBM-PC:

wire map deviations	> 50% :	55	0
ped 5 "	> 35% :	13	2
pulsarea 5 "	> 80% :	10	3

I can't see anything wrong in the histograms

1⁵⁶ Z ch trip together with valve failure
3⁰³ " " " " "
4³⁴ Z-ch trip
5²² "
6⁰⁴ "
7¹³ ", JDAS readout error 33 - Missing LAM & 4 cr. 1: JETC point 701 10x 177777
-1 -1 177777 -1 3x 177777 8293 177777
3012

Histos OK.

7³⁷ Z-ch trips + JDAS readout
7⁵⁹ MOP display: Nearly all numbers flashing. Offset 3 counts, Pause run, JADE60 restarted
8⁰⁰ Glossar and Schneekloth on shift
8:10 Gas check done ok

11⁷⁵ temperature alarm in hardware room, temp. went suddenly up to 26°C, called MKK.

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11³⁹ temperature alarm was caused by K-people, who were changing a filter. temperature is back to normal

12:40 Many noisy/missing LG blocks 709 in run 26463. Histograms look ok to me

13:20 Cooling group man came to see our cooling prob. he will call again ~ 15⁰⁰

14³⁰ 2 Z-chamber trips

16:00 Heintzmann + Magnussen
16:00 Gas check done Gasmixture 10.4 mA since days. NOT requested.
17:10 After talking to JFW, ~~restart~~ requested Action flow
21.04 JDAS Error 74 - wrong LAM branch 1 crate 1 : Beampipe Chamber
22.30 Stopped run to reload JETC68K. MOP had stopped working. Couldn't be started again (at least by me)
23.50 Missing LAM at JETC68K continuously at start of run. Stop run and reload JETC68K.

5.6.86 0⁰⁰ Hill & Kado on shift

0¹⁰ Z ch trip.
7:16 " "
3:17 problem with gould: when printing the run summary, the plotter stopped and the INTLK-lamp started flashing without any obvious reason.
3:19 start next run, reset gould plotter, try to print again last run summary →
"YRUNSM: saved summary file (D-F)RUNSM-43:SYMB -Error 28" ???
next try: no error 28, but same result as before (3:17)
3:23 meanwhile: Z chamber trip
3:26 third try: same as before
4, " " " " "
3:32 it worked! finally I got a run summary.
3:36 Z chamber trip
4:09 " " " + VTX valve failure
4:16 " " " " " " "
6³⁰ Z ch trip.
6⁴⁴ " " "
7⁰⁵ " " "

66 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 7 2T. Eu $\geq$ 2 TR	PROCESSORS ON-LINE NSO	PROCESSORS ON-LINE μ	PROCESSORS ON-LINE TOF	HV
26469	4.6.86	16:42	17:24	10.90	11.07	21.5	2493	8002	5138	649	139	5272	4992	1381	38	ON	ON	ON	ON
26470	"	17:24	18:08	9.21	9.37	19.0	2637	8002	4851	686	130	5228	4951	1290	30	"	"	"	"
26471	"	18:13	19:01	7.68	7.83	16.0	2903	8002	4733	755	121	5267	5008	1199	29	"	"	"	"
26472	"	19:02	19:23	6.41	6.56	15.2	1217	3288	1799	316	48	2171	2090	493	11	"	"	"	"
26473	"	20:29	21:12	10.84	10.80	22.5	2541	8002	5231	660	148	5098	5242	1364	38	"	"	"	"
26474	"	21:12	21:55	9.21	9.18	19.9	2568	8002	4856	667	132	5195	5089	1273	42	"	"	"	"
26475	"	21:55	22:28	7.84	7.82	18.1	1922	5668	3397	500	90	3659	3552	869	23	"	"	"	"
26476	"	22:36	22:52	6.81	6.79	16.3	959	2744	1536	249	40	1786	1773	425	13	"	"	"	"
26477	"	junk																	
26478	"	23:55	0:38	10.52	10.72	19.9	2497	8002	5165	650	129	5176	5025	1287	29	"	"	"	"
26479	5.6.86	0:39	1:25	8.69	9.01	17.7	2731	8002	4805	710	121	5306	4925	1252	40	"	"	"	"
26480	"	1:25	2:00	7.15	7.59	15.5	2076	5710	3276	540	84	3748	3592	851	22	"	"	"	"
26481	"	2:34	3:16	9.59	10.45	19.6	2554	8002	5075	664	130	5233	5015	1333	35	"	"	"	"
26482	"	3:17	4:03	8.06	8.87	18.0	2752	8002	4744	716	129	5270	5030	1202	21	"	"	"	"
26483	"	4:04	4:48	6.75	7.49	16.5	2604	7165	4045	678	112	4726	4520	1036	29	"	"	"	"
26484	"	5:24	6:07	9,78	10,63	20,6	2507	8002	5114	651	133	5139	5084	1306	31	"	"	"	"
26485	"	6:08	6:57	8,24	9,03	17,9	2706	8002	4749	703	126	5252	5046	1266	26	"	"	"	"
26486	"	6:57	7:38	6,84	7,55	15,8	2282	6197	3529	593	93	4066	4018	822	19	"	"	"	"
26487	"	8:12	9:00	9.75	10.69	20.6	2587	8002	5070	673	138	5212	5199	1277	31	"	"	"	"
26488	"	9:01	9:47	8.09	8.91	17.4	2746	8002	4727	714	125	5253	5063	1272	40	"	"	"	"
26489	"	9:48	10:33	6.81	7.56	19.5	2705	8002	4643	704	137	5136	5098	1163	56	"	"	"	"
26490	"	10:34	11:05	5.85	6.54	18.5	1900	5488	3173	495	91	3576	3488	785	32	"	"	"	"
26491	"	18:36	19:24	10.32	10.55	19.6	2687	8002	5075	680	133	5202	4978	1215	33	"	"	"	"
26492	"	19:25	20:13	8.56	8.78	17.6	2774	8002	4740	721	127	5338	4926	1246	31	"	"	"	"
26493	"	20:13	20:47	7.26	7.46	15.7	1946	5277	3025	506	80	3481	3349	752	18	"	"	"	"
26494	"	21:23	22:05	10.53	10.69	23.0	2439	8002	5127	634	146	5195	5256	1293	37	"	"	"	"
26495	"	22:07	22:51	8.89	8.91	20.4	2616	8002	4937	681	138	5214	5176	1289	39	"	"	"	"
26496	"	22:51	23:28	7.58	7.62	19.1	2103	6146	3711	528	104	4002	3937	908	29	"	"	"	"
26497		Crashed immediately on starting													No	veto	Summary		
26498	6.6.86	00:12	00:54	10.55	10.61	22.3	2474	8002	5184	644	143	5213	5098	1287	39	"	"	"	"
26499	"	00.55	1:25	9.00	9.03	20.6	1816	5562	3419	473	97	3585	3604	852	23	"	"	"	"
26500	"	5:12	6:04	9.60	10.79	19.9	2564	8002	5110	666	132	5290	4976	1219	33	"	"	"	"
26501	"	6:03	6:52	7.83	8.87	17.9	2826	8002	4794	734	131	5242	5144	1233	36	"	"	"	"
26502	"	6:53	7:23	6.57	7.52	18.0	1748	4866	2808	454	82	3105	3235	638	25	"	"	"	"

$\langle L \rangle$ 10^{30} cm^{-2} s^{-1}	BHABHA $\int L dt$ nb^{-1}	$\int L dt$ EXP ENERGY	IBM/ TAPE	AT RUN START TOF LV]	AT RUN START ID [μA]	ON LINE REJECT SUM HIPROC T_2 %	ON LINE REJECT NORD 50 $T_1 T_2$ %	Σ BHABHA	MH	E_{BEAM}	MAG FIELD 1*G	REMARKS
10.38	28.63	29 116.88	IBM	1.5	0.1	50	37	503	11	17.500	4835	
8.58	25.45	29 142.33	"	1.2	0.1	50	41	457	5	17.501	4836	
7.25	21.63	29 163.96	"	0.9	<0.1	51	42	380	5	17.500	4835	
6.23	8.65	29 172.61	"	0.7	<0.1	52	47	152	1	17.500	4836	Beams dumped
9.62	27.27	29 199.88	"	1.5	0.1	50	36	479	7	17.501	4835	
8.45	23.06	29 222.94	"	1.2	0.1	50	41	405	5	17.500	4834	
6.97	15.20	29 238.16	"	1.1	<0.1	50	42	267	4	17.501	4835	stopped to reload J68K
6.37	7.12	29 245.18	"	1.0	<0.1	51	46	125	1	17.501	4834	Beams dumped
				1.6	0.1							stopped to reload JETC68K
10.22	26.30	29277.48	"	1.5	0.1	49	37	462	7	17.500	4834	
8.12	24.54	29296.02	"	0.9	<0.1	51	41	431	8	"	4835	
6.52	14.46	29310.48	"	0.7	<0.1	51	45	254	3	"	4834	beams dumped
9.90	26.93	29337.41	"	1.5	0.1	50	38	473	7	"	4835	
7.87	21.75	29359.16	"	1.1	0.1	51	42	382	2	17.501	"	
6.10	16.28	29365.44	"	0.9	<0.1	52	45	286	8	17.500	"	beams dumped
10,06	26,93	29392,37	"	1,5	0,1	50	37	473	10	17,501	4834	
7,85	22,49	29414,86	"	1,1	0,1	51	42	395	10	17501	4834	
6,34	13,55	29428,41	"	0,9	<0,1	52	44	288	3	17501	4835	beams dumped
9.19	24.48	29452.89	"	1.5	0.1	51	38	430	4	17.500	4834	
7.94	21.98	29474.87	"	1.2	0.1	51	42	386	3	17.501	4836	
5.34	16.22	29491.09	"	1.1	<0.1	50	43	285	5	17.500	4836	
5.18	10.36	29501.45	"	1.1	<0.1	51	44	182	2	17.501	4835	beams dumped
9.86	25.39	29526.84	"	1.25	0.1	49	38	446	7	17.500	"	
7.89	24.36	29551.20	"	1.0	0.1	52	42	428	6	17.500	4834	
6.65	13.95	29565.15	"	0.8	<0.1	52	44	245	1	17.501	4833	Beams dumped
9.63	25.5	29590.65	"	1.5	0.1	50	37	448	4	17.500	4832	
7.93	22.88	29613.53	"	1.3	0.1	51	40	402	8	"	"	
6.67	17.19	29630.72	"	1.2	<.1	51	41	302	6	17.500	4832	Beams dumped.
			only	13 Triggers								Beams dumped
9.32	25.90	29656.62	IBM	1.5	0.1	52	37	455	7	17.500	4833	
7.65	13.89	29670.51	"	1.25	0.1	51	40	295	5	17.500	4832	Beam lost
3.50	24.93	29695.44	"	1.5	0.1	51	37	438	6	"	4834	
2.62	25.62	29721.06	"	1.3	0.1	52	42	450	4	"	"	
6.02	10.59	29731.65	"	1.1	<0.1	52	44	186	6	"	"	beam dumped

7^{35} Request new fill from ~~PETRA~~ PKR
They want us to keep each fill today for at least 3 hours while they are working on DESY 2.

8^{00} J. Spitzer and H Rieseberg on shift

8^{07} New fill is ready
Gas check done → ok
8^{25} We propose to the other experiments and to PKR to have the access for CELLO from 11 to 12 a.m.
9^{30} Crazzy phone 3236 : Call from outside, and the man said I have called him(!), and 3 false calls . Inform 2222 .
11^{03} Beams dumped to give CELLO access . Herr Seidel and Bla~~ke~~ will get the scintillators from top of the tun
Magnet → 0
12^{05} Magnet → 500A
12^{25} CELLO will have finished the work in 10 minutes. But there are two water leaks : One in Linac 1, the other in the Transport System to PETRA
12^{40} BREAK : Restart ca 16 Uhr.
Herr Seidel is drilling a hole for a ventillator in the wall behind the VTXC-FADCs
15^{50} PKR : Restart later than 16^{00}. No time estimate yet.

16^{00} Darvill on shift
16^{06} Gas check done. O.K.
16^{25} Petra is ready to inject. I call them to see if we should run our magnet up. They say yes so I switch to computer control and begin to drive it up to 7500A
17^{13} There seems to be a shortage of electrons
17^{42} Now we're getting some particles in the machine
18^{05} They lost it!
18.37 beams ready
20.23 also Kuhlen arrives
20 57 we agree with the other groups to have a new filling in 10 minutes.
23:24 Gas alarm – valve failure, also Z chamber trip
JDAS readout error 33 — just as on 4.6.86 at 07:13
we decide to get the new filling while we mend the bit.
reload JADEGO from the Nord – (F15, F10) looks to have worked.

6.6.86 0^{00} Kuhlen & Swdith
Gas check OK.
4^{36} There had been a „Tender - dustfall" for the last two hours. This is now fixed, and PETRA ready to inject, but now Mark J's interlock electronics is broken, and PETRA gets a VETO from them.

8^{00} H. Mills + A. Dieckmann
Gas check performed. Zolark = 9.6
8" soft trip.
8^{25} Z chamber trip. t1 – 9^{10} Jet and z ch trip & BPCH gas valve failure 9^{44} all hard trip & BPCH valve fail.
Report high & unstable TOF rate to PKR.
Too many chamber trips – dead time higher than we think

10^{42} CAMAC clock set to time signal – it was 2½ minutes fast

16^{05} 3 Leadglas ADCs give zero pedestals – M. Magnusson & holiday M. Kuhlen was on night shift!

16:00 Bowdery on shift (Weber will be coming later)
16:24 Gas check done. (I guess I am out of practice!)
18:00 We want a new fill but PKR say there is trouble with the machine. We wait
18:15 New fill in 10 minutes
We have had several ZC trips so far.

20:56 $\mathcal{L}_{corr} = 16.7 \times 10^{30}\ cm^{-2}s^{-1}$ according to the colour TV. Probably a fluctuation.
22:50 DESY synchrotron problem. May take 1 or 2 hours to fix. We keep the current fill.
23:05 PKR say we can have a new fill in 5 minutes! Wunderbar.

7.6.86 $00^{01:11}$ HEDGECOCK & SCHNEECLOTH
00^{15} Gas check complete.
00^{20} Z-Chambers anode current on + x side was above 10μA. Switched off HV for ± 3 minutes, then back on. Current fell to 1μA. This we need to check.
00^{40} Valve failure in gas house. Reset.
00^{50} Z-chamber – same as above – leave off for 8 minutes.
Check standard histograms. Looking watertight.
01^{25} Z-CHAMBER TRIP, VALVE FAILURE, PICK-UP EVENT!!! (5) 12 TIMES DURING SHIFT

70 Run	Date	Start	Stop	At Run Start I^+	At Run Start I^-	Dead Time %	Time (secs)	Records IN	Records OUT	AM $*10^6$	TØ Rej. $*10^6$	T_1 Acc Sum	T_2 Acc Sum	T_1 Bit2 $E_{LC}>6$GeV	T_2 Bit4 $\Sigma E_{ij}>27$GeV	Processors ON/OFF NEO	MIP	TOF	FHD	$\langle L \rangle$ 10^{30} cm^{-2} s^{-1}	Bhabha $\int L dt$ nb^{-1}	$\int L dt$ Exp. Energy	IBM/Tape Output	At Run Start TOF EVJ	At Run Start ID (μA)	Online Reject SUM Mipoc T_1 %	Online Reject NORDSO $T_1 T_2$ %	Σ Bhabha	MH's	E_{beam}	Mag. Field 1=G	Remarks
26503	6.6.86	7:56	8:40	9.88	10.51	26.1	2426	8002	5148	630	164	4924	5623	1270	40	ON	ON	ON	OFF	9.15	23.68	29755.33	IBM	2.3	0.3	51	37	416	8	17.500	4834	
26504	"	8:40	9:30	8.33	8.91	24.4	2503	8002	4948	651	159	4923	5511	1198	37					7.81	18.96	29774.29	"	2.1	0.3	51	40	333	8	"	"	
26505	"	9:30	10:23	6.92	7.41	21.0	2701	8002	4716	702	147	5099	5406	1194	38					6.68	16.96	29791.25	"	2.0	0.3	52	43	298	8	"	"	
26506	"	10:23	10:40	5.79	6.23	14.9	941	2483	1314	245	36	1645	1567	339	10	"	"	"		5.08	4.90	29796.15	"	0.8	0.1	52	49	86	2	"	"	Dump
26509	"	16:05	16:52	8.44	10.22	18.6	2728	8002	4845	710	132	5180	5227	1222	33	"	"	"		8.72	23.17	29819.32	"	1.3	0.15	52	41	407	5	17.501	4836	runs 26507 & 8 rubbish
26510	"	16:53	17:42	7.05	8.70	17.3	2881	8002	4676	749	129	5224	5048	1139	44	"	"	"		6.81	21.46	29840.78	"	1.0	0.1	52	43	377	4	17.501	4835	
26511	"	17:43	18:30	5.93	7.44	15.5	2836	7530	4153	738	114	4898	4919	1009	26	"	"	"		5.14	16.85	29857.63	"	0.8	0.1	52	47	296	3	17.500	4834	beams dumped
26512	"	20:35	21:20	10.64	10.85	20.8	2566	8002	4938	667	139	5156	5239	1262	24	"	"	"		9.14	24.60	29882.23	"	1.5	0.1	51	40	432	12	17.501	4832	
26513	"	21:21	22:07	8.68	8.86	18.4	2754	8002	4740	717	132	5237	5239	1226	41	"	"	"		7.66	22.55	29904.78	"	1.2	0.1	53	42	396	10	17.501	4833	
26514	"	22:07	22:57	7.37	7.54	17.4	2964	8002	4461	771	134	5239	5054	1124	38	"	"	"		6.13	19.70	29924.48	"	0.9	0.1	52	46	346	7	17.500	4832	
26515	"	22:57	23:08	6.25	6.40	15.2	630	1712	928	164	29	1104	1094	223	6	"	"	"		5.23	3.76	29928.24	"	0.75	0.05	50	48	66	0	17.501	4832	beams dumped
26516	"	23 51	0 34	10.12	10.63	20.7	2560	8002	5036	666	138	5263	5088	1307	30	"	"	"		9.44	24.76	29953.00	"	1.6	0.2	52	38	435	5	17.500	"	
26517	7.6.86	00 37	01 21	7.85	8.58	17.7	2785	8002	4827	724	128	5291	5201	1223	37	"	"	"		7.57	22.15	29975.15	"	1.2	0.1	53	41	389	4	17.500	4834	
26518	"	01 21	02 12	7.04	7.33	16.2	2487	8002	4420	778	126	5200	5346	1100	44	"	"	"		5.80	17.48	29992.63	"	0.95	0.1	53	46	307	8	17.501	4834	
26519	"	02 12	02 31	5.96	6.60	16.4	1041	2786	1532	266	44	1804	1761	394	9	"	"	"		5.08	5.29	29997.92	"	0.85	0.05	51	47	93	2	17.500	4835	BEAMS DUMPED.
26520	"	03 12	03 56	9.94	10.27	19.9	2633	8002	5020	685	137	5147	5263	1305	28	"	"	"		8.97	26.41	30024.33	"	1.45	0.2	51	39	464	5	"	"	
26521	"	03 57	4 42	8.39	8.73	18.1	2720	8002	4705	707	128	5245	5217	1271	34	"	"	"		7.51	21.81	30046.14	"	1.20	0.1	52	42	383	3	"	"	
26522	"	04 43	5 31	7.13	7.45	17.6	2886	8002	4495	750	132	5137	5243	1191	32	"	"	"		5.97	18.44	30064.58	"	1.1	0.1	52	46	324	4	"	"	
26523	"	5 31	5 49	6.08	6.37	16.5	1017	2790	1509	265	44	1834	1745	392	9	"	"	"		5.11	5.07	30069.65	"	0.85	0.1	53	48	89	3	"	"	beams dumped
26524	"	6 23	7 05	10.27	10.46	23.7	2506	8002	5000	653	155	5002	5346	1305	39	"	"	"		8.88	25.34	30094.99	"	1.6	0.2	50	39	445	3	"	4834	
26525	"	7 05	7 52	8.64	8.95	18.7	2663	8002	4798	693	130	5253	5044	1307	40	"	"	"		8.05	23.74	30118.73	"	1.5	0.2	51	41	419	4	"	"	
26526	"	7 55	8 46	7.23	7.51	19.7	2872	8002	4698	748	147	5273	4989	1200	36	"	"	"		6.78	20.10	30138.83	"	1.2	0.1	53	43	353	6	"	"	
26527	"	8 47	8 50	6.09	6.23	17.5	177	522	273	46	8	352	315	68	1	"	"	"		4.78	0.80	30139.63	"	1.0	<0.1	48	50	14	0	"	"	Beams dumped
26529	"	9 29	10 11	10.36	10.50	20.9	2523	8002	5114	656	137	5144	5220	1360	35	"	"	"		9.62	25.84	30165.47	"	1.8	0.2	50	37	454	5	"	4834	R26528 junk
26530	"	10 12	10 50	8.65	8.94	19.9	2638	8002	4970 4961	686	136	5201	5137	1291	29	"	"	"		7.82	28.97	30189.44	"	1.3	0.1	51	41	421	14	"	"	
26531	"	10 56	11 43	7.37	7.64	18.2	2794	8002	4629	727	132	5130	5249	1239	40	"	"	"		6.29	19.02	30208.46	"	1.3	0.1	51	44	334	1	"	"	
26532	"	11 43	11 50	6.29	6.54	20.5	348	989	559	90	19	615	635	132	4	"	"	"		5.06	1.59	30210.05	"	1.2	<0.1	54	47	28	1	"	"	Beams dumped
26537	"	12 31	13 21	10.07	9.88	21.6	2574	8002	5119	659	143	5166	5199	1329	26	"	"	"		9.15	26.13	30236.18	"	1.7	0.1	51	37	454	8	"	4836	
26538	"	13 21	14 07	8.30	8.16	18.1	2771	8002	4671	123 ?	22.3 ?	5194	5256	1255	26	"	"	"		7.44	20.84	30257.07	"	1.3	0.1	51	43	369	6	"	"	
26535	"	14 07	14 30	7.06	6.83	0.0?	1158	3101	1704	0 ?	0 ?	2010	2023	453	15	"	"	"		5.88	6.78	30263.85	"	1.0	0.05	52	47	129	4	"	4835	← Some scalers not counting beams dumped
26536	"	15 07	15 45	10.63	10.35	~20	2885 2337	8002	5097	0 !	0 ?	5070	5101	1328	20	"	"	"		9.38	26.30	30290.15	"	1.7	0.15	50	38	602	2	"	4836	
26537	"	15 58	16 38	8.37	8.37		6817	6817	4014	0	0	4430	4275	1083	33	"	"	"		7.37	18.44	30308.59	"	1.6	0.1	51	43	324	6	"	4836	
26538	"	17 23	17 28	6.18	6.20	15.8	303	895	485	77	12	608	512	130	1	"	"	"		4.47	1.54	30310.13	"	1.5	0.1	52	48	27	0	"	4837	beams dumped
26539	"	18 28	18 12	8.16	8.58	20.0	2588	8002	5026	673	135	5115	5243	1311	38	"	"	"		9.38	25.50	30335.63	"	1.4	0.15	50	38	448	10	"	4836	

7.6.86 7^{00} background slightly higher TOF Rate 1.7 V, ID 0.3 μA, asked PKR to optimize
7^{40} MOP Screen is dark, after hitting (RET), 'Check your Frame-Parameter, No Display possible' appears on the screen. reloaded FADC.
7^{52} JET CH. and VTX CH. tripped

8^{00} Cartwright on shift (Greenshaw coming later)

8^{10} Gas check done. Zulauf 9.7, Kreislauf 10.2 – neither really satisfactory, but in opposite direction
8^{30} VXC valve failure, followed by VXC & JETC soft trip.
9^{29} R 26528 died during pedestals, missing LAM
11^{00} Run summary for run 26530 shows 14 multihadrons (!) (R 26531 has only 1 – statistics rule OK!)
→ 11^{55} In the course of resetting a crate 13 (which has to be done in the hall) Tim notices that in mainframe 61 (Tagging HV) the fan sounds sick. Watch out for tagging HV failure soon!
14^{20} IOAT readout error 33 - Missing LAM br. 2 cr. 3 . TOF1 counter.
14^{24} — " — 66 - AC2099 TOF2 a, x missing sl. 13 subaddr. 5
15^{05} Scalers which were not entered into run summary in R 26535 (and probably most of R 26534) are all being counted correctly in trigger box. Luminosity zero on slow TV, but OK in "run so far" run summary.
15^{25} Z-CHAMBER. After each new fill, there is a problem in that after 15-20 MINS, the + x anode current rises to a level > 10 μA. (This occurred in its early life but mysteriously went away). Unfortunately, I have not been able to cure this fault or to get a soft trip operating with any high efficiency. Since I will be away until Wednesday 11th June, will shift crews please carry out the following procedure.
① Look at the anode current meters in the adjust slot to the ON/OFF control module. (20-25 MINS AFTER NEW FILL)
② If it is higher than 2.5 MA, switch the chamber off (Press the OFF button).
③ Wait two minutes.
④ Press the ON button to switch the HV back on.
⑤ Check the anode current reading. If less than 2.5 μA, leave for five minutes and check again. It has worked so far
⑥ Repeat the procedure if the current again climbs above the recommended level. However
⑦ If all else fails and the fault persists = leave the chamber OFF and change the read-out pattern.

CH

16^{00} Komamiya, Becker
Gas check

Funny histograms in Run 26537 (and before?)
and Missing Lumi Scaler:

Reason: Stop TDC pulse was too early. ←
All TOF TDC values rubbish. (Evaluators beware!)
*Reason: ± 24 V in CAMAC Crate Br. 2 Cr. 2 had failed. were
THUS the relays in the TDC-Common-Stop-Delay Unit ~~did~~ not activated,
CAMAC Scalers (Brand: Nuclear Enterprise) did not work
Reason one of the NE-Scalers shorted the ±24 V in CAMAC.
This seems to be a common fault. The spare scaler had this fault before but was repaired.

Before I found this all out the following measures were tried:
Rebuild YHDISP and YHCOPY; Exchange Power Pack in said crate
Kreh

Someone locked the desk drawers with the Fault-Labels inside!

18^{34} YSPY: Trigger 1 Output missing: 38 52 66

23^{50} trouble with transmitter (PETRA)

8th June 1986 0^{00} H. Mills on Shift

Gas check performed - zulauf 9.9 kreislauf 10.4. lowered exhaust flow.
Run Lumi-start run 26563 TOF starts at 1.5 mean to 3! - Unannounced optimisation
0^{52} Z-chamber trip (+x current was a bit high but not excessively so 5 mins before) and FPCH gas failure - Valve.
The 3 holes in Trig 1 o/p hist are genuine (except at YH start). See page 76
Trigger expert is on day shift so unreasonable to call him. Thank you! Kreh

04:00 Bowdery replaces Mills. It's a wet Sunday morning.

05:50 Beams dumped after 2½ hours.
06:00 Short break. DESY vacuum problem. We have to wait 10-20 minutes.

Run	Date	Start	Stop	At Run Start I^+	At Run Start I^-	Dead time %	Time (Sec)	Rec. IN	Rec. OUT	All ×10⁶	TΦ Rej. ×10⁶	T_1 Acc SUM	T_2 Acc SUM	T_1 Bit 2	T_2 Bit 17	N50	M10	TOF	Fl
26540	7.6.86	18:17	20:03	8.00	8.81	17.6	2742	8002	4636	713	126	5205	5144	1255	38	ON	ON	ON	
26541	"	20^{04}	20^{55}	6.76	7.51	15.7	2955	8002	4526	769	121	5330	5082	1206	39	"	"	"	
26542	"	23^{35}	23^{51}	9.86	10.33	22.6	797	2579	1672	207	47	1622	1785	424	8	"	"	"	
26543	8.6.86	0^{24}	1^{08}	10.54	10.51	21.4	2512	8002	5044	653	139	5051	5125	1249	43	"	"	"	
26544	"	1^{08}	1^{53}	8.89	8.95	18.0	2703	8002	4857	702	126	5259	5049	1269	33	"	"	"	
26545	"	1^{54}	2^{42}	7.54	7.60	16.8	2888	8002	4652	751	126	5234	5145	1210	26	"	"	"	
26546	"	2^{42}	3^{01}	6.40	6.45	15.2	1094	2902	1629	285	43	1933	1818	442	"	"	"	"	
26547	"	3^{42}	4^{25}	10.26	9.93	20.0	2578	8002	4947	671	134	5229	4958	1312	32	"	"	"	
26548	"	4:26	5:12	8.69	8.40	17.4	2789	8002	4739	726	126	5189	5089	1303	41	"	"	"	
26549	"	5:13	5:49	7.40	7.12	15.5	2187	5857	3209	569	88	3831	3730	837	23	"	"	"	
26550	"	6:53	7:43	10.47	10.71	20.6	2557	8002	5042	665	137	5115	5184	1315	39	"	"	"	
26551	"	7:43	8:19	8.55	8.77	19.7	1738	5289	3234	453	89	3391	3470	844	28	"	"	"	
26552	"	8:37	9:45	7.19	7.30	18.0	2554	7312	4345	665	120	4716	4692	1091	33	"	"	"	
26553	"	9:54	10:40	10.34	10.11	23.0	2426	8002	5185	631	145	5103	4977	1299	37	"	"	"	
26554	"	10:42	11:28	8.54	8.34	19.8	2751	8002	4699	716	142	5088	5249	1377	30	"	"	"	
26555	"	11:28	11.54	7.20	7.02	18.7	7280	3402	7868	333	62	2065	2469	545	14	"	"	"	
26556	"	~~12.43~~	~~13.~~	9.92	9.89	22,4	2513	8002	5125	653	146	4990	5297	1292	34	"	"	"	
26557	"	13.47	14.40	7.81	7.79	21,2	2699	8002	4737	702	149	4956	5359	1137	45	"	"	"	
26558	"	14.40	14.58	6.59	6.14	20.6	1049	3029	1858	273	56	1905	2025	440	10	"	"	"	
26559	"	16.05	16.50	10.44	10.39	22.3	2522	8002	4996	655	146	4953	5314	1228	44	"	"	"	
26560	"	16.51	17.24	7.13	5.92	16.3	1974	5244	2780	513	83	3323	3548	696	26	"	"	"	
26561	"	17.59	18.46	10.09	10.47	26.0	2476	8002	5163	643	167	4942	5472	1229	40	"	"	"	
26562	"	18.47	19.34	8.89	9.14	20.3	2684	8002	4792	699	142	5014	5337	1162	42	"	"	"	
26563	"	19:35	20:22	7.55	7.78	19.0	2342	6662	3881	609	116	4177	4489	924	35	"	"	"	
26564	"	20:54	21:37	10.62	10.76	22.5	2509	8002	4991	653	147	5057	5362	1218	37	"	"	"	
26565	"	21:37	22.22	8.91	9.13	20.0	~~2263~~	8002	4845	690	138	5046	5443	1161	32	"	"	"	
26566	"	22.22	23.10	7.60	7.70	19.0	2675	8002	4690	747	141	5109	5637	1171	49	"	"	"	
26567	"	23.11	23.12	6.44	6.64	17.9	44	139	77	"	2	69	95	15	"	"	"	"	
26568	9.6.86	0:03	0:08	10.45	10.25	30.6	148	490	331	38	12	259	353	69	0	"	"	"	
26569	"	0:08	7:01	10.26	10.07	26.4	2448	8002	5114	636	167	4978	5490	1232	35	"	"	"	
26570	"	7:01	7:49	8.31	8.17	21.0	2637	8002	4845	686	144	5092	5537	1169	34	"	"	"	
26571	"	7:51	8:23	6.97	6.69	18.6	1866	5286	3104	485	90	3397	3673	764	27	"	"	"	
26572	"							13	13										
26573	"	3:01	3:51	10.26	10.28	28.1	2459	8002	5201	640	180	4758	5775	1312	34	"	"	"	

$\langle L \rangle$ 10^{30} cm^{-2} s^{-1}	Bhabha Slcht nb^{-1}	Slcht Exp Energy	IBM / Tape	At Run Start ONLINE REJ. Top [V]	ID [μA]	SUM Mipproc T_2 %	N50 T_1+T_2 %	Σ Bhas	MH	E_{Beam}	Magn. Field −1×G	Remarks
7.40	21.52	30357.15	IBM	1.2	0.1	51	43	378	8	17.501	4835	
6.07	17.70	30374.85	"	1.1	0.1	52	45	311	8	17.500	4834	Beams dumped
9.21	7.52	30382.37	"	1.5	0.2	52	36	132	1	17.501	4835	Beams dumped due to transmitter error
9.70	26.02	30408.39	"	1.5	0.15	48	38	457	7	17.500	4834	
7.93	24.08	30432.47	"	1.2	0.1	51	41	423	5	"	"	
6.34	20.15	30452.62	"	1.0	0.1	52	43	354	7	"	"	
5.36	7.40	30460.02	"	0.8	0.05	53	46	130	1	"	"	Beams dumped
9.11	27.16	30487.18	"	1.5	0.15	50	39	477	9	17.500	4834	
7.08	23.06	30510.24	"	1.5	0.1	50	42	405	5	17.501	"	
5.54	13.66	30523.90	"	0.85	0.1	50	47	240	6	"	"	Beams dumped
9.86	25.34	30549.24	"	1.6	0.2	50	38	445	4	"	"	
7.89	15.54	30564.78	"	1.4	0.15	51	40	273	6	"	"	Run stopped to investigate TBG-problem
6,24	17,71	30582.49	"	1.25	0.1	51	42	311	2	"	"	Beams dumped
9,53	22,89	30605.38	"	1.5	0.2	49	37	402	8	"	"	
2 Problems	24.54	30629.92	"	1.4	0.2	50	43	431	73	"	4835	
with T_{BTG}	8.94	30638.86	"	1.3	0.15	53	47	157	2	17.500	4834	Beams dumped (unstable beams)
8.84	23,28	30662.14	"	1,8	0.23	49	37	409	4	17.500	"	
4,89	14,23	30676.37	"	1,5	0,2	50	43	250	5	"	4835	
3.56	4,84	30681.21	"	1,4	0,15	52	41	85	0	"	"	beames dumped
7.66	20.04	30701.25	"	1.9	0.3	49	39	352	4	"	4837	
3.36	7.34	30708.59	"	1.1	0.2	51	49	129	5	17.501	4836	Beams dumped
7.19	17.42	30726.01	"	2.0	0.3	49	37	306	4	"	4836	
6.13	17.02	30743.03	"	1.5	0.2	51	42	299	6	17.500	4837	
4,97	12,75	30755.78	"	1.2	0.15	50	43	224	7	"	4838	Beam dumped
8,24	21,75	30777.53	"	2,0	0,25	50	39	382	8	17501	4836	→ no z-ch
6.71	18.44	30795.97	"	1,6	0,15	51	41	324	9	"	4834	
5.14	16.22	30812.19	"	1.6	0.15	53	43	285	4	17500	"	
5.50	0.11	30812.30	"	1.4	0.1	46	50	2	0	17501	4835	Beams dumped
8,44	1.20	30873.50	"	4.0	1.0	45	35	27	0	17500	4834	
8.20	22.54	30836.04	"	4.0	1.8	50	37	396	7	"	"	
6.72	18.96	30855.00	"	2.5	0.2	52	41	333	7	"	"	
5.32	10.53	30865.53	"	1.7	0.2	53	42	185	5	"	"	dumped
			"	2.5	0.3							→ 68K miss. LAM. stopped to reload.
7.24	21.82	30887.33	"	2.5	0.3	50	36	383	6	"	"	

8⁰⁰ Ambrus and Krehbiel on shift.
Trigger 1 input problem investigated. It was a fault in the Trigger 1 readout (bad contact) in Cable, ~~CA~~ Cable in-out solved the problem. Trigger efficiency was not ~~if flowcrack~~ affected.

8⁴⁰ Gascheck done: Zulauf 9.8 Kreislauf 10.4 → lowered Ethane-flow 17.5 → 17.2

11³⁰ Funny Colour Display of Luminosity: IL and AL, BIL approx. right, but L, SL, L low.
Tagging HV ? Lumi Trigger Rate o.k. A case for the visiting Lancastrian.

11⁵⁰ Beams unstable. PETRA says that beams are getting unstable with low currents. (New form of instability) Thus, ~~with~~ with quickly collected agreement, beams were dumped.
Tagging problem. No Tagging Lumi, No tagging hits for run 26555, Probably the NIM-Crate Power Supply was bad. Switched off-on. Maybe it helped. (Wait for beam to check) ← Probably it usually does "kill" ...
Frequent Z-Ch Trips keep us in stair-climb training.

12.20 Beams up again, but unstable. Cannot switch on (nor can Tasso.). DKR is doing something but only after being admonished set the TV panel "Untergrund Optimierung."

12.45. Tentative Run start in spite of "optimisation." Tagging seems to be o.k. now.

13.30 ID: U_p-POWER-SUPPLY failure ⇝ HV-INPUT ALARM, switched on again

16⁰⁰ Walker + Olsson on shift. Gas check OK.

16⁰⁹ z-ch trip #1.

16⁴⁴ All chambers trip. ⇝ 2mA ≙ I^+ both, ⇝ 3mA I^-!

17⁴⁴ z-ch trip #2. Lumi < $4 \cdot 10^{30}$. TASSO call saying theirs is feasible too.
+ gas system failure

17¹⁰ DKR have no electrons for ⇝ ½-1 hour (they say). So no new fill! Instant. lumi (Jaysen) $3.9 \cdot 10^{30}$

17²⁵ Beams dumped!

18¹⁴ zch, VTX + ID trip.

18²⁷ z-ch trip

18³⁵ " "

18³⁸ All trip.

18⁵¹ z-ch ~~trip~~ ~~trip~~.

19¹⁴ z-ch + jet-ch trip.

19²⁵ " trip. + 4 mins later + 10 min later.

19⁴⁵-50 3 soft trips Jet + VTX

20²⁵ Z-chamber removed from readout (Pattern: 77774B) until reason for frequent tripping is found (after discussion with B. Naroska). Cannot reach Susan C. or Richard H. Z-chamber not on now!

see page 72

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0⁰⁰ Bethke, Greenshaw on shift

0²⁵ very high bg after refill; after several Vtx-d-trips wait for optimization

0⁴⁰ HOR-message: CP/M disk select error on drive A. Abort and/or Retry always brings up the same message. Also ^C. Will reload FADC-mirrors at end of run.

3⁰⁰ After new fill + new-start: Missing Lumi ID FADC. Hard to stop, reload MC68K, etc.

6³⁰ Notice that FADC monitoring program has stopped. Restart via ctrl/c, Run Zimmer: 2 successful.

6³⁷ Beam pipe chamber error spotted by PC, "wire mapperror". A spike does seem to be developing in bin 11.7 of the wire map. Perhaps worthy of the attention of the relevant experts?

7⁰³ At start of run 26578 NORD starts misbehaving, symptoms are:
① Run summary not printed, despite appearance of "run summary printing" on colour TV (Printer working OK)
② "Non-standard readout" message disappears
③ Attempting to obtain run summary via "Print-old-mapsum" results in "Yunsum: saved summary file (D-F) mapsum-35: symb error 2F" at first attempt. Second attempt OK.

7²⁰ Spike in beam pipe chamber wire map is now definitely worthy of the experts attention.

8⁰⁰ Preiseberg, Feist on shift

8¹⁵ JET + VTX chamber trip trips

Gas check: Ethane flow low, call Mr. Seidel

10²⁰ Steps for beam dumps

10³⁸ Magnet trips. Both water pumps are off! Reason unclear: May be PiloTron switched off power supply and switched off pumps by mistake

11⁰⁵ Now filling ready I^+ 10.0, I^- 8.8. At the same time our magnet is up again

Short investigation of z-chamber current:

	Time	$I(+x)$ [nA]	$I(-x)$ [nA]	$\frac{I^+ + I^-}{2}$ [nA]	Remark
	10⁰³	0,5	1.0	6,9	Stable for 17 min till dump
	11¹⁶	0,6	1.1	9.1	
	11²⁶	0.6	1.0	8.8	
	11³⁰	Z-chamber trips, reset			
1 min	later	1 → 10	~2 fluctuating		z-chamber off.
HV on again	1136	1.9 → 9.2	2.4 unstable	8.4	off.
"	1140	1.9 → 7	2.3 "		off

My conclusion: Leave z-chamber off. Wait for experts on Wednesday

Run	Date	Start	Stop	At Run Start I^+	At Run Start I^-	Dead Time%	Time (secs)	Records in	Records out	All $\times 10^6$	T0 Rej $\times 10^6$	T_1 Acc Sum	T_2 Acc Sum	T_1 Bit2 Eff 76eV	T_2 Bit4	Processor out/put 150	MIP	TOF	FAHA
26574	9/6/86	3:51	4:41	8.47	8.51	24.8	2567	8002	4895	668	166	4829	5666	1254	16	ON	ON	ON	OFF
26575	"	4:41	5:00	7.04	6.45	22.6	1089	3207	1965	283	64.0	1964	2332	488	12	"	"	"	"
26576	"	5:35	6:17	10.22	10.14	22.2	2514	8002	5168	654	148	5032	5356	1324	40	"	"	"	"
26577	"	6:17	7:03	8.66	8.60	20.2	2588	8002	4835	699	141	5135	5353	1279	41	"	"	"	"
26578	"	7:03	7:36	7.76	7.31	19.3	1845	5437	3235	493	95.3	3435	3646	800	26	"	"	"	"
26579	"	8 07	9 02	10.8	10.75	22.1	2522	8002	5117	656	145	5113	5344	1323	45	"	"	"	"
26580	"	9 02	9 50	8.75	8.69	19.5	2709	8002	4772	705	137	5051	5471	1167	32	"	"	"	"
26581	"	9 51	10 20	7.16	7.31	18.5	1716	4968	2930	446	83	3206	3297	756	15	"	"	"	"
26582	"	11 12	11 54	9.77	8.59	27.2	2504	8002	5176	652	178	4867	5868	1340	56	"	"	"	"
26583	"	11 56	12 18	8.36	7.29	27.8	1324	4162	2610	345	96	2433	3316	671	27	"	"	"	"
26584	"	12 50	13 09	6.96	6.02	20.1	1111	3248	1897	288	58	2069	2762	502	15	"	"	"	"
26585	"	13 48	14 30	10.48	10.77	23.4	2442	8002	5337	635	148	5128	5066	1371	35	"	"	"	"
26586	"	14 31	14 38	8.74	8.95	20.4	401	1258	762	104	21	797	838	214	8	"	"	"	"
26587	"	15 54	17 58	10.85	10.87	20.8	2644	8002	5144	687	143	5213	5331	1285	44	"	"	"	"
26588	"	17 58	18 20	6.60	6.59	17.7	1246	3363	1900	324	57	2168	2260	443	12	"	"	"	"
26589	"			——		junk	——	13	13										
26580	"	18:54	19:40	10,57	10,51	21,2	2504	8002	5127	651	138	5295	5158	1357	38	"	"	"	"
26591	"	19:40	20:28	8.32	8.40	17.3	2821	8002	4766	734	127	5283	4964	1263	31	"	"	"	"
26592	"	20:28	20:47	6.88	6.53	16.2	476	1299	761	124	20	831	854	197	3	"	"	"	"
26593	"	22:07	22:50	10.80	10.83	26.4	2347	8002	5378	611	161	5048	5348	1403	50	"	"	"	"
26594	"	22:51	23:32	8.95	8.98	23.0	2187	8002	5409	476	142	5056	5363	1433	34	"	"	"	"
26595	"	23:33	6:27	7.53	7.56	20.8	2780	8002	5112	706	147	5124	5150	1265	43	"	"	"	"
26596	10/6/86	0:28	0:30	6.18	6.20	43.7	111	332	199	12	5	218	203	47	3	"	"	"	"
26597	"	1:05	1:44	10.60	10.49	23.6	2092	8002	5584	611	144	5040	5373	1421	39	"	"	"	"
26598	"	1:45	2:27	8.94	8.84	22.8	2262	8002	5239	638	146	5057	5183	1338	38	"	"	"	"
26599	"	2:27	3:27	7.56	7.47	20.7	2779	8002	5027	706	146	5094	5330	1242	31	"	"	"	"
26600	"	3:29	3:34	6.08	6.04	0.9	81	1012	631	71	1	621	685	150	4	"	"	"	"
26601	"	4:46	5:31	8.79	9.11	22.6	2677	8002	5091	679	154	5006	5527	1306	33	"	"	"	"
26602	"	5:32	5:50	7.36	7.65	27.1	1004	2982	2865	261	55	788 6	1963	525	71	"	"	"	"
26603	"	6:35	7:18	9.95	10.40	25.0	2537	8002	5072	660	165	4957	5711	1363	46	"	"	"	"
26604	"	7:18	8 03	8.40	8.81	22.4	2610	8002	4948	679	152	4989	5992	1265	30	"	"	"	"
26605	"	8 02	8 30	7.19	7.55	22.2	1471	4432	2726	383	85	2810	3046	676	20	"	"	"	"
26606	"	9 05	9 05	10.51	10.77		0	45	37										
26607	"	9 45	9 57	8.90	8.83	27.8	647	1915	1219	168	47	1197	1255	309	8	"	"	"	"
26608	"	10 06	10 34	8.34	8.50	21.1	1550	4711	3011	403	85	2944	3274	728	18	"	"	"	"

<L> 10^{30} cm^{-2}s^{-1}	Bhabha SLdt	SL dt	IBM Tape output	At Run Start TOF (V)	At Run Start ID (mV)	On Line Reject Sum Mipra	On Line Reject Nzed 50	Σ BHARHA	M/H	E_{beam}	Mag Field	OBSERVATIONS
6.53	19.19	30906.52	18M	2.6	0.3	44	40	337	4	17.500	4834	
4.77	6.66	30913.18	"	2.05	0.2	52	40	117	4	"	"	Beams dumped
9.19	25.16	30934.34	"	2.2	0.2	50	37	446	8	"	4835	
6.96	20.27	30958.61	"	1.9	0.15	51	41	356	8	"	"	
6.03	13.15	30971.76	"	1.5	0.1	50	42	271	7	"	"	Beams dumped
8.27	22.88	30994.64	"	2.4	0.25	51	37	402	9	"	"	
6.63	19.59	31014.23	"			51	42	344	3	17.501	4837	
6.10	11.33	31025.56	"	1.4	0.1	51	42	199	4	17.500	4837	Beams dumped
6.93	18.05	31043.61	"	1.7	0.2	53	37	317	6	17.500	4836	
5.61	7.69	31051.30	"	4.0	0.4	53	39	135	3	17.501	4838	Magnet trip
5.04	6.49	31057.79	"	1.5	0.1	51	43	114	1	17.500	4844	beams dumped
10.34	26.98	31084.77	"	2.5	0.25	49	34	474	11	"	4847	
7.00	3.53	31088.30	"	1.5	0.2	51	41	62	2	"	4847	e+ beam lost
7.93	21.23	31109.53	"	2.8	0.3	53	37	373	5	"	4841	
5.15	6.35	31116.48	"	1.2	0.15	52	45	122	0	17.501	"	beams dumped
				2.1	0.3							chambers trip
9.83	27.21	31143.69	"	2.1	0.3	52	37	478	4	17.500	4840	
7.88	21.01	31164.70	"	0.8	0.1	50	42	369	7	17.501	4841	
6.71	3.81	31168.51	"	0.8	0.1	51	43	67	2	17.500	4840	beams dumped
10.75	27.67	31196.18	"	2.5	0.3	50	34	486	9	17.501	4839	
9.39	24.82	31221.00	"	2.0	0.2	50	34	436	6	17.500	4838	problems with trigger 1 output
5.74	19.75	31240.75	"	1.6	0.2	50	37	347	8	17.500	4838	
4.98	0.57	31241.32	"	1.4	0.1	55	43	10	0	17.501	4838	Beams Dumped.
11.12	26.53	31267.85	"	2.4	0.2	50	32	466	5	17.500	4838	
8.40	28.85	31291.70	"	1.9	0.2	49	36	419	4	"	4839	
5.76	16.11	31307.81	"	1.6	0.2	50	38	283	11	17.501	4837	
19.82	1.65	31309.46	"	1.4	0.1	50	39	29	0	17.500	4838	Beams Dumped.
7.85	20.50	31329.90	"	1.9	0.2	51	38	397	8	17.500	4838	
6.54	7.69	31337.59	"	1.65	0.15	50	39	135	8	17.501	"	Beams Dumped.
7.88	20.27	31357.86	"	2.4	0.22	51	38	356	10	"	"	
6.41	16.73	31374.59	"	1.9	0.20	51	39	311	6	"	"	
5.15	8.20	31382.79	"	1.7	0.2	52	40	144	2	"	"	beams dumped
	0.17	31382.96										magnet tripped
7.89	6.21	31389.17	"	2.5	0.2	49	38	109	2	"	"	
7.24	11.22	31400.39	Tape JJAS05	1.4	0.1	51	39	197	4	"	"	
				2.4								

~11[50] Background rises by a factor of 2. Call PKR
12[19] Magnet trips: It is a Pilotherm Alarm (at the Polarity switch), 12[40] magnet fixed
14[10] Jan Walker brought the missing FADE-Beeper back
14[39] e+ beam lost.

Notes: L6 hit maps of Endcaps and Barrel I show clusters of channels with high rate. Probably not noise.
VTXC: Spike in the wire maps did not show up again
ID: Noise of FEP 15 may be due to wire #670.
Gas: Mr. Seidel re-calibrated the IR-gas-analysers: The ethane percentage was really low the last days

15[52] New fill is ready.
15[56] Fault L6 power supply

16[00] Armbrust + Meinke on shift

power supply of leadglass trigger "fan alarm" → unit replaced
no success; problems seem from adjacent Camac crate which uses external
16[45] power supplies. Fan of Camac crate replaced. Okay, runs continues
17[00] Gas check okay.
17[20] magnet trip + BP chan + jet chan HV fail; PK1 called
19[10] frequent trips of BP chambers
23[10] 2 times now: Trigger 1 output missing! Trigger bits look strange (see histo)
Krehbiel informed

10.6.86
24[00] Barlow on shift
Gas check done.
4[00] Hole in Histogram Trigger 1 investigated. This time it was a bit problem in the CAMAC Crate. Tests with ~~FIP~~ SLOT-PIO and several crate controllers showed each time another pattern of bit failures, even with the same controller ba-out-in two times.
Diagnosis: Degraded (corroded) CAMAC backplane connector. Finally a status was reached with no SLOT-PIO Errors. Histogram seems o.k. now. As before:
Trigger efficiency was not affected, but Scaler Readings of previous runs were most likely wrong! Bit 8 missing. Krel
5.49 Cello wants a new fill. Their tape drive is broken and they want a good fill for the rest of the time until 7.00. Tsw
7.13 IBM still up

10.6.86
8[00] H. Kado, U. Schneekloth
8[15] gas check done
8[29] JET CH. soft, VTX CH. hard trip
8[30] run ~~terminated~~ stopped, beams will be dumped
9[05] started run 26606
9[05] magnet trip, called K people to come
9[45] magnet problem fixed, start new run 26607
9[57] IBM down, ~~written~~ data to tape Tape: JDAS05 Run 26608
10[40] high TOF rate 2.6 V, PKR is trying to optimize
10[49] new fill, start run 26610, high TOF rate = 30 V, phoned PKR
12:40 phone call from CELLO: due to technical problems, no refill possible until 3 o'clock — so the beams will be kept as long as possible.
14:30 MOP crashed by Eckhard Elsen. MOP screen shows:
A: DELETE 68K: DELETE 68K: DELETE 68K: DELETE 68K: ..... (114 times)
data taking is not affected — MOP will be reloaded after this run.
15:07 JDAS Readout error 32 - Missing LAM at FEP Ready (DETCH)
15:02 message on EVP:
Bus error in CI range
non implemented message Proc. 32 PC 007C36 AD 000000
Dummy FEPStatistics should not be called
Dummy DLLogicReset should not be called
Message from Nord 0: Abort event
15:08 run ended normally — ~~FEP~~ everything reloaded — ok
15:25 phone call from CELLO: still no refill possible — beams kept

16:00 Bowdery and Schmidt on shift.
16:10 gas check done: ok
16:15 IBM busy for more than 10 seconds
16:39 CELLO says that we won't get a new fill before 18:00. Beams kept (Synchrotron problem)
17:15 YMAIL task had a RING VIOLATION
We stopped the run and followed the instructions. EXIT did not work so NORD 10 was reloaded.
Task rebuilt OK. Data taking resumes.
18:20 Still problems with injection of magnet in the PETRA tunnel is not working
Break for ad hoc board 3/4 of an hour.
21:30 JDAS READOUT ERROR 14 - AC2099 TOF2QX missing stn=6 mdadr=5

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME %	TIME (SECS)	RECORDS IN	RECORDS OUT	ALL $\cdot 10^6$	TO Rej. $\cdot 10^6$	T_1 ACC SUM	T_2 ACC SUM	$T_1 \cdot T_2$	$T_2 \cdot T_1$	PROCESSORS ON/OFF NSC	MIP	TOF	TAMA
26609	10.6.86	10:33	11.15	7.40	7.55	22.2	2265	6757	4035	589	131	4160	4898	1038	31	ON	ON	ON	OFF
26610	"	11:50	12.33	10.13	10.81	23.0	2560	8002	5157	666	153	4958	5605	1338	32	"	"	"	"
26611	"	12:34	13.20	8.56	9.18	18.9	2788	8002	4794	725	137	5158	5574	1359	36	"	"	"	"
26612	"	13:24	14.15	7.74	7.71	17.2	3031	8002	4440	789	135	5187	5579	1201	38	"	"	"	"
26613	"	14:15	15.07	6.05	6.57	19.1	3065	8002	4362	798	137	5182	5579	1216	37	"	"	"	"
26614	"	15:11	16:05	5.04	5.51	15.4	3213	8002	4204	837	128	5111	5589	1137	32	"	"	"	"
26615	"	16:05	17:11	4.27	4.70	13.3	3947	8002	4077	1027	137	4835	6451	1222	37	"	"	"	"
26616	"	17:12	17:17	3.52	3.92	11.2	275	549	286	716	80	336	440	83	2	"	"	"	"
26617	"	17:23	18:36	3.42	3.81	11.3	4483	8002	3762	1089	123	4804	6567	1173	43	"	"	"	"
26618	"	18:37	18:39	2.81	3.16	10.4	125	258	118	32	3	157	179	24	0	"	"	"	"
26619	"	21:00	21:59	9.00	10.78	16.9	3084	8002	5002	803	136	4755	5816	1444	37	"	"	"	"
26620	"	22:00	22:58	6.56	7.75	15.7	3283	8002	4737	855	134	4868	5861	1466	38	"	"	"	"
26621	"	22:58	23:48	5.30	6.37	13.6	2958	6566	3618	770	105	3884	5057	1105	24	"	"	"	"
26622	11.6.86	0:29	1:19	9.84	10.19	17.5	2958	8002	5076	770	136	4894	5709	1556	32	"	"	"	"
26623	"	1:19	2:13	8.04	8.35	15.8	3218	8002	4861	837	133	4971	5777	1478	34	"	"	"	"
26624	"	2:14	2:53	6.59	6.87	14.3	2375	5894	3255	618	89	3413	4212	961	18	"	"	"	"
26625	"	3:41	4:35	10.40	9.99	17.9	3188	8002	4960	829	148	4598	6613	1373	29	"	"	"	"
26626	"	4:35	5:21	8.66	8.26	15.4	2949	5643	3353	611	94	3363	4291	927	29	"	"	"	"
26627	"	6:05	6:53	10.66	10.06	18.8	2819	8002	5221	733	138	4825	5767	1530	31	"	"	"	"
26628	"	6:53	7:45	8.75	8.27	16.3	3087	8002	4963	803	131	4867	5858	1490	27	"	"	"	"
26629	"	7:45	8:24	7.19	6.75	14.5	1825	4441	2636	475	69	2688	3231	786	29	"	"	"	"
26630	"	9:08	9:53	11.21	11.18	20.4	2722	8002	5422	708	144	4772	5939	1604	45	"	"	"	"
26631	"	9:58	10:48	~~9.03~~ 8.99	~~8.99~~ 8.41	18,4	2952	8002	5061	768	142	4742	6088	1554	35	"	"	"	"
26632	"	10:48	11:42	7.45	7.42	16.5	3211	8002	4875	836	138	4730	6235	1452	46	"	"	"	"
26633	"	11:42	11:51	6.13	6.10	14.5	477	1215	688	124	18	716	859	199	7	"	"	"	"
26634	"	12:34	13:23	~~10.55~~ ~~8.61~~	~~11.10~~ ~~8.41~~	20,2	2688	8002	5444	699	141	4868	5698	1640	42	"	"	"	"
26635	"	13:23	14:16	8,53	9,43	16,9	2996	8002	4966	779	132	4953	5714	1529	36	"	"	"	"
26636	"	15:12	15:58	10.44	11.24	20.8	2751	8002	5471	716	149	4645	5916	1501	39	"	"	"	"
26637	"	15:58	16:55	8.69	9.34	17.3	2998	8002	5130	780	135	4797	5924	1440	32	"	"	"	"
26638	"	16:55	17:27	7.08	7.66	15.4	1870	4397	2983	488	75	2873	3346	812	24	"	"	"	"
26639	"	18.15	19.04	10,72	10,29	17,8	2910	8002	5329	756	134	4874	5768	1577	31	"	"	"	"
26640	"	19,05	19:58	8,94	8,26	15,4	3209	8002	4904	831	128	4899	6012	1490	34	"	"	"	"
26641	"	19:59	20:49	7.48	6.85	14.9	1820	4358	2600	473	70	2640	3291	740	23	"	"	"	"
26642	"	21:36	22:25	10,69	11,06	18,9	11,06	8002	5288	753	142	4690	6018	1498	32	"	"	"	"

RUN	$\langle L \rangle$ $10^{30}\,cm^{-2}\,s^{-1}$	BHABHA Slot (nb^{-1})	SLot EXP.	ITM/TAPE	AT RUN START TOF (V)	AT RUN START ID (mA)	ONLINE REJ SUM MIPR T_1 %	ONLINE REJ NORDSC T_1+T_2 %	Σ BHABHA	N MH	E_{Beam}	E_{Field} OK G	REMARKS
26609	5.42	14.35	314 14.74	ITM	2.3	0.2	52	35	252	1	17.500	4.834	beams dumped
26610	8.18	24.02	31438.76	"	3.0	0.35	57	37	422	9	"	4838	
26611	6.31	21.98	31460.74	"	1.6	0.2	53	41	386	6	17501	4841	
26612	4.31	14.12	31474.86	"	1.3	0.2	54	46	248	5	"	4843	
26613	4.02	14.23	31489.09	"	1.2	0.15	55	47	250	4	17.500	4844	
26614	3.02	11.44	31500.53	"	1.1	0.15	54	49	201	4	"	"	
26615	2.10	9.00	31509.53	"	0.9	0.1	55	51	158	5	17.501	4843	
26616	1.66	0.28	31509.81	"	0.74	0.1	58	50	5	0	"	"	Ring Violation in YHAL → we stopped run and rekuilt
26617	1.47	6.83	31516.64	"	0.74	0.1	55	55	120	1	"	"	
26618	1.41	0.86	31516.70	"	0,5	<0,05	55	59	1	1	17.500	"	beams dumped
26619	7.19	26.64	31543.34	"	1.8	0.2	50	39	468	6	"	4841	
26620	5.85	21.75	31565.09	"	1.0	0.2	52	42	382	4	17501	"	
26621	4.24	14.57	31579.66	"	0.8	0.15	53	46	256	4	17500	"	beams dumped
26622	8.88	30.00	31609.66	"	1.5	0.2	50	38	527	7	"	4839	
26623	6.54	25.39	31635.05	"	1.0	0.2	52	41	446	8	"	4838	
26624	5.71	12.35	31647.40	"	0.8	0.1	52	43	217	4	17501	"	Beams Dumped.
26625	6.42	20.10	31667.50	"	1.5	0.2	53	39	353	7	17.500	4835	
26626	5.14	13.83	31681.33	"	1.5	0.2	52	42	441	1	"	4834	beams dumped
26627	3.84	10.57	31691.90	"	1.5	0.2	50	36	537	7	"	4834	
26628	7.52	24.31	31715.21	"	1.2	0.1	51	39	427	6	"	"	
26629	5.85	12.01	31727.22	"	1.0	0.1	50	42	211	3	"	4833	beams dumped
26630	10.76	30.97	31758.19	"	1,85	0.3	49	33	544	11	"	4832	
26631	7,82	24,99	31783.18	"	1.6	0.2	51	38	439	6	17501	"	
26632	6.08	20.50	31803.68	"	1,2	0,15	52	40	360	10	"	"	
26633	5.33	2.62	31806.30	"	0.95	<0.1	48	45	46	2	17500	4836	beams dumped
26634	11,88	35,53	31862.83	"	1.65	0,2	50	32	624	14	17501	4838	(almost)
26635	8,21	27,73	31890.56	"	1,2	0,1	51	39	487	8	"	"	e^--beam lost, beams dumped
26636	10,10	28.18	31918.74	"	1,5	0,15	48	33	495	7	17.500	4840	
26637	8.02	25.50	31944.24	"	1.2	0,1	51	37	448	5	"	"	
26638	6.10	13.32	31957.56	"	0.9	0.1	51	42	234	5	17501	"	beam dumped
26639	9,82	31,31	31988.87	"	1.5	0.15	50	35	550	7	17500	4840	
26640	7,33	26,02	32014.89	"	0,85	0,1	53	40	487	5	17500	4838	
26641	5.98	9.62	32024.51	"	1,0	0,05	52	42	169	2	"	4839	beams dumped
26642	9,62	39,11	32054,62	"	1.4	0.1	50	35	529	7	17,500	4837	

10/6/86

22:45 The springer on the roof is switched off. (Following the instructions given downstairs.)
23:00 ZSEND task is corrupted. Will be rebuilt at the end of the run. (Priv. Instr.) (Done)
23:12 The picture on the colour monitor is 'jumping' very slightly. Imminent failure? During the night? It also looks distorted on the left hand side.

* Howard * I see that the menu item in the Event Display for F9 is not right. It says SIDE VIEW W -Y) instead of SIDE VIEW (Z -Y)
Is the source wrong or is the compiled program corrupted? Chris

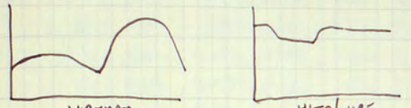
24:00 Barlow & Ramcke on shift.
L Task corrupted.

11/6/86 Gas check done.
4:45 ID-headamp → VTPC - supply
4:51 -"-
8:00 Ambrus + Warming on shift
gas check done – not OK! Zulauf was 10.5, Kreislauf 10.4, both values too high
Aetkan flow should have been readjusted at midnight already! I did it now. PLA
9:15 Aetkan flow readjusted again. Zul. still was 10.1 and Kreislauf gone up to 10.5
We have to check it every hour now until it is back to normal'
16:00 Hill, Matsumura on shift
Gas check done
22:00 LG HV Read out Error
22:25 Crate LG HV readout error immediatly on run start.
22:43 Soft trip on BP ch + ID.
22:57 LG HV readout error. Overload light on serial crate was lit. Switched crate on and off again.
12/06/86 0:00 Ambrus on shift
0:10 gas check ok
2:18 LG HV readout error, histograms look ok.
4:00 Heintzmann on shift.
8:00 Schneekloth & Chrin. Gas check ok.
10:30 MOP monitor program dead, reload of JETC 68K doesn't work, 'Open or read error', call E. Elsen.
11:00 Winchester Disk of JETC-FADC system is corrupted. Running off FLOPPY →
No automatic startup (i.e. F15, F10 possible)
E-E-

Run 26655 (11:08) z-chamber back in the readout.

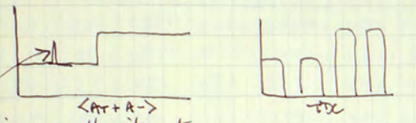
12:13 Mas Error 04 – AC2099 TOF-Z Q, X missing stn = 13 subadd, = 4

12:30 The z-chamber is back in the readout (under test). Note:
① We have reduced the gain on one side. This will make the histograms asymmetric



It also makes the anode currents asymmetric — +x (upper meter) should be LOWER than –x (if the other way round, CALL EXPERT)

(Anode current is displayed on meters to immediate right of z-chamber ON/OFF box.)



There's a small spike at the moment. It may go away – you never know!

② If it still trips: during daylight hours, CALL EXPERT
during the night, reset; if trips are very frequent, no before (1/hour or more), switch it off again, ask duty shift to inform expert.

The management of JADE z-chamber Inc. apologise for any inconvinence caused over the past few weeks. This is due to our dispute with the National Union of Sense Wires and Allied Components (NUSWAC) which has given rise to industrial action. Negotiations are continuing.

13.34 Fan for LG-HV readout exchanged. Error disappeared. Ku SLC/CRM

16:00 Barlow & Skard on shift Gas check O.K.
16:25 z chamber trip.
16:55 z chamber trip.
17:50 JETC-FADC Winchester Disk repaired. EE
The system can be loaded with the usual sequence F15, F10.
20:01 z-chamber trip

RUN	DATE	START	STOP	At Run Start I⁺	At Run Start I⁻	Dead Time %	Time (sec)	Records in	Records out	ALL x 10⁶	TΦ Req x 10⁶	T1 Acc Sum	T2 Acc Sum	T1 bit 2 Eb 7.66 GeV	T2 bit 17 2T.Eb ≥ 270	Processors on/off NSI	Processors on/off MTP	Processors on/off TOF	Processors on/off [illegible]
26643	11/6/86	22,25	23,38	8,86	9,20	16,3	3143	8002	4954	817	132	4790	5936	1435	37	ON	ON	ON	ON
26644	11/6/86	23,39	23,45	5,53	7,17	13,1	362	841	483	94	12	497	617	137	0	"	"	"	"
26645	12/6/86	0,46	0,46		——		Junk	——	15										
26646	"	1,20	1,21				"		14										
26647	"	2,15	3,05	10,31	10,56	17,0	3004	8002	5276	782	133	4888	5733	1545	42	"	"	"	"
26648	"	3:06	4:00	8.56	8.66	14.8	3218	8002	4952	837	124	4952	5711	1479	42	"	"	"	"
26649	"	4:00	4:44	7.10	7.17	14.0	2378	5445	3143	619	87	3365	4086	944	23	"	"	"	"
26650	"	5:19	6:13	10.09	10.57	16.5	2996	8002	5097	779	129	4955	5607	1484	24	"	"	"	"
26651	"	6:14	7:08	8.26	8.44	14.5	3237	8002	4863	892	122	5039	5548	1495	28	"	"	"	"
26652	"	709	803	6.79	6.99	13.4	2902	6655	3883	755	101	4148	4769	1120	26	"	"	"	"
26653	"	844	933	10.96	10.98	17.3	2915	8002	5246	759	131	4896	5643	1525	41	"	"	"	"
26654	"	933	1028	9.09	7.64	14.8	3136	8002	4963	816	121	5035	5550	1493	36	"	"	"	"
26655	"	1108	1116	6.60	6.09	12.4	422	1008	607	110	14	632	673	159	1	"	"	"	"
26656	"	11 55	12 43	10.99	11.30	17.4	2848	8002	5351	740	128	4795	5724	1505	52	"	"	"	"
26657	"	12 43	1338	9.15	8.48	14.6	3157	8002	4987	821	120	4977	5573	1520	41	"	"	"	"
26658	"	1340	1413	7.53	6.69	13.1	1933	4547	2641	503	66	2827	3199	795	15	"	"	"	"
26659	"	14 43	15 29	11.55	11.09	18.6	2731	8002	5348	710	132	4846	5598	1600	50	"	"	"	"
26660	"	15 29	16 27	9.67	8.78	22.4	3126	8002	5138	813	182	4808	5873	1535	41	"	"	"	"
26661	"	16 27	17 08	7.85	7.05	15.7	2343	5907	3658	610	96	3620	4334	1079	21	"	"	"	"
26662	"	17 38	18 24	11.02	10.76	20.5	2723	8002	5401	708	145	4815	5663	1571	33	"	"	"	"
26663	"	18 25	19 15	9.18	8.90	17.4	2958	8002	5076	769	134	4897	5701	1474	36	"	"	"	"
26664	"	1915	2006	7.63	7.37	16.2	3008	7567	4685	783	126	4670	5427	1416	38	"	"	"	"
26665	"	20 41	21 26	11.18	10.94	21.1	2683	8002	5452	698	147	4778	5783	1599	23	"	"	"	"
26666	"	21 26	22 17	9.33	8.83	18.0	2964	8002	5089	771	139	4781	5885	1520	27	"	"	"	"
26667	"	22 18	23 00	7.74	7.29	16.3	2534	6360	3808	669	108	3859	4682	1133	24	"	"	"	"
26668	"	23 26	00 13	11.43	10.75	21.3	2702	8002	5484	702	150	4765	5650	1631	49	"	"	"	"
26669	13/6/86	0013	1.04	9.44	8.80	17.2	3022	8002	5124	786	135	4888	5814	1521	46	"	"	"	"
26670	"	1.04	2.00	7.89	7.30	15.1	3322	8002	4882	864	130	4818	5999	1450	32	"	"	"	"
26671	"	2.00	2.06	6.61	5.98	14.6	331	770	477	86	12	459	566	142	0	"	"	"	"
26672	"	2.34	2.37	11.16	11.02	42.0	14	87	65	4	1	34	25	11	0	"	"	"	"
26673	"	3.06	3.43	11.17	11.00	18.5	2188	6157	4183	570	105	3728	4262	1222	30	"	"	"	"
26674	"	3.43	4.35	9.59	9.11	16.1	3052	8002	5212	794	127	4925	5602	1515	30	"	"	"	"
26675	"	4.35	4.58	7.95	7.45	15.0	1388	3459	2033	361	54	2118	2396	590	25	"	"	"	"
26676	"	5.27	5.41	10.89	11.12	18.2	662	1807	1205	172	31	1097	1280	344	10	"	"	"	"
26677	"	5.41	6.32	9.86	9.84	16.1	3034	8002	5060	789	127	4932	5497	1457	46	"	"	"	"
26678	"	6.32	7.15	8.07	7.63	14.7	2522	6255	3799	656	96	3923	4268	1098	33	"	"	"	"

$<L>$ $10^{30}\,cm^{-2}s^{-1}$	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ Exp. Energy	IBM/ Tape OUTPUT	At Run Start TOF [V]	At Run Start ID [μA]	On Line Reject Sum Mippi Tx Tz %	On Line Reject N So Tx+Tz %	Σ Bhabha	MH	Ebeam GeV	Mag. Field −1+G	Remarks
7.43	24,65	32079,27	IBM	1,0	0,1	51	39	433	13	17501	4837	
5,47	1,82	32081,09	"	0,75	0,05	50	46	32	0	17501	4838	Beams Dumped.
		32081,09	"								"	beams lost
		"	"								"	beams lost
9,90	32,85	32113,94	"	1,4	0,2	50	35	577	5	17500	"	
8.11	26,08	32140.02	"	1,0	0,1	51	39	482	14	17500	4837	
5.96	15.43	32155.45	"	0.8	<0.1	53	44	271	5	17500	4837	beams dumped
9,93	29.26	32184.71	"	1.3	0.1	51	38	514	10	17500	4838	
7.55	27.21	32211.92	"	0.8	<0.1	51	40	478	8	17501	4837	
5.65	17.65	32229.57	"	0.7	<0.1	52	43	310	2	17.500	"	beams dumped
10.42	32.68	32262.25	"	1.3	0.1	50	36	574	8	17501	"	
8.20	28.07	32290.32	"	1.0	0.1	51	39	493	7	"	"	
5.57	1.94	32292.26	"	0.6	<0.1	50	41	34	1	"	"	beams dumped (Zehnbergerstrahl running off 68k Floppy)
10.02	32.22	32424.48	"	1.4	0.15	50	34	566	9	"	4841	—" —
7.82	28.46	32452.94	"	0.9	0.1	51	39	500	7	"	"	—" —
6.14	12.64	32475.58	"	0.7	<0.1	51	43	222	3	"	"	beams dumped —" —
10,75	34,04	32509.59	"	1.4	0.15	49	34	598	12	"	"	—" —
7.95	26.70	32436.29	"	1.0	0.15	51	37	469	10	"	"	—" —
6.67	17.65	32453.94	"	~~0.6~~	0.1	53	40	310	2	"	"	beams dumped —" —
10.68	31.99	32485.93	"	1.3	0.2	49	34	562	9	"	"	
8.52	28.30	32514.23	"	1.2	0.1	50	38	497	5	"	"	
6.95	24.08	32538.31	"	1.1	0.1	52	40	423	8	17500	"	beams dumped
10.67	30.52	32568.83	"	1.8	0.2	49	33	536	4	17501	4840	
8.58	27.27	32596.10	"	1.4	0.1	50	38	479	11	"	"	
6.94	19.59	32615.69	"	1.1	0.1	52	42	344	9	"	"	Beams Dumped.
10,59	34,05	32649.74	"	1.6	0.2	49	33	598	14	"	4838	
8.28	26.93	32676.67	"	1,2	0,1	51	37	473	10	17500	4838	
5.90	20.33	32697.00	"	1.0	<0.1	52	40	357	7	17501	4837	
4.64	1.82	32698.82	"	0.9	<0.1	52	40	32	0	"	"	beams dumped
9.18	0.17	32698.99	"	1.5	0.2?	−11 ?!	35	3	1	17.500	"	beams lost (before we got to know them)
10.75	26.64	32725.63	"	1.4	0.15	48	33	468	2	17.501	"	run stopped early (LG looked noisy on event display)
8.61	30.86	32756.49	"	1.0	0.1	49	36	542	6	"	"	
6.78	10.59	32767.08	"	0.75	0.1	49	43	186	3	17.500	"	beams dumped (after 2 hours at our request)
11.20	8,03	32775.11	"	1,3	0,2	50	35	141	2	17501	"	Run stopped for trigger test (Trac b15 toggle)
9,13	30.52	32805.63	"	1,0	0,15	49	38	536	10	"	"	
7.40	20,44	32826.07	"	0.8	0.05	51	41	359	3	17500	4838	Beams dumped

22^{05} z chamber Trip.
22^{55} z chamber Trip.

13/6-86 0^{00} Bowdery, Olsson Gascheck allright.

Yesterday was a good day for luminosity: 569 nb^{-1} – nearly a record.

→ The two ceiling lights operated by the dimmer switch do not work. Can this be fixed please?

2:38 Beams lost after only 77 triggers.

4:01 JDAS error 64 AC2099 TOF-2 Q,X missing stn=3 subaddr=1

5:25 Take soft VTX hard trip

Problem: we note that "Krakbiel" trigger, bit 5 in T1 acc. is missing since R 26615. This is not a readout problem, it is enabled but doesn't actually occur (no green lamp flashing on this LED position in trigger box (A8)). Bit 5 toggle switch found off (manual control) but setting it on has no effect (and it shouldn't, if we understand it correctly).
EC quadrants and of course septants are all available as logical elements for the trigger, only the logic seems not to be working. Krakbiel needed! Really about for the first time in Trigger 1 a loose cable was dangling around. It was the "Nor TOF" cable of trigger bit # 5. Replaced. Possibly all o.k. Olsson shall check next time.

T1 Bit 4 (T..) is still enabled with nothing connected. Why?

7^{05} z-ch. trip
7^{12} Prompt Cello for new fill, immediate effect...
7^{45}-7^{46} New fill last few seconds only, everything tripped. Short break

8^{00} Komamiya + Ramcke on shift
8^{20} Gas check ok.

12^{40} Standard histograms are fine.

18^{55} fr. Run 26685 Trigger T0-Bit 5 is "on" again.

16^{00} HEDGECOCK & EGGENSHAM.
16^{15} z-ch. trip.
16^{40} Gas check completed.
19^{16} JDAS Readout Error 74, wrong LAM, br.1 cr.1, beampipe chamber.
19^{56} "
23^{11} Repeated missing LAMs fm Jet chamber. Stopped run (26696)
Attempt to reload processor from JDAS terminal, with "in message "Interrupt 9 with no timeout, value = 177564 (oct)"
Restart fm MOP terminal OK.

23^{45} Again got repeated missing LAM's fm Jet chamber. Reload fm JDAS terminal successful this time

14/6-86
0^{00} Dziedzinam
2^{20} Replaced Fuse in dimmer (counting house) no more FZA Fuses 5x20mm left.
2^{25} Many missing LAM's from J68K. Reload from JDAS Console.
4^{00} Ramcke
5^{25} During run start: YPARA 26: Watch dog set, par = 10# YPARA67: Err during LG-PED Run 26706 Cont run restarted o.k.
5^{50} Before the next filling CELLO wants a temporary access (≈ 20min)

8^{00} Steard
8^{20} Gas check OK
9^{35} z-chamber trip
10^{05} PKR: Injection problems. "Short break"
11^{00} H Hills on shift
12^{07} Zch trip Submitted two reform jobs
13^{20} CELLO propose new fill but find PKR have injection problems so we continue
14^{15} Zch trip Ø at 15^{18}
15^{30} Scanned std histograms by eye. ok

16^{00} Walker & Hagemann on shift
16^{18} Gas check done. Ethane flow increased. Zulauf 9.8, Kreislauf 9.6.
16^{57} JDAS error 32 – missing LAM (PEP ready (BEAM)), followed by " " 65 – TIMEOUT while reading JDAS processor x 6
ABORT + CONTINUE seems to work (!?)
18^{16} JDAS error 33: br. 2 cr. 3: TOF1 counter. (missing LAM 8 came)
18^{27} z-ch trip.
20^{18} Standard histograms look fine.
21^{00} z-ch trip.
21^{14} JDAS error 33: missing LAM br. 3 cr. 4: z-ch part 1.
21^{17} VTX-ch + ID soft trip.
23^{00} z-ch trip + valve failure?
23^{31} VTX-ch + ID soft trip.

Run	Date	Start	Stop	At Run Start I^+_{mA}	At Run Start I^-_{mA}	Dead time %	Time (secs)	Records In	Records Out	All $\times 10^6$	T@Rej $\times 10^6$	T, Acc Sum	T_2 acc Sum	T, Bit2 $E_{LG}>6$GeV	T_6 bit17 BT $E_T \geq 2$GeV	Proc. ON/OFF NSO	MIP	TOF	Fa
26679	13.6	7[45]	7[46]	10.99	9.06	0	0	49	35	-	-	-	-	4	0	on	on	on	
26680	"	8.53	9[48]	10.39	10.04	16.6	3081	8002	5347	801	133	4945	5665	1586	58	"	"	"	
26681	"	9[48]	10[41]	8.49	7.78	15.9	3170	8002	5021	825	131	4920	5834	1456	35	"	"	"	
26682	"	10.43	11[25]	7.04	6.39	14.2	2518	5883	3470	658	93	3607	4773	1030	25	"	"	"	
26683	"	11[55]	12[48]	10.78	11.01	18.5	2977	8002	5282	761	141	4839	5839	1572	43	"	"	"	
26684	"	12[48]	13[40]	8.92	9.12	16.6	3082	8002	5028	802	133	4872	5821	1504	38	"	"	"	
26685	"	13[55]	14[30]	6.98	7.15	16.4	2091	6213	3347	544	89	4272	3535	831	27	"	"	"	
26686	"	15[05]	15[48]	10.36	10.81	21.2	2352	8002	4574	612	8130	5492	4354	1312	28	"	"	"	
26687	"	15[48]	16[30]	8.78	9.17	19.8	2452	8002	4646	638	126	5471	4482	1195	36	"	"	"	
26688	"	16[30]	17[13]	7.47	7.83	17.6	2571	8002	4393	669	118	5524	4510	1140	22	"	"	"	
26689	"	17[13]	17[26]	6.38	6.72	17.3	682	2069	955	177	31	1402	1168	288	11	"	"	"	
26690	"	18[42]	18[50]	11.51	10.91	23.9	2238	8002	5085	582	139	5313	4702	1787	31	"	"	"	
26691	"	18[50]	19[31]	9.86	9.23	20.3	2414	8002	4827	628	128	5421	4681	1251	38	"	"	"	
26692	"	19[31]	20[14]	8.44	7.84	18.1	2599	8002	4536	661	119	5487	4493	1107	26	"	"	"	
26693	"	20[14]	20[53]	7.24	6.69	16.7	2377	7090	3820	619	103	4955	3992	969	18	"	"	"	
26694	"	21[36]	21[42]	10.63	10.32	21.3	296	991	563	77.1	16.4	609	599	108	3	"	"	"	
26695	"	22[18]	22[56]	11.67	11.42	22.9	2233	8002	4985	581	133	5441	4502	1242	29	"	"	"	
26696	"	22[56]	23[08]	9.46	9.39	21.1	690	2332	1386	179	37.8	1562	1332	336	5	"	"	"	
26697	"	23[15]	23[45]	9.25	8.87	18.8	1575	5128	3037	410	76.9	3529	2882	777	18	"	"	"	
26698	"	23[47]	0:32	8.4	7.60	17.5	2639	8002	4488	686	120	5578	4455	1186	29	"	"	"	
26699	14.6.86	0:32	0:37	7.04	6.48	15.7	250	770	411	64	10	523	419	92	0	"	"	"	
26700	"	1:12	1:50	11.45	11.09	22.3	2262	8002	4953	588	131	5373	4532	1299	30	"	"	"	
26701	"	1:50	2:23	9.81	9.36	20.7	1952	6540	3875	508	105	4493	3512	937	21	"	"	"	
26702	"	2:25	3:09	8.59	8.17	18.2	2573	8002	4549	669	121	5568	4496	1164	27	"	"	"	
26703	"	3:09	3:31	7.37	6.98	17.0	1261	3823	2083	328	55	2634	2150	475	21	"	"	"	
26704	"	4:02	4:42	11.35	11.14	21.8	2327	8002	4815	605	166	5394	4678	1174	46	"	"	"	
26705	"	4:42	5:24	8.70	9.26	19.3	2460	8002	4657	640	124	5419	4696	1146	24	"	"	"	
26706	"							no events											
26707	"	5:25	6:09	8.29	7.86	17.2	2665	8002	4404	693	119	5543	4592	1099	37	"	"	"	
26708	"	6:10	6:31	7.10	6.70	16.3	1269	3743	2046	310	54	2870	2417	473	13	"	"	"	
26709	"	7:25	8:05	10.60	10.78	19.9	2372	8002	4875	617	123	5495	4425	1221	33	"	"	"	
26710	"	8:05	8:48	9.05	9.12	17.8	2514	8002	4539	654	116	5582	4383	1180	33	"	"	"	
26711	"	8:48	9:34	7.71	7.76	16.1	2723	8002	4294	708	114	5616	4432	1135	23	"	"	"	
26712	"	9:34	9.48	6.55	6.59	16.0	786	2325	1118	204	33	1624	1275	301	8	"	"	"	

$\langle L \rangle$ 10^{30} cm^{-2} s^{-1}	Bhabha SLdt nb^{-1}	S L dt EXP. ENERGY nb^{-1}	IBT/ Tape output	At Run Start TOF [V]	At Run Start ID [μA]	Online Reject Sum M.proc %	Online Reject Mod 50 $T_1 T_2$ %	Σ Bhabha	M/H	E_{beam}	Mag. field -1 × G	Remarks
-	0.11	32826.18	IBT	1.5	0.2		40	2	0	17501	4837	Beams lost.
3.19	30.11	32856.29	"	1.2	0.1	51	34	529	6	17500	"	
7.82	28.07	32884.36	"	1.0	0.1	52	38	483	13	"	4838	
6.03	18.16	32902.52 32896.52	"	0.8	<0.1	51	42	319	3	"	4841	(Note to R Ranke: 26+30 ≠ 50!) Beams dumped
9.62	29.83	32932.35	"	1.4	0.1	50	35	524	5	"	4838	
8.27	29.89	32962.24	"	1.0	0.1	51	38	525	10	"	4838	
6.43	14.46	32976.70	"	0.8	0.1	51	48	254	6	"	4839	+ Beams TRIGGER TG Bit 5 is fixed. dumped
10.95	28.92	33005.62	"	1.4	0.2	49	40	508	9	"	4840	
9.01	24.65	33030.27	"	1.1	0.15	50	43	433	9	17501	4840	
7.56	20.61	33050.88	"	1.0	0.15	51	47	362	8	17500	4838	
6.40	4.73	33055.61	"	0.85	0.1	50	48	83	1	---	---	BEAMS DUMPED.
11.68	29.15	33084.76	"	1.6	0.25	49	38	512	11	"	"	
9.27	24.77	33109.53	"	1.3	0.2	50	41	635	7	"	"	
7.97	20.10	33129.63	"	1.1	0.15	50	45	353	6	"	4837	
6.19	16.75	33144.38	"	0.9	0.1	52	48	259	5	"	"	Beams dumped
6.31	2.16	33146.54	"	1.4	0.2	45	45	38	0	"	"	Beams lost.
4.19	27.33	33173.87	"	1.6	0.2	49	39	480	8	"	"	
9.88	6.84	33180.36	"	1.25	0.1	49	42	114	1	"	"	Stopped to reload J68k processor.
9.01	14.29	33194.65	"	1.1	0.1	51	42	251	4	"	"	
7.22	21.41	33216.06	"	0.9	0.05	51	45	376	7	"	"	
6.62	1.37	33217.43	"	"	"	48	49	24	1	"	"	dump
11.52	27.33	33244.76	"	1.5	0.2	48	39	480	10	"	4834	
9.45	19.81	33264.57	"	1.2	0.2	48	42	348	5	"	4832	Reload J68k
7.74	20.84	33285.41	"	1.0	0.1	52	45	366	7	"	4831	
7.02	9.00	33294.41	"	0.8	0.1	50	47	158	2	"	4832	dump
10.79	23.74	33318.15	"	1.4	0.2	50	41	417	8	"	4832	
8.99	23.40	33341.55	"	1.1	0.1	50	43	411	8	"	4831	
0	0	33341.55	"	0.9	0.1							Run terminated due to error in LG-Ped-Run
7.05	18.39	33359.94	"	0.8	<0.1	52	46	323	9	"	4833	beams dumped
6.30	8.48	33368.42	"	0.8	<0.1	51	47	149	6	"	4832	
10.59	25.28	33393.70	"	1.3	0.2	49	40	444	7	17501	4834	
8.91	22.94	33416.64	"	0.95	0.1	50	45	403	7	17500	"	
7.05	18.96	33435.60	"	0.80	0.05	52	48	333	2	"	4835	
5.79	5.01	33440.61	"	0.70	0.05	51	51	88	2	"	4838	beams dumped

Run	Date	Start	Stop	At run start I+	At run start I-	Dead time %	Time (secs)	Records IN	Records OUT	All *10^6	TΦ Rej. *10^6	T1 Acc Sum	T2 Acc Sum	T2 Bit 2 E_Lg>66M	T2 Bit 17 2T-E>27M	Processors ON N50	Processors ON MIP	Processors ON TOF	Processors ON FH
26713	14.6.86	10:51	11:31	11.07	11.40	21.0	2381	8002	5028	619	130	5519	4625	1281	31	ON	ON	ON	ON
26714	"	11:31	12:13	9.31	9.36	19.3	2489	8002	4637	647	124	5588	4353	1184	33	"	"	"	"
26715	"	12:13	12:57	7.92	7.94	17.5	2563	8002	4429	666	116	5558	4354	1103	31	"	"	"	"
26716	"	12:57	13:44	6.78	6.79	16.0	2788	8002	4221	725	115	5585	4553	1037	22	"	"	"	"
26717	"	13:44	14:33	5.79	5.78	15.1	2892	8002	3952	752	113	5585	4534	926	29	"	"	"	"
26718	"	14:33	15:25	4.97	4.95	13.5	3107	8002	3643	808	109	5672	4490	846	29	"	"	"	"
26719	"	15:25	16.02	4.21	4.25	13.0	2108	5482	2393	563	73	3905	3129	561	14	"	"	"	"
26720	"	16.52	17.36	11.06	10.22	23.9	2560	8002	4721	666	159	5387	4576	1219	23	"	"	"	"
26721	"	17.37	18.20	9.10	8.01	17.9	2583	8002	4535	671	120	5586	4409	1163	30	"	"	"	"
26722	"	18:21	18:49	7.80	6.76	17.3	1682	5071	2760	438	76	3532	2819	657	12	"	"	"	"
26723	"	19:22	20:01	11.62	11.37	22.5	2308	8002	4949	601	135	5364	4773	1262	34	"	"	"	"
26724	"	20.01	20.42	9.75	9.19	20.0	2426	8002	4664	631	126	5445	4569	1149	26	"	"	"	"
26725	"	20.42	21.24	8.30	7.78	17.7	2293	6829	3942	573	101	4659	3899	950	25	"	"	"	"
26726	"	21.55	22.32	11.69	11.51	26.7	2209	8002	5142	574	153	5156	4984	1205	39	"	"	"	"
26727	"	22.32	23.11	9.93	9.73	23.0	2300	8002	4864	597	137	5287	4762	1249	26	"	"	"	"
26728	"	23 11	23 54	8.54	8.36	20.6	2425	8002	4580	630	129	5356	4890	1232	24	"	"	"	"
26729	"	23 55	0 11	7.28	7.11	20.0	939	2960	1703	240	48	1991	1757	433	13	"	"	"	"
26730	15.6.86	0 44	1 24	10.97	11.06	21.8	2386	8002	4855	620	135	5315	4849	1230	33	"	"	"	"
26731	"	1 25	2 07	9.39	9.47	19.8	2489	8002	4611	647	128	5292	4957	1131	36	"	"	"	"
26732	"	2 07	2 52	8.09	8.16	17.1	2673	8002	4361	695	119	5493	4768	1051	28	"	"	"	"
26733	"	2 53	3 05	6.96	7.02	16.8	742	2189	1173	193	32	1464	1314	275	6	"	"	"	"
26734	"	3 37	4 37	11.06	11.06	22.4	2324	8002	4948	604	135	5295	4962	1210	34	"	"	"	"
26735	"	4 37	5 18	9.53	9.53	19.6	2427	8002	4648	630	123	5406	4731	1154	28	"	"	"	"
26736	"	5 18	6 02	8.22	8.23	17.7	2593	8002	4564	673	119	5499	4655	1099	38	"	"	"	"
26737	"	6 02	6 11	7.10	7.09	17.7	447	1387	727	116	20	972	774	193	4	"	"	"	"
26738	"	6 46	7 39	10.84	11.67	21.5	2314	8002	4875	601	129	5445	4447	1175	36	"	"	"	"
26739	"	7 40	826	7.92	8.26	180	2565	8002	4502	665	119	5511	4437	1108	33	"	"	"	"
26740	"	8:26	8:47	6.63	6.84	15.7	1243	3722	1958	323	51	2548	2081	452	17	"	"	"	"
26741	"	10:44	11:26	11.07	11.02	22.6	2292	8002	4880	595	134	5408	4585	1195	40	"	"	"	"
26742	"	11:26	12:07	9.46	9.25	19.7	2439	8002	4729	632	125	5581	4603	1185	25	"	"	"	"
26743	"	1206	12:49	8.12	7.93	19.4	2497	8002	4668	649	126	5463	4627	1118	35	"	"	"	"
26744		12:49	13:26	6.97	6.80	17.8	990	3090	1684	257	45	2131	1675	406	14	"	"	"	"
26745	"	13:34	14:22	8.18	9.27	19.1	2536	8002	4580	659	125	5446	4750	1131	26	"	"	"	"
26746	"	14:22	15:06	7.28	8.00	18.2	2608	8002	4367	678	123	5440	4588	1097	29	"	"	"	"

<L> 10^30 cm^-2 s^-1	Bhabha ∫L dt nb^-1	∫L dt Exp. Energy nb^-1	IBM/TAPE Output	At Run Start TOF [V]	At Run Start ID [μA]	Online Reject SUM MIPROC T2 %	Online Reject NORD50 T1.T2 %	Σ BHABHA	M/H	E_BEAM	Mag. Field -1 * G	Remarks
10.92	29.04	33469.65	IBM	1.35	0.2	50	38	510	3	17.500		
9.16	24.82	33494.47	"	1.00	0.15	51	44	436	5	"	4841	
7.21	18.39	33512.86	"	0.8	0.1	50	46	323	8	"	"	
5.87	16.57	33529.43	"	0.7	0.1	52	49	291	5	"	"	
4.38	12.35	33541.78	"	0.6	0.1	52	52	217	2	"	"	
3.14	10.48	33552.26	"	0.5	0.1	54	56	184	2	"	"	
2.57	6.83	33559.09	"	0.5	0.05	55	58	120	1	"	"	Beams dumped (radiation)
9.36	24.82	33583.91	"	1.3	0.25	49	42	436	7	"	"	
7.99	21.92	33605.83	"	0.95	0.2	51	45	385	3	"	"	
6.38	11.16	33616.99	"	0.8	0.15	52	47	196	3	17.501	"	beams dumped
10.73	25.22	33642.21	"	1.6	0.3	50	39	443	4	17.500	4840	
9.19	22.26	33664.47	"	1.2	0.2	50	43	391	8	17.501	"	
7.47	16.97	33681.44	"	1.0	0.2	50	44	298	2	"	4841	Beams dumped.
10.53	24.65	33706.09	"	2.2	0.3	48	37	433	12	"	4838	
8.87	23.17	33729.26	"	1.8	0.2	49	40	407	6	"	4837	
7.06	18.67	749.93	"	1.5	0.2	51	44	363	6	"	"	
6.80	7.69	757.62	"	1.3	0.1	52	44	135	2	"	"	
9.21	23.06	780.68	"	1.7	0.2	50	41	405	8	17.500	"	
7.57	18.27	798.95	"	1.3	0.1	51	44	321	1	"	"	
6.34	17.53	816.48	"	1.0	0.05	52	47	308	3	"	4835	
6.39	3.70	820.18	"	0.8	0.05	51	46	65	2	"	"	
9.73	23.29	843.47	"	1.9	0.2	51	39	409	10	17.501	4834	
7.94	20.66	864.13	"	1.5	0.1	51	43	363	6	17.500	4835	
6.62	17.93	882.06	"	1.1	0.05	52	44	305	7	"	4834	
6.07	2.73	884.79	"	0.9	0.05	52	49	48	3	"	"	
10.05	23.74	908.53	"	1.7	0.15	49	41	417	9	"	"	
7.09	19.07	927.60	"	1.0	0.1	51	46	395	10	"	4837	
5.68	5.86	933.46	"	0.8	0.05	50	49	103	3	"	"	
10.25	23.91	957.37	"	1.5	0.2	49	40	420	9	17.500	4838	
8.84	23.06	980.43		1.2	0.15	51	42	405	7	"	4839	Bottom crate in rack 22 in rebuilding
7.69	19.81	1000.24	"	1.0	0.17	51	43	348	5	17.501	4840	
6.58	7.63	1007.87	"	1.00	0.18	50	47	134	1	17.500	4842	After voltage Down Vents of probe chosen wrong for 5 min = 20 strings
7.32	21.35	34029.22	"	1.4	0.2	52	44	375	7	"	4838	
6.06	17.71	046.93		1.2	0.2	51	47	311	4	"	"	

15-6-81 00^{01} Fest on shift, Chmi on call (4^{00} → vice versa).
gas check O.K.
03^{00} second time ~~I noticed~~ voltage failure when the HV ran down / accidental coincidences?

5^{15}. DL 300 monitor crashes. Reset after run 26735 is completed.

$6^{45} \rightarrow 7^{30}$ A number of Vtx, FD + z chamber trips (Vtx: FD mainly soft) due to small (but significant) ~~/~~ positron losses. a sudden

8:00 Glasser & Mills on shift

4:09 Jet ch high current flasher occasionally

8:11 Gas check OK

9:00 short break. Magnet => 500A.

13:00 vertex ch valve sticks hard sometimes

14:45 Zch trip ~~h~~ valve failure BACH – pressing buttons caused error again after 1-5 secs so did the 'turn valve for 1 sec' treatment.

16:00 Smolik and Kubben on shift

16:11 Gas check o.k.

16:15 Magnet is off; Interlock Klubrein Solenoid Pumpenausfall 142, Rücklauf < 35°.
MK people will come

16:52 One of the two pumps is broken and has to be exchanged. They will try to call the man in who is able to do that.

17:30 After talking to the MK-people, Herr Felst decides to have the man called in, even at the weekend (and with such a wonderfull sunshine). However, the repair will probably take several hours.

18:40 We are back in business, I can run up the magnet

18:48 Just when the HV was up, PETRA says "switch off the HV", the beam was too bad.
There had been one soft trip after the other, this run has 25 sec and lasted 7 min!

19:27 Short break

22:56 STILL "SHORT BREAK", AKR says: cause is not fixed yet => Magnet 500A.

0:00 Hill + Komaniya on shift

Gas check done. OK.

1:00 Still "Short Break". This is a usage of the word 'short' which I have not come across before

1:13 They must have heard me.
"RF Problem Restart information 9,00 AM" Cello say that to fix the problem will require

major cabling work and there will be no possibility of running tonight.

Magnet → 0 Amps. PKR say the problem lies in a short circuit in one of the power supplies, and that this will "probably" be no beam tonight.

8:00 Steffen + Chmi, on shift. (gas check 8:10 O.Kay).

Cello say that some HV cables belonging to transmitters in the west hall are damaged.
Peter section it will be Wednesday before the major re-cabling ~~or~~ repair is completed.
Meanwhile Petra will attempt to run with reduced current, but same energy.

9:45 Technic. Not-dienst phoned: they see a gas alarm, we do not.
~~Investigation~~ Inspection of gas house shows a running ventilation and one alarm unit dead.
~~The~~ MEA is informed and promised to send some body.
Hessler should be informed when being back from a meeting.

11:20 Gas warning repaired. DISC backup made

~~How to open (2 ch) a valve~~

12:51 Start Run 26751 with $e^+ = 7{,}59$ mA $e^- = 8{,}13$ mA.
Panic runs
However continual ~~SET~~ SCB K Error messages (Reload Map via monitor terminal. Conf IS fails) x 2
Next ~~try~~ stop runs
+ try reloading via SDAS console.
Timeout error. Unable to contact Elsen or Zimmer.
⇒ but Siggi is ready + willing! And dumps a duff FADC.

Cello say:
100 meters of HV cable are urgently needed. 2 Were available on the DESY site.
May take 'til Wednesday or even longer before any can be obtained
In the meantime we will run with reduced current ≈ 8 mA at max start.

16:00 B. Naroska, F. Spitzer
Gas ok

96 RUN #	Date	Start	Stop	@ run start I^+	@ run start I^-	Dead Time %	Time (secs)	Records IN	Records Out	ALL $\times 10^3$	Tϕ $\times 10^3$	Trace Sum	Trace Sum	T1 bit 2 $E_{th} > 6$ GeV	T2 Bit 17	N50	MIP	TOF	FM
26747	15/6/86	15:06	15:11	6.25	6.92	16.8	244	761	384	63	10	514	407	92	2	ON	ON	ON	OFF
26748	"	15:15	15:20	6.06	6.72	18.5	253	709	377	65	12	444	462	71	2	"	"	"	
26749	~~15:53~~	15:53	16:03	9.26	8.87	23.0	737	2501	1494	191	44	1570	1601	351	5	"	"	"	
26750	"	18:41	18:48	8.67	9.87	15.2	25	70	39	6	1	40	36	4	0	"	"	"	
26751	16/6/86	12:52	12:52	7,59	8.13											"	"	"	
26752	"	13:19	14:05	6,53	7.14	17.6	2703	8002	4296	703	123	5454	4694	968	35	"	"	"	
26753	"	14:05	14:54	5,44	6,04	15,9	2706	8002	4059	757	120	5486	4887	961	26	"	"	"	
26754	"	14:54	15:29	4.59	5,16	15.0	2002	5329	2467	521	78	3613	3216	582	14	"	"	"	
26755	"	16:14	16:59	8,00	8,07	18.9	2667	8002	4233	694	131	5237	4881	1108	35	"	"	"	
26756	"	16:59	17:15	6.74	6.83	19.3	885	2665	1379	230	52	1753	1618	376	14	"	"	"	
26757	"	17:57	18:39	9.05	8.20	19.7	2520	8002	4481	656	129	5323	4791	1257	39	"	"	"	
26758	"	18:39	19:23	7.57	6.78	19.2	2578	8002	4301	671	128	5361	4665	1277	33	"	"	"	
26759	"	1923	20.08	6.51	5.18	18.6	2681	8002	4146	698	129	5424	4689	1279	26	"	"	"	
26760	"	20.08	20.18	5.63	4.96	17.0	567	~~1660~~ 1693	827	147	25	1155	990	233	6	"	"	"	
26761	"	20.45	21.28	8.87	9.27	20.3	2523	8002	4438	657	133	5360	4748	1223	29	"	"	"	
26762	"	21.29	22.10	7.30	7.60	18.5	2418	7301	3981	629	116	5049	4377	1178	28	"	"	"	
26763	"	22 37	23.24	8.89	9 01	19.1	2551	8002	4390	664	826	5468	4555	1223	30	"	"	"	
26764	"	23 24	00 09	7.17	7.22	17.6	2647	8002	4167	689	121	5558	4545	1338	26	"	"	"	
26765	17/6/86	00 09	00 57	6.12	6.17	15.9	2697	8002	4153	702	111	5373	4441	1187	20	"	"	"	
26766	"	00 58	01 08	5.24	5.27	138	89	306	159	23	3½	207	131	33	0	"	"	"	
26767	"	01 35	02.18	8.89	8.41	19.5	2587	8002	4343	673	131	5338	4872	1179	34	"	"	"	
26768	"	02 19	03 04	7.29	6.69	16.6	2671	8002	3957	694	115	5500	4499	1155	23	"	"	"	
26769	"	03 05	03 20	6.22	5.53	15.2	880	2468	1167	229	35	1737	391	373	5	"	"	"	
26770	"	03:59	04:37	9.42	9.09	17.4	1659	5035	2715	432	75	3488	2844	774	24	"	"	"	
26771	"	05:03	06:01	8.17	9.15	17.8	2664	8002	4166	693	123	5519	4762	1285	28	"	"	"	
26772	"	06:01	06:44	5.75	6.31	15,7	2493	7129	3402	649	102	5036	4130	1097	20	"	"	"	
26773	"	07:34	08^{21}	7.58	7.36	16.0	2709	8002	4054	704	112	5603	4497	1240	17	"	"	"	
26774	"	8^{22}	9^{09}	6.29	6.06	15.3	2819	8002	3877	737	112	5725	4372	1261	18	"	"	"	
26775	"	9^{10}	9^{37}	5.48	5.26	14.0	1621	4499	2030	422	59	3246	2404	716	13	"	"	"	
26776	"	10^{11}	10^{55}	8.17	8.31	16.9	2630	8002	4048	684	115	5534	4529	1315	26	"	"	"	
26777	"	10^{56}	11^{41}	6.70	6.71	15.5	2680	8002	3917	697	108	5706	4261	1362	29	"	"	"	
26778	"	11^{41}	11^{52}	5.78	5.74	14.4	626	1841	867	163	23	1309	952	310	2	"	"	"	
26779	"	12^{34}	12^{42}	8.65	8.90	18.3	432	1290	724	112	20	894	720	229	8	"	"	"	

$\langle L \rangle$ 10^{-2} cm^{-2} s^{-1}	Bhabha $\int$Lat nb^{-1}	$\int$Lat Exp energy	OUTPUT IBM/Tape	Run Start TOF [V]	Run Start ID [MA]	Online Reject Sum (Spirec (T2))	Online Reject Nor50 (T1&T2)	Σ Bhabha	M/H	E_{beam}	Mag Field -1* G	Remarks
5.19	1.82	34048.75	IBM	1.0	0.15	47	52	32	1	17.500	4840	beams dumped... but then not!
5.16	1.25	34050.00	"	0.9	0.15	52	50	22	0	"	"	Now really dumped.
7.60	5.92	34155.92	"	1.5	0.2	49	42	104	4	"	4889	
2,89	0.23	34156.15	"			58	56	4	0	"	4844	beams dumped
			"	1.1	0.2							563K Error messages at run start. STOP run. No events in this run
5,24	13.95	34170,10	"	1.0	0.2	52	48	245	5	17501	4841	
3,95	12,35	34182,75	"	0.8	0.15	54	42	217	3	17500	"	
2,86	5,29	34187,74	"	0,7	0.15	53	56	93	0	17501	4844	
5.47	15.77	34203.11	"	1.2	0.2	50	49	270	8	17500	4854	
5.05	4.54	34207.55	"	1.0	0.2	50	50	78	2	17501	4856	beam lost
7.28	18.56	34226.11	"	1.2	0.25	50	45	326	5	"	4857	
5.46	15.26	34241.37	"	1.0	0.2	50	48	268	6	"	"	
4.10	11.84	253.21	"	1.0	0.2	53	50	208	11	"	"	
3.48	1.65	254.86	"	1.0	0.2	52	53	29	0	"	"	dump
6.94	18.50	27336	"	1.3	0.3	51	46	325	4	"	"	
5.44	15.26	288.62	"			53	48	268	4	"	"	beams lost
6.54	18.10	3430672	"	1.2	0.3	51	47	318	2	"	"	
4.92	14.29	34321.01	"	0.9	0.2	53	50	251	6	17501	4844	
3.93	10.81	34330.82	"	P	0.1	55	50	225	4	"	4846	beam dr
3.36	0.11	34333.93	"	?	?	40	52	2	0	"	"	beam dumped
5.10	12.81	346.74	"	1.8	0.3	51	47	225	5	"	4843	
4.35	11.90	358.64	"	0.8	0.2	51	52	209	7	"	4843	
3.35	3.24	361.88	"	0.7	0.2	54	54	57	0	"	4842	beam dumped
6.61	18.04	34372.92	"	1.0	0.2	52	48	194	2	17.500	4841	beams lost
4.03	13.89	34386.81	"	1.5	0.2	53	49	244	6	17.501	"	
4.24	10.25	34397.06	"	0.45	0.1	54	54	180	4	"	4840	beams dumped
5.13	14.23	411.09	"	0.9	0.1	52	57	250	3	17.500	4841	
3.63	11.50	422.59	"	0.8	0.1	54	53	202	2	17.501	4841	
2.91	4.95	427.54	"	0.6	0.1	54	57	87	2	"	4844	
5.76	15.31	442.85	"	1.0	0.2	51	51	269	5	17.500	"	
4.84	13.43	456.28	"	1.0	0.1	52	53	236	5	"	"	
4.24	7.33	458.61	"	0.9	0.1	51	55	41	1	"	4846	beams lost
3.31	3.30	461.91	"	0.9	0.2	54	58	58	3	17501	4847	" "

17⁰⁰ Event numbers on MOP terminal were different (flashing).
Pause run, ask for new statistics. ⇒ No statistics at all but data got to IBM.
Beam loss, everything tripped.
Reload MOP, ok.

19¹⁰ Noticed that shiftcrew on 15/6 forenoon formed fan of systemcrate whistling. To exchange it will take anything from ½ hour - 1 hour. For this operation, computer has to be stopped, and put in Master Clear. If the fan breaks before next "short break", dont do anything before calling me or Krekbiel. In particular, switching fan on/off may ruin the disk! It is a pity that the shiftcrew did not bother to tell me, we had a long break today! Jan Olsson

23.50 IBM PC claims that paper in pen recorder in Rackrack is low.
Thank gods, that the new shift crew arrives to take care of that.
- Taken care of ---

PAPER IN GOULD PLOTTER
STICKS TO THE ROLLER.
YOU HAVE TO FEED A ~~PAGE~~
BEFORE THE RUN SUMMARY
CAN BE PRINTED.

17/6-86
00.00 FOSTER (just flown in), SKARO on shift.
00.30 Gas check OK.
00.05 At start of run 26765 the z-chamber had tripped. The first ?? (after lunchbreak) number of events had no latch banks! Later on the events became normal. ???
01.31 New fill
02.38 Restarted MOP (CTRL-C, RUN ZIMMONI).
03.20 Beams dumped - with no phone consultation!
04:27 Beams lost - Transmitter error. Restart "as soon as possible".
05:15 MFR 63 (tagging counters) - no voltage! Turned both crates on manually, but they were off for the first ~ 2600 events of run # 26771.
05:50 MFR63, chan 0 wrong HV (=off). - Set to 1502 V manually.
06:45 Vertex chamber gas alarm: Valve failure. Reset manually according to instructions from expert (Kleinwort) and sheet in VTXC manual. These instruction sheets should be mentioned in the Table of Contents !!!

8⁰⁰ Gethke, Felst
8¹⁵ gas check OK
11⁵⁰ soft chamber trips, partial beam loss. beams will be dumped.
12²⁰ Reform job submitted
Water spraying for roof of control-room activated. Please turn off this evening again!
12⁴⁵ users fill, but unstable beams. Several partial losses (and chamber trips). beams lost at the end.
13⁰⁰ From time to time temperature alarm hardware room beeps for ~ 10 sec, because temperature is ~ 21°C. Probably due to the hot weather outside. Everything is getting warmer (hall is like a sauna).
14⁰⁰ run 26780 obviously without tagging counters, no error message showed up!
15⁴² after checking HV etc found finally with J. Olsson logs that the tagging trans the was caussed by a power failure (without any alarm) of the VEM-crate in rack #8 (2nd crate from ~~top~~ bottom)
OK ~~after~~ from run 26783 on

16⁰⁰ Cartwright and Greenshaw on shift
Gas check done "kreislauf" a little low, "zulauf" also below 10.0 so increased ethane flow slightly. Otherwise all OK.
16²³ Partial beam lost accompanied by beampipe and jet chamber trips. The remaining beam are then dumped and the beampipe chamber gas system valve decides to stick.
17³⁰ Temperature in hardware room still ~ 21°C. Temperature alarm is flashing on and off periodically. The sprinkler is on so not a lot more can be done. One could of course infuriate Hamburg's sun worshipers by praying for cooler weather ... Possible resulting Bild headline "Physikers pray for rain on DESY with" ? (sorry) - This obviously worked....
18¹⁵ IBM-PC complaining about VXC linemap. Small spike in cell 12 (just after the gap). Probably not worth bothering expert.
19¹⁵ IC & VXC soft trip. Before they can be reset, "switch off the HV" message.
21⁰⁰ SHORT BREAK since 19¹⁵ - few tenths of a mA beam for last hour, but no evidence of activity.
Magnet → 500 A
21³⁰ INJECTION. Magnet → 7500A
21⁵⁵ Thunder & Lightning. Switched off sprinkler (superfluous!)
22¹⁰ At start of run 26787 message in ops console PED CR 3 CH 510 IS <100, VALUE 1. 492 486
Decide it's not worth waking Michael Kuhlen up for. Will see if it persists/gets worse.

100 Run	Date	Start	Stop	At run start I^+	At run start I^-	Dead time (%)	Time (sec)	Records in	Records out	All $\times 10^6$	TD. rej. $\times 10^6$	T_1 Acc Sum	T_2 acc Sum	T_1 Bit2	T_2 Bit17	Processors on/off NSO	Processors on/off MHO	Processors on/off TOF	Processors on/off FM
26780	17.6.86	13:24	13^{57}	8.63	8.52	15.6	1914	5341	2541	488	77	3688	3080	927	24	on	on	on	
26781	"	14:44	15:32	7.79	7.72	16.3	2870	8002	4106	746	121	5536	4656	1497	35	"	"	"	"
26782	"	15^{37}	15^{40}	6.39	6.18	55.2	369	598	299	94	5	406	350	95	4	"	"	"	"
26783	"	15:41	16^{24}	6.22	6.00	15.7	2548	7474	3655	663	104	5216	4185	1239	23	"	"	"	"
26784	"	17^{20}	18^{07}	2.69	2.62	16.3	2687	8002	4063	698	114	5632	4374	1370	30	"	"	"	"
26785	"	18^{07}	18:51	6.42	6.21	16.6	2628	8002	4027	683	114	5671	4277	1424	25	"	"	"	"
26786	"	18^{52}	19^{18}	5.58	5.35	19.8	1573	4340	2327	367	71	2966	2484	736	15	"	"	"	"
26787	"	22^{09}	22^{39}	2.16	2.51	18.5	1650	4933	2603	424	74.3	3329	2875	734	12	"	"	"	"
26788	18.6.86	13^{34}	14.13	4.85	4.89	13.7	2299	8002	3083	599	82	4373	3430	960	15	"	"	"	off
26789	"	14.15	14.21	4.23	4.20	15.2	339	1203	462	88	13.4	633	523	120	2	"	"	"	"
26790	"	14.23	1435	4.13	4.10	13.8	677	2399	941	176	24	1314	1020	289	9	"	"	"	"
26794	"	17:11	1729	5:24 ~~1729~~	6.38	17.8	1046	3805	1580	272	49	2086	1600	484	12	"	OFF	OFF	OFF
26796	"	1737	1738	5.17	5.71	13.7	138	548	241	36	6	284	222	57	0	"	"	"	"
26797	"	17:43	18.21	5.03	5.56	14.0	2254	8001	3424	586	82	4532	3452	974	8	"	"	ON	"
26798	"	18:21	18:36	4.36	4.71	12.7	837	2894	1047	218	28	1590	1226	336	12	"	"	"	"
26799	"	19:50	20:26	6.73	6.17	17.7	2125	8002	3413	552	88	~~4360~~	3436	1073	22	ON	ON	ON	"
26800	"	20:26	20:45	5.78	5.19	16.3	1095	4068	1714	285	47	2223	1673	520	9	"	"	"	"
26801	"	23:50	0:28	6.62	7.20	21.8	2086	7875	3717	543	118	4168	3484	981	20	"	"	"	"
26802	19.6.86	0:39	1:07	5.59	6.10	20.5	2131	8002	3469	554	114	4237	3552	1010	20	"	"	"	"
26803	"	1:09	1:45	4.94	5.40	19.0	2191	8002	3301	576	109	4117	3669	958	20	"	"	"	"
26804	"	1:46	8:24	4.42	4.84	16.5	2257	8002	3113	587	97	4187	3567	845	15	"	"	"	"
26805	"	2:27	3:04	3.95	4.34	13.7	2389	8002	2965	621	85	4318	3474	890	27	"	"	"	"
26806	"	3:05	3:44	3.55	3.91	13.8	2336	8002	2902	607	84	4378	3387	899	16	"	"	"	"
26807	"	3:44	4:30	3.20	3.54	12.3	2481	8002	2645	645	79	4327	3464	794	16	"	"	"	"
26808	"	4:30	4:58	2.87	3.18	11.5	1670	5401	1856	434	50	2842	2310	532	17	"	"	"	"
26809	"	7:06	7:42	6.62	6.81	19.4	2133	8002	3517	554	107	4323	3470	912	20	"	"	"	"
26810	"	7.43	8.19	6.79	6.35	17.7	2176	8002	3509	566	100	4173	3612	861	17	"	"	"	"
26811	"	8.20	8.37	5.12	5.65	16.6	690	2484	1014	179	29	1344	1046	282	4	"	"	"	"
26812	"	13.42	14:16	7.99	7.76	20.0	1869	6979	3025	486	97	3672	3121	789	25	"	off	"	"
26813	"	15:50	15:52	7.38	7.72	83.8	100	388	281										
26814	"	$17.^{40}$	18^{23}	8.28	8.30	16.7	2726	8002	4377	708	118	5527	4652	1199	26	"	ON	"	OFF
26815	"	18^{27}	18.54	6.71	6.70	16.1	1539	4605	2473	401	65	3201	2562	681	14	"	"	"	"
26816	"	18.55	19.38	6.10	6.08	15.5	2549	7228	3702	663	103	5072	4059	1013	29	"	"	"	"
26817	"	19.42	19.48	5.26	5.24	14.9	342	968	507	89	13	701	539	153	3	"	"	"	"

$\mathcal{L}$ $10^{30}\,cm^{-2}s^{-1}$	Bhabha SLdt nb^{-1}	SLdt 34467.91	IBM Tape	At run start TOF [V]	At run start ID [μA]	Online rej. sum Hip. T2 %	Online rej. random T2 %	Σ Bhabha	MH	E_{beam}	Mg Field	
—	13.72	34474.63	IBM	0.8	0.2							Beams Cat nr
—	21.24	34495.87	IBM	0.8	0.2	52	54	378	5	17501	4849	nun Lumi counter (Logic) active
—	1.74	34497.01	"	0.6	0.1	52	54	20	0	17500	4850	Hyppy back to normal
3.77	10.93	34507.94	"	0.6	0.1	52	53	192	2	"	"	Beams lost / dumped
5.45	14.69	34522.63	"	0.76	0.15	52	51	258	2	"	"	
3.75	10.30	34532.90	"	0.61	0.10	52	51	181	3	"	"	
2.00	3.19	34536.09	"	1.0	0.20	51	48	56	1	"	"	Beams lost/dumped
3.27	5.69	34541.78	"	0.95	0.2	52	44	100	1	"	"	Stopped to let magnet cool off!
3.61	8.03	34549.81	"	0.65	0.05	0	63	141	2	17.501	4837	Problems w. 16 Miproc 16 - Rejection
2.86	0.74	34550.55	"	0.55	0.05	0	64	13	1	"	4838	stopped to reload Mp 16
2.92	2.16	34552.71	"	"	"	0	62	38	1	17500	4838	
4.42	4.21	34556.92	Tape	0.8	0.1	0	60	74	3	"	4837	JDAS Φ6
4.01	0.85	34557.77	IBM	0.6	0.05	0	59	15	0	17501	"	
3.81	8.43	34566.20	"	0.5	0.05	0	62	148	2	17500	4838	
2.41	2.28	34568.48	"	0.5	0.05	0	65	40	0	17501	"	Beams dumped
5.14	11.67	34573.62	"	0.9	0.1	0	59	205	3	17500	4840	
4.50	4.84	34578.46	"	0.7	0.05	0	60	85	0	"	"	beam lost
5.55	12.24	34590.70	"	1.1	0.1	0	54	215	4	"	4838	
4.26	9.51	34600.21	"	0.9	0.05	0	58	167	3	17501	4837	
3.29	8.03	34608.24	"	1.1	0.03	0	60	141	3	17500	4836	
2.82	6.15	34614.39	"	0.8	0.03	0	63	108	4	17500	4836	
2.51	5.86	34620.25	"	0.7	0.03	0	65	103	1	"	4835	
2.09	4.33	34624.58	"	0.6	0.03	0	85	76	2	"	4834	
1.70	4.27	34628.85	"	0.5	0.03	0	69	75	4	"	"	
1.42	2.39	34631.24	"	0.4	0.02	0	67	42	1	"	"	Beams dumped
5.59	12.48	34643.72	"	1.1	0.1	0	57	219	4	"	4836	
5.00	10.32	654.04		0.9	0.1	0	58	181	4	"	4837	
4.06	2.91	656.95	"	0.75	0.1	0	61	51	3	"	4838	
5.51	10.59	34667.54	"	1.5	0.2	0	58	186	3	17501	4844	beams lost
0	0	34667.54										Miproc. Tst. Injection optics, Beams Cat
6.54	19.36	34688.90	"	1.0	0.2	52	47	340	4	17500	4837	
5.83	9.56	34698.46	"	0.8	0.2	51	48	168	0	17500	4837	
4.78	11.33	34709.79	"	0.6	0.1	53	50	199	3	17501	4837	
4.17	1.65	34711.44	"	0.6	0.1	57	49	29	0	17501	4837	stop run DMA time out.

20^{45} Soggi Rethke came in to do the jet chamber check list and discovered that both the magnet and the jet chamber were very warm. [Magnet inlet temp 41°C, outlet 74°C, jet chamber temp. 29.6 °C]. This is considered to be more than the jet chamber should be expected to cope with and so we stopped running and ran the magnet down to 1000 A to give everything a chance to cool off.
The water inlet and outlet temperatures to the magnet must be monitored, as must the jet chamber temperature. (Cet, previous shift crew to whom you were dealing are)
crazy | If the outlet temp. stabilizer at above 2 ~ 55°C then the magnet current must be run down to zero and MKK informed and told to switch off the magnet water pumps.
Running must not be restarted till the jet chamber temp is well below 29°C.
(Normal is ~ 26°C) Restart at ~ 28°C but WATCH THE TEMPERATURE
Inform PKR when you switch the magnet up again.
22^{46} MOP / J68K processors restarted.

18.6.86 00^{00} hrs Glasser & Chrin on shift. (Gas check done).
04^{30} ~~Magnet~~ jet ch. stable at 28.4° going down very slowly + Magnet current changed at all.
06^{30} jet ch at 28.2° magnet vorlauf = 50.5° rücklauf = 52.0

07^{45} jet ch. at 27.9°C Vor. = 50.5° rück. = 52.0°C.

In principal - we could attempt data-taking. However raising magnet to normal value would undoubtably increase the rücklauf temperature above the acceptable value of 55°C. Vorlauf temp. just too high to do it's job of cooling!!

The present beam appears to be fairly 'dirty'. Three chambers with edges exposed to the hall ∴ the synchrotron radiation are drawing very high currents (>4 μA).
∴ had to disconnect a further 13 chambers.

∴ total dead is 23 chambers.

8^{00} H. Mills on shift Gas check OK
Unable to raise MKK group on phone. Eventually get them-

The heat exchanger is apparently blocked - they will work on it & hope to be ready today
The L.H rear roof extractor fan does not work - they cannot repair unless PETRA is off
19^{00} Fan in system Crate exchanged. Afterwards Branch 3 Coupler found to have faulty contacts, exchange d against previous coupler 7. This was found to have a faulty read line, exchanged against previous coupler 6 ⇒ Ok.
H.K./ J.O.

13^{25} Magnet water supply Ok - beginning things on.
Contacted M. Holder about the LG pedestal problem - he says they cannot go
13^{45} Problems with Miproc-16 - rejection. No $\bar{p}p$ rejection displayed (0%).
14^{15} Olsson here to investigate problem.
14^{20} Problems with synchrotron. No new fill until further notice.
15^{00} Tomorrow, Thursday, will be a break of 2-4 hours to investigate the Panter wire transmitter in Hall west starting at about 8^{30}. R-Fegt

16.00 Short Break.

16 00 Hagemann, Matsumura
16 10 Gas check done
17 00 IBM down, Data → Mag Tape JDAS #6
17 35 IBM OK
18 16 IBM On-Line - Job Error check 2
18 36 2 IBM transfer errors due to IBM down, run stopped. At the same time TASSO asked for a new fill, we agree.
18 58 LG-ADC-chip exchanged, which had pedestal >500 and caused peak in LG-hit-maps
19 50 New fill ready. New run started. Plessey works but rejection rate is 0%. So leave MP16 on according to Olsson's advice.
21 33 Break, restart not before 22.30 Uhr on TV
22 40 Switched off sprinkler.

19-06-86
0^{00} Elsen / Kuies on shift; Gas check done.
0^{30} JDAS readout errors 44 DMA Timeout br 1 cr 3
2 cr 1

After starting new run messages disappear.

1 ^{00} YSPM: μ-digitiser 162 missing ⇒ crate 14, chambers 607, 608, 609, 610.
These seems to be only one chamber above for this digitiser. Where is the list of dead chambers?
2 ^{40} YSPM: μ-dig 162 again. statistics?

19/6/86

3:30 z-chamber trip.
3:35 vtx-chamber valve failure. Reset in gas house.
3:00 Due to problems with positron injection PETRA keep wasting the beams. <L> = 1.8·10³⁰ now.
4:10 Pickup event; z-chamber and fetc-trip. Latter with 6V, VV30 source.
7:00 nach vielen Flüchen: eine neue Füllung
8.00 Naroska, Heinzelmann 8.30 u
8.30 Gas ok
beams dumped, PETRA off for 2-4 hours.
8.56 Magnet lowered to 1000 A → 0 A Isolator off
10.30 Smell of hot plastics on the Rucksack-roof. Reason not yet found Rly.
13:40 Beams again ready
16:00 FOSTER, MAIOR her.
Gas check completed OK.
Restart at ~16:45. 16⁴⁰ Plessey problem solved, "wackel contakt" in cable between the two systemcrate.
17-39 Start new run - nice beams.
JDAS Readout error 74 : LAM branch 1 crate 1 (beam pipe chamber)
JDAS 33 : missing LAM branch 3 crate 4 (z-chamber part 1)
19 30 Muon digitizer missing 162.
JDAS readout error 46 DMA timeout stop run 26816.
Again JDAS readout error 46 DMA timeout branch 2 crate 1 : latches
Z-chamber Trip
20 02 NORD-50 BUSY remains, ILLEGAL MONITOR CALL IN BATCH JOB ABORTED?? on system console.
Stop run 26818
20 57 Once again DMA timeouts ---
21 43 Still getting DMA timeout errors - very irritating!
22 00 z-chamber Trip + VTXC valve error. - fixed according to instructions in gas house.
YSPY : Trigger 1 Output missing
23 40 Gas check done - OK.

20.6.86

00.00 Stephens
00.30 JDAS?? Error 64 -AC 2049 TBT -2Q, X missing Stn = 4 subaddr = 4
00.34 JDAS Readout error 46 DMA timeout branch 2 crate 1 Cathy.
Stop run.
Notice MOP not running so reload. - OK

1.10 Z ch trip.
1.18 JDAS error 44 . DMA timeout.
1.32 DMA timeout.
1.55 Cello - new fill soon.
2.06 Beams dumped ⊙ Valve failure on Vtx ch.
3.17 Start new run # 26833
3.20 No Lumi (~350 events) Tagging MW 61 not on at run start.
3.40 YSPY muon digitizer missing: 162
4.00 Zündorf
4.10 VTXC valve failure reset
5:06 IBMPC error: deviation in wiremap (nothing obviously wrong)
z-chamber trip and VTXC valve failure
5.24 DMA timeout
7.30 I noticed one additional spike in the trigger 3 input. It was not there two days ago.

8:00 Cartwright, Sindrilaru
Gas check O.K.
9:00 VTX-chamber valve failure, reset according the instruction
9:59 Beam loss, everything tripped.
13⁵⁰ Vertex Inc (Kado & Kleinwort to be precise) came to look at the VXC histmap which has developed a second spike. They say they will keep an eye on it; in the meantime shift crew should not worry about it.
13⁵⁸ PETRA at 17.515 GeV (!?). In attempting to go back to 17.500 they lose the positrons. back to square 1.
14⁵¹ DMA timeouts first br 1 cr 5 then 5x br 2 cr 1
14⁵⁷ " " br 1 cr 3 " 5x " "
15³² Run 26850 stopped - jetchk fell apart (missing LAM br 4 cr 1, 3x missing LAM at FEP ready).
1 Makes a change from DMA timeouts.
16⁵⁰ IBM-PC complaining about VXC pedestal map. Nothing wrong that I can see.
16.00 FOSTER WEBER on shift.
Gas check done
YSPY Muon digitizer missing 5 2 times. statistics?
16 55 VTXC valve error, reset.
We would like a refill but PEP has some problem - so stays with the fill.
17.05 muon digitizer 85 again. ~~52,53 56,57 58~~ Gab1
GO TO P. 112

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME %	TIME (SECS)	RECORDS IN	RECORDS OUT	ALL $\$10^6$	$T\emptyset$ REJ $\$10^6$	T_1 ACC SUM	T_2 ACC. SUM	T_1 BIT 2 $E_{16} > 66V$	T_2 BIT 7 2T E_4 $\geq$ 2TR	PROCESSORS ON/OFF N50	MIP	TOF	FAMP
26818	19/6/86	19.56	20.03	5.06	5.03	14.5	396	1131	587	103	15	785	613	163	2	ON	ON	ON	OFF
26820	"	20.47	20.57	8.27	8.57	18.6	559	1779	963	145	27	1198	1020	249	7	"	"	"	"
26821	"	20.58	21.08	7.69	7.96	17.0	539	1692	951	140	24	1168	929	249	6	"	"	"	"
26822	"	21.10	21.36	7.24	7.44	15.7	1564	4664	2475	407	64	3289	2525	754	20	"	"	"	"
26823	"	21.37	22.05	6.44	6.56	16.3	1601	4609	2354	417	68	3264	2592	687	21	"	"	"	"
26825	"	22.14	22.21					1231	594										
26826	"	2222	22.54	5.50	5.55	14.2	1882	5225	2532	490	70	3752	2863	880	12	"	"	"	"
26827	"	22.55	23.17	4.97	4.99	13.7	1293	3531	1621	336	46	2487	2964	488	13	"	"	"	"
26828	"	23.48	23.56	8.81	8.29	18.7	415	1349	732	108	20	916	719	202	8	"	"	"	"
26829	"	23.56	0.40	8.33	7.74	15.9	2598	7663	4276	676	108	5462	4243	1193	34	"	"	"	"
26830	20.6.86	0.44	1.19	6.80	6.25	15.1	1937	5547	2824	504	76	3934	3027	796	11	"	"	"	"
26831	"	1.20	1.32	6.01	5.50	15.1	684	1894	898	178	24	1349	1067	254	5	"	"	"	"
26832	"	1.33	2.07	5.78	5.28	13.5	1976	5340	2568	514	69	3855	2821	753	16	"	"	"	"
26833	"	3.17	4.07	8.03	7.87	16.3	2767	8002	4186	719	117	5600	4587	1136	37	"	"	"	"
26834	"	4.08	4.23	6.52	6.41	15.2	845	2403	1222	219	33	1706	1343	388	8	"	"	"	"
26835	"	4.33	5.02	6.05	5.81	14.4	1733	4678	2276	451	65	3386	2673	686	19	"	"	"	"
26836	"	5.04	5.25	5.49	5.30	14.9	1261	3398	1620	328	48	2433	1853	456	19	"	"	"	"
26837	"	5.26	5.42	5.07	4.97	12.7	948	2528	1132	246	31	1804	1369	325	6	"	"	"	"
26838	"	6.42	7.12	8.36	8.28	16.9	1721	5074	2746	447	75	3482	2948	722	19	"	"	"	"
26839	"	7.12	7.42	6.98	6.95	15.0	1749	4974	2594	456	68	3535	2788	726	18	"	"	"	"
26840	"	7.44	8.03	6.19	6.14	15.2	1086	3130	1569	283	43	2131	1709	429	15	"	"	"	"
26841	"	8.04	8.53	5.81	5.76	13.9	2949	8002	3890	767	107	5645	4479	1065	27	"	"	"	"
26842	"	8.53	9.00	4.98	4.92	12.9	1242	959	467	95	12	654	585	122	5	"	"	"	"
26843	"	10.55	11.40	8.68	8.62	17.6	2673	8002	4467	695	122	5551	4680	1221	38	"	"	"	"
26844	"	11.40	12.09	7.05	6.88	16.5	1725	5008	2712	449	74	3455	2965	764	26	"	"	"	"
26845	"	12.10	12.55	6.36	6.15	15.4	2674	7664	3864	696	107	5396	4395	1047	27	"	"	"	"
26846	"	12.56	12.56	5.51	5.28			48	30		80	short	that	the	run	summary	is		
26847	"	12.56	13.27	5.50	5.26	14.0	1840	4930	2380	479	67	3473	2871	630	21	"	"	"	"
26848	"	14.34	14.53	7.71	8.34	17.2	1101	3372	1920	287	49	2342	1881	516	12	"	"	"	"
26849	"	14.52	14.58	7.10	7.68	17.4	271	834	440	71	12	581	478	124	2	"	"	"	"
26850	"	14.59	15.34	6.96	7.53	16.4	2036	6050	3259	530	87	4232	3422	910	27	"	"	"	"
26851	"	15.36	16.17	6.13	6.65	15.7	2446	7114	3610	636	100	4976	4052	1015	23	"	"	"	"
26852	"	16.18	16.49	5.35	5.83	14.3	1820	5124	2570	474	68	3676	2793	816	12	"	"	"	"
26853	"	16.52	17.07	4.81	5.27	16.8	828	2263	1127	215	32	1560	1280	336	4	"	"	"	"

$\langle L \rangle$ $10^{30}\,cm^{-2}s^{-1}$	BHABHA $\int L\,dt$ nb^{-1}	$\int L\,dt$ 34711.44	IBM/TAPE	AT RUN START TOF [V]	AT RUN START I D [MA]	ONLINE RESET SUM MIPROC T_2 %	ONLINE RESET NORD 50 %	$\sum$ BHABHA	M/H	E_{BEAM}	MAG FIELD	REMARKS
3.56	2.11	34713.55	IBM	–	–	51	50	37	0	17500	4838	N50 hang up stop. //(Runs 26819 testing only)
7.60	3.53	34717.08	"	1.3	0.1	50	48	62	0	17500	4837	New pat. DMA timeout stop run
7.78	3.47	34720.55	"	0.8	0.1	50	45	61	1	17501	4837	" " "
6.50	10.19	34730.74	"	0.8	0.1	51	48	179	1	17500	4838	" " "
5.22	9.00	34739.74	"	0.7	<0.1	54	51	158	1	17501	4837	" " "
	2.45	34742.19	"	0.6	<0.1			43	1	"	"	" " " Two short t record all numbers
4.41	8.26	34750.45	"	"	"	54	53	145	4	17501	4836	" " "
3.63	5.69	34756.14	"	0.5	<0.1	51	55	100	3	17500	4836	beam dumped.
8.00	3.87	34760.01	"	0.8	<0.1	47	48	68	1	17500	4834	DMA timeout stop run.
6.46	17.42	34777.43	"			53	46	306	6	17.500	4834	DMA timeout stop run.
5.12	9.39	34786.82	"	0.65	<0.1	53	51	165	3	17.501	4836	DMA time out stop run
4.54	3.13	34789.95	"	0.59	<0.1	54	54	55	0	17.500	4834	~~DMA timeout stop run~~ DMA timeout stop run
4.07	9.22	34799.17	"	0.58	<0.1	52	53	162	3	17.500	4832	beam dump
5.49	15.77	34814.94	"	0.9	<0.1	53	49	277	7	"	4831	
5.03	5.18	34820.12	"	0.7	"	53	50	91	1	"	4830	DMA timeout, run stopped
4.02	7.12	34827.24	"	0.7	"	56	42	125	1	"	"	"
3.31	4.61	34831.85	"	0.6	"	55	54	81	1	"	"	"
3.07	2.73	34834.58	"	0.6	"	52	57	48	2	"	4828	beams dumped
7.09	13.26	34847.84	"	1.0	0.1	51	47	233	1	"	"	DMA timeout
6.12	10.93	34858.77	"	0.8	0.05	53	49	192	3	17.501	4830	"
5.22	5.18	34863.95	"	0.75	0.05	50	51	91	3	17.500	4830	—" —
4.24	13.26	34877.21	"	0.65	0.05	53	53	233	2	17.500	4831	
3.25	1.31	34878.52	"	0.55	>0.05	54	53	23	1	"	"	beams dumped
7.85	21.35	34899.87	"	1.0	0.1	52	45	375	9	17501	4834	
6.61	11.05	34910.92	"	1.0	<0.1	52	47	194	8	"	4835	DMA timeout, run stopped
5.51	16.00	34926.92	"	0.8	<0.1	53	51	281	2	"	4837	" " " "
full	of	zeroes !	"	0.7	<0.1							" " " "
4.29	7.06	34933.98	"	0.7	<0.1	54	53	124	3	"	4838	beams dumped
7.85	8.94	34942.92	"	1.1	0.1	50	44	157	1	"	4838	DMA timeout, run stopped
~~7.03~~ 26.86	2.16	34945.08	"	0.8	<0.1	54	49	38	0	"	4837	" " " "
6.69	12.87	34957.95	"	0.85	<0.1	52	47	226	3	17500	4838	JC8K collapsed, run stopped for JADEGO.
5.59	14.63	34972.58	"	0.85	<0.1	52	51	257	1	17501	4838	DMA timeout run stopped.
5.20	10.08	34982.66	"	0.65	<0.1	53	51	177	4	"	"	" "
4.17	4.10	34986.76	"	0.60	<0.1	53	52	72	2	17501	4837	Re Beam dumped

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME %	TIME (SECS)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	T_0 REJ $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT2	T_2 BIT17	PROCESSORS ON/OFF NSO	MIP	TOF	FAMP
26854	20/6/86	17.38	17.50	9.27	9.20	19.2	670	2149	1312	174	34	1459	1274	385	7	ON	ON	ON	OFF
26855	"	17.51	17.53				100									"	"	"	"
26856	"	17.54	18.00	8.56	8.43	18.5	357	1168	667	93	17	777	681	159	3	"	"	"	"
26857	"	18.01	18.36	8.31	8.16	18.9	2086	6685	3839	543	103	4614	3748	1116	22	"	"	"	"
26858	"	18.38	19.11	7.23	7.05	17.3	1996	6329	3507	519	90	4467	3466	1026	16	"	"	"	"
26859	"	19.15	20.00	6.30	6.10	16.9	2678	8002	4381	697	118	5514	4625	1208	26	"	"	"	"
26860	"	20.01	20.37	5.42	5.21	15.4	1609	4553	2282	419	65	3203	2527	672	25	"	"	"	"
26861	"	20.37	21.11	4.86	4.66	13.8	2028	5448	2655	528	73	3800	3166	771	26	"	"	"	"
26862	"	21.53	22.34	8.78	8.89	20.1	2454	7999	4521	639	128	5462	4623	1237	20	"	"	"	"
26863	"	22.36	22.37					203	110										
26864	"	22.39	23.22	7.34	7.36	18.1	2564	8002	4346	687	121	5522	4641	1259	34	"	"	"	"
26867		23.33	23.37					593	317										
26868	"	23.38	23.42	5.94	5.94	16.3	245	767	415	68	10	550	413	120	4	"	"	"	"
26869	"	23.44	0.34	5.83	5.82	15.4	2811	8002	4105	731	112	5632	4654	1152	24	"	"	"	"
26870	"	0.33	0.34	4.38	4.99		18												
26871	21/6/86	1.11	1.45	9.41	9.34	18.9	1754	5719	3355	456	86	3873	3291	943	18	"	"	"	"
26872	"	1.45	1.59	7.95	7.74	17.4	849	2629	1503	220	38	1835	1510	436	11	"	"	"	"
26873	"	1.59	2.23	7.43	7.26	17.6	339	1213	707	98	17	817	681	187	6	"	"	"	"
26874	"	2.07	2.50	7.15	7.03	16.4	2493	7530	4084	648	106	5318	4245	1209	35	"	"	"	"
26875	"	2.50	3.38	6.41	5.98	14.8	2822	8002	4043	734	108	5690	4487	1231	21	"	"	"	"
26876	"	3.38	4.02	5.25	5.12	13.7	1400	3824	1834	364	50	2734	2145	555	12	"	"	"	"
26877	"	4.27	5.21	9.29	9.27	17.9	2580	8002	4589	665	119	5541	4548	1246	22	"	"	"	"
26878	"	5.21	6.13	7.52	7.37	16.7	2660	8002	4276	692	115	5639	4506	1224	34	"	"	"	"
26879	"	6.14	7.01	6.21	5.73	14.9	2827	8002	3993	735	109	5608	4524	1171	24	"	"	"	"
26880	"	7.01	7.02	5.36	4.92	12.2	41	132	70	10	1	86	54	17	1	"	"	"	"
26881	"	7.05	7.05	5.34	4.90	14.9	101	289	147	26	4	191	175	37	1	"	"	"	"
26882	"	7.42	8.06	8.51	8.68	15.9	1674	4457	2143	373	59.4	2842	2600	554	22	"	"	"	"
26883	"	8.07	8.52	7.65	7.73	17.3	2465	7628	4046	642	111	5160	4334	1114	28	"	"	"	"
26884	"	9.44	9.52	8.79	8.79	15.6	396	1139	562	103	16.0	721	704	179	5	"	"	"	"
26885	"	9.52	10:38	8.11	8.68	16.0	2692	8002	4289	700	112	5661	4522	1199	27	"	"	"	"
26886	"	10:38	11.24	6.75	7.06	15.3	2258	8002	4199	717	110	5643	4409	1197	22	"	"	"	"
26887	"	11.24	12.14	5.75	6.08	13.8	2933	8002	3897	763	106	5778	4432	1106	16	"	"	"	"
26888	"	12.14	12.33	4.93	5.18	13.5	1116	2989	1372	290	39.2	2094	1717	370	7	"	"	"	"
26889	"	13.07	13.14	8.97	9.07	14.0	380	1257	743	98.8	18.7	881	655	208	5	"	"	"	"

$\langle L \rangle$ 10^{30} cm^{-2}s^{-1}	BHABHA $\int L dt$ nb^{-1}	$\int L dt$ EXP 36486.76	IBM/TAPE OUTPUT	AT RUNSTART TOF [V]	AT RUNSTART ID [MA]	ONLINE REJ. SUM MPROC T_2 %	ONLINE REJ. NORD50 %	Σ BHABHA	M/H	E_{BEAM}	MAG FIELD	REMARKS
8.84	6.89	34993.65	IBM	1.4	0.2	51	40	121	1	17501	4837	DMA timeout.
	9.36	34994.79	"	1.2	0.2			20	0	"	"	" too short record fully
8.46	3.19	34997.98	"	1.2	0.2	48	44	56	1	"	"	"
7.96	17.82	35015.80	"	1.2	0.2	51	44	313	7	17501	4835	"
7.65	15.94	35031.74	"	1.0	0.2	52	46	280	3	17500	4836	"
5.91	14.80	35046.54	"	0.9	0.2	52	47	260	5	17500	4835	Wonderful - a full run at last.
4.77	9.34	35055.88	"	0.8	0.1	53	52	164	1	17500	4834	
3.87	8.94	35064.82	"	0.7	0.1	53	53	157	2	17500	4834	Beam dumped
7.58	19.70	84.52	"	15	0.2	51	45	446	6	17501	4833	
6.44	0.46	35084.98	"	1.2	0.1			8	0			Too short
7.00	19.13	35104.11	"	0.9	<0.1	51	47	336	6	17500	4834	
5.73	1.31	35105.42		0.9	<0.1			23	0	"	"	DMA timeout
5.88	1.65	35107.07 ~~35105.76~~	"	0.9	<0.1	55	48	29	2	17500	4832	DMA timeout
4.90	15.32	35122.39	"	0.8	<0.1	54	42	269	5	17501	4833	
3.16	0.17	35122.56										Beam dumped
9.09	15.83	35138.39	"	1.3	0.1	49	43	278	6	17500	4831	DMA
7.65	6.60	35144.99	"	1.0	<0.1	53	44	146	1	17501	4831	DMA
7.41	2.85	35147.84	"	1.0	<0.1	51	43	50	2	"	"	DMA
6.78	18.62	35166.46	"	0.9	<0.1	53	47	327	5	"	"	DMA
5.30	16.45	35182.91	"	0.9	<0.1	53	51	285	5	17500	4831	
4.26	5.86	35188.77	"			54	53	103	2	17501	4832	Beams dumped
8.31	22.37	35211.14	"	1.35	0.15	51	44	393	7	"	4831	
6.32	19.59	35230.73	"	1.0	0.1	53	48	344	5	"	"	
4.63	14.40	35 245.13	"			52	51	253	2	"	"	
4.23	0.23	35 245,36	"	0.75	<0.1	48	54	4	0	17500	"	DMA timeout
3.67	0.34	35 245,70	"	"	"	55	53	6	0	"	"	Beams dumped
6.53	7.80	35253.50	"	1.2	0.15	50	50	177	1	"	"	DMA timeout
6.14	16.57	35270.07	"	1.1	0.15	53	47	241	5	"	"	Beams dumped
6.58	1.88	35271.95	"	1.05	0.15	49	57	37	4	"	4843	DMA timeout.
7.27	20.84	35292.79	"	0.95	0.15	53	47	366	3	"	"	
6.15	18.22	35311.01	"	0.75	0.1	51	49	320	5	"	"	
4.67	14.29	35325.30	"	0.65	0.1	54	53	251	1	"	"	
3.80	4.50	35329.80	"	0.55	0.05	54	56	79	1	"	"	Beams dumped
9.50	4.38	35334.18	"	1.0	0.2	50	47	77	2	"	"	DMA timeout.

RUN	DATE	START	STOP	AT RUN START I+	AT RUN START I−	DEAD TIME (%)	TIME (s)	RECORDS IN	RECORDS OUT	ALL ×10⁶	T2 REJ ×10⁶	T1 ACC SUM	T2 ACC SUM	T1 BIT 2 E_ch>6GeV	T2 BIT 17 2T.E_t ≥2T_R	PROCESSORS ON/OFF N50	MIP	TOF	FAMP
26890	21/6/86	13:16	13:46	8.48	8.62	17.3	1827	5682	3161	473	82	3997	3149	876	17	ON	ON	ON	OFF
26891	"	13:47	14:33	7.39	7.48	16.1	2712	8002	4207	705	113	5654	4352	1270	19	"	"	"	"
26892	"	14:33	14:47	6.27	6.35	16.7	804	2495	1243	209	35	1751	1258	340	11	"	"	"	"
26893	"	14:51	15:41	5.92	5.99	14.1	2911	8002	3868	758	107	5677	4438	1074	26	"	"	"	"
26894	"	15:43	15:51	5.10	5.17	13.1	509	1381	615	132	17	979	798	193	8	"	"	"	"
26895	"	16:45	17.27	9.88	9.89	19.1	2466	8002	4612	641	122	5596	4646	1308	26	"	"	"	"
26896	"	17:28	18.11	7.85	7.79	17.3	2568	7970	4341	668	115	5686	4339	1353	38	"	"	"	"
26897	"	18:13	18.58	6.61	6.57	16.1	2714	8002	4140	706	113	5679	4312	1196	28	"	"	"	"
26898	"	18:59	19.05	5.67	5.63	17.2	352	1044	565	91	16	712	518	158	7	"	"	"	"
26899	"	19.06	19.32	5.55	5.50	15.0	1528	4322	2154	397	69	3065	2600	671	17	"	"	"	"
26900	"	20:03	20:43	8.87	9.51	18.2	2316	7236	4081	602	109	4885	4258	1136	22	"	"	"	"
26901	"	21:15	21.27	9.49	9.47	18.5	705	2267	1343	184	34	1559	1313	371	10	"	"	"	"
26902	"	21:28	22:03	8.82	8.78	20.0	2080	6741	3950	541	108	4558	3980	1067	32	"	"	"	"
26903	"	22:04	22:43	7.60	7.53	18.6	2281	7173	4026	593	111	5029	4141	1168	20	"	"	"	"
26904	"	22:44	22:44	6.63	6.55	21.6	30	180	97	8	2	104	63	21	1	"	"	"	"
26905	"	22:45	23.31	6.59	6.51	17.5	2308	6952	3770	601	105	4738	4110	977	22	"	"	"	"
26906	22.6.86	0:00	0:16	9.04	9.48	22.6	928	3094	1888	241	55	2020	1900	476	14	"	"	"	"
26907	"	0:17	0:30	8.23	8.58	21.9	773	2663	1562	201	44	1803	1526	454	18	"	"	"	"
26908	"	0:32	0:48	7.70	8.01	21.5	953	3228	1864	248	53	2150	1864	523	16	"	"	"	"
26909	"	0:50	1:32	7.15	7.44	19.5	2506	8002	4367	652	127	5421	4736	1202	40	"	"	"	"
26910	"	1:32	1:55	6.11	6.37	18.0	1324	4063	2192	345	62	2844	2308	670	11	"	"	"	"
26911	"	1:55	2:15	5.65	5.90	17.2	836	2536	1311	216	37	1720	1471	368	10	"	"	"	"
26912	"	2:17	2:43	5.27	5.50	16.8	1566	3127	2697	408	62	3127	2697	643	12	"	"	"	"
26913	"	2:44	2:47	4.86	5.08	15.4	161	505	269	42	6	342	269	73	2	"	"	"	"
26914	"	3:17	3:25	9.10	9.39	19.4	468	1483	899	122	24	1001	849	237	6	"	"	"	"
26915	"	3:25	3:43	8.61	8.82	18.1	1067	2013	3395	278	50	2364	1917	528	8	"	"	"	"
26916	"	3:44	4:07	7.83	8.02	17.8	1347	4272	2457	351	63	2991	2351	653	18	"	"	"	"
26917	"	4:09	4:55	7.04	7.22	16.2	2711	8002	4267	705	114	5571	4553	1217	26	"	"	"	"
26918	"	4:55	5:42	5.97	6.14	15.5	2831	8002	4016	736	114	5568	4578	1124	24	"	"	"	"
26919	"	5:43	6:05	5.15	5.30	14.6	1336	3728	1855	348	51	2638	2053	505	10	"	"	"	"
26920	"	6:36	7:18	9.13	9.60	19.3	2485	8002	4642	647	125	5428	4626	1290	23	"	"	"	"
26921	"	7:27	7:54	2.08	7.52	16.9	1616	4764	2567	420	71	3355	2735	712	17	"	"	"	"
26922	"	7:58	8:09	6.32	6.74	16.7	634	1894	998	165	28	1307	1105	280	8	"	"	"	"
26923	"	8:11	8:59	6.05	6.46	15.2	2857	8002	3884	743	113	5583	4680	1055	23	"	"	"	"
26924	"	8:59	9:25	5.22	5.61	15.0	1507	4237	2034	392	59	2917	2414	540	6	"	"	"	"

<L> 10^{30} cm^{-2} s^{-1}	BHABHA ∫Ldt nb^{-1}	∫Ldt exp. energy nb^{-1}	IBM/TAPE OUTPUT	AT RUN START TOF (V)	AT RUN START ID (μA)	ONLINE REJ. Σ MHACC %T2	ONLINE REJ. N50 %(T1T2)	ΣBHABHA	MH	E_BEAM	MAG FIELD −1×G	REMARKS
8.49	17.02	35351.20	IBM	1.0	0.2	57	46	299	2	17.500	4844	DMA timeout
6.59	18.73	35369.93	"	0.75	0.1	52	49	329	4	17.500	4847	
5.48	4.72	35373.65	"	0.6	0.1	50	52	83	0	17.500	4847	DMA timeout
4.07	12.98	35386.63	"	0.6	0.1	53	53	228	6	17.501	4846	
3.38	1.88	35388.51	"	0.6	0.1	55	57	33	1	17.501	4847	beams dumped
9.23	24.42	35412.99	"	1.2	0.2	51	43	429	6	17.500	4847	
7.31	23:12 18:26	35436.11	"	0.9	0.2	52	47	406	4	17.501	4848	DMA time out.
5.68	16.97	35453.08	"	0.8	0.2	52	50	298	3	17.501	4848	
5.15	1.99	35455.07	"	0.8	0.1	48	49	35	0	17.501	4847	DMA time out.
4.63	7.06	35462.13	"	0.8	0.1	52	51	124	0	17.501	4847	Beams dumped.
8.39	20.15	35482.28	"	1.2	0.2	52	45	354	4	17.501	4847	Beams lost
8.49	7.00	35489.28	"	1.2	0.2	52	42	123	2	17.501	4847	DMA time out
7.69	16.11	35505.39	"	1.3	0.2	51	43	283	1	17.501	4847	DMA time out
6.74	16.85	35522.24	"	1.3	0.2	53	45	296	3	17.500	4847	DMA time out
5.68	8.17	35530.41	"	1.2	0.2	8	51	6	0	17.501	4847	DMA time out after < 1 minute.
4.59	11.79	35534.20	"	1.2	0.2	61	47	207	4	17.501	4847	Beam dumped.
9.25	8.31	35'542.51	"	1.7	0.3	50	40	146	2	17.500	4844	DMA time out
8.63	6.67	35'549.18	"			49	43	138	5	17.501	"	" "
7.94	8.77	35'557.95	"			48	44	154	3	17.500	"	" "
6.73	17.02	35'574.97	"			50	47	299	3	"	"	
5.51	9.39	35'584.36	"	1.2	0.2	53	47	165	2	"	4843	DMA time out
5.05	3.98	35'588.34	"	1.1	0.2	51	50	70	2	"	4842	"
4.22	7.34	35'595.68	"	1.0	0.2	51	52	129	—	"	"	"
4.10	.68	35'596.36	"	.95	0.1	50	49	12	—	"	4841	beams dumped
9.65	3.70	35'600.06	"	1.3	0.2	50	41	65	1	17.501	"	DMA time out
8.86	8.65	35'608.71	"	1.2	0.1	51	42	152	2	17.500	"	" "
7.74	10.76	35619.47	"	1.1	0.1	51	44	189	0	"	4841	" "
6.07	18.44	35637.91	"	1.0	0.1	51	48	324	4	"	"	
4.64	13.78	35651.69	"	0.8	0.05	52	51	242	4	"	"	
3.70	6.26	35657.95	"	0.7	"	53	52	110	3	"	"	beams dumped
8.13	20.21	35678.16	"	1.5	0.2	49	43	955	5	"	"	~~NO RUNSHEET PRINTED, see p. 113~~
6.15	10.53	35688.68	"	1.0	0.15	53	47	185	3	17.501	4842	DMA timeout
5.11	3.25	35691.94	"	0.8	<0.1	54	49	57	4	"	4844	DMA timeout
4.23	13.26	35705.20	"	0.85	0.1	53	53	243	3	17.500	"	
3.58	5.35	35710.55	"	0.75	<0.1	51	54	94	5	17.501	"	beams dumped

20/6/86

20/6/86 Cont.

muon digitizer missing : number 5.

18 05 JDAS error 64 AC2099 TOF-2 Q,X missing stn = 9 subadd = 4.

18 30 Jan Chwin comes in and hopefully fixes the problem. — (he does 18.05)

19 31 Z-chamber trip.

20 00 first 800 record run for many hours!

20.16 CELLO reports a magnet failure at DESY so we cannot refill for at least one hour. Carry on with present fill.....

20 30 Everything trips off — difficult to reset because all high voltages had tripped off!~~ccccc~~

21 13 Beam dumped & new fill start - clearly the DESY problem is solved?

22 37 Run 26863 stopped shortly after start because of time-out error. Skip it!

23:22 Problem with JETCH high voltage restored MOP after phonix Elsen. Runs 26865/6 lost.

23:56 YSPY muon digitizer missing : 162 status ?

21/6/86 00:06 " " " " " ??

Hardt on shift

1:10 JDAS Readout error 33 : missing LAM branch 2 crate 3 : TOF 1 counters

4:00 Warming on shift
gas check done OK

5:03 found MOP dead since 5:01:54 Ev. 6093 Traceback 00194C ges 001DE8 027688 02124C 352219
"output record is too long".

~~Stop~~ restart MOP by "RUN ZIMMONI" - OK now

5:36 Soft trip : ID + VTX dy

5:54 " "

5:56 JDAS readout error 74 : wrong LAM Nr. 1 or 1 (BPch)

5:59 Z-ch - trip

7:01 DMA - time out at run 26880 after ~ 120 events

7:49 JDAS readout error 64 : AC2099 TOF -2 , Q,X missing stn = 3 subadds = 1

21/6/86 08 00 Hellenbrand and Greenhan on shift

Gas check done, all OK.

14:15 muon digitizer 262 (crate 14) missing, reset o.k.

14:45 beam pipe chamber ERROR FOUND (pedestal map sigma deviations greater than 35% : 73)

15:01 since 14:23 Z-ch trip every 20 min
bp-ch valve failure, red button on, pressing green button did not reset störung
turning valve next to P14 cured the problem

15:10 bp-ch ERROR FOUND (the same as 14:45)

15:25 bp-ch — " — (puls area sigma deviations greater than 50% : 3)

16 00 Foster, Skard on shift.

Gas check OK.

18 30 bp.-ch Error : Pedestal map σ dev. > 35 % : 53. To the untrained eye, the pedestal histogram looks OK, though.

19 05 DMA timeout preceded immediately by Z-chamber trip.

DMA error: It is due to a "Wackelkontakt" in the front end bus of the NORD-CAMAC interface, in the system crate. It will be cared about on Monday, since it requires switching off the system crate, with all possible unpleasant consequences this may bring. J.O. Thanx dears for Jan.....

20 35 Muon digitizer 162 missing Crate 14 Nothing obviously wrong on visual inspection of crate 14.

20 43 Beams lost - everything tripped.

22 03 Again: Z-chamber trip followed by DMA timeout immediately after z-ch. reset

" bp-ch error: Pedestal map σ dev > 35 % : 6

22:15 " " : 3

23:05 Awful beam conditions for a few seconds : VTXC trip, then ID trip.

23:06 " "

23:19 Cello suggest new fill - we agree - then one is terrible---

Gas check done

Jan O.: Is this really just an accidental coincidence, with no causal connection?

22/6/86

0 00 Kleinwort, Stiffler on shift

0 16 DMA - timeout stop run and start next run

0 30 " " " "

0 50 " " " "

7 12 YSPY : Muon digitizer missing : 162

7 20 END of Run 26920: No runsummary printed. Next run started. Tried PRINT_OLD-RUNSUM (F17,F4)
~> Error message "YRUNSUM: SAVED SUMMARY FILE (D-F)RUNSUM-19:SYMB ERROR 28", but no runsummary appeared!
however, after offline at Gould plotter and successful printing of run 26921, run 26920 was printed successfully, too.
Section L4. JDAS Ops Manual !!

8 00 Rauchle & Warming on shift

gas check done OK

8 08 Z-ch-trip followed by DMA timeout immediately after z-ch. reset

22/6/86

9[45] Athan flow increased, because Zulauf and Kreislauf were found down at 9.8 and 9.5 resp. PWA
Gas has to be checked every 2 hours today !

10[07] muon digitizer #162 missing (YSPT) statistics ?

10[32] Z-ch-trip, no DMA timeout

11[47] JDAS readout error 33, Missing Lam br 4 cr 1 - fek point 40C
found MOP with completely distorted picture on the screen
restart of MOP only did not work - no response to Ctrl+C
therefore Stop run, reload FADC-processors from JDAS console by F15+F10, now it looks OK.

11[58] Vtx-ch- Soft trip, reset OK (in Rucksack)
Petra not able to refill for some time due to a broken pipe for pressurized air.

12[54] Roof-water-spraying on! - Don't forget to switch it off in the evening -

14:17 Had trig all chambers

16[00] Stephan, Ferst on shift

16[10] Gas check OK (Zulauf 9.9, Kreislauf 9.6)

16[33] Z-ch trip, Bφ-ch voltage failure. reset OK

16[50] Bφ-ch error Pulse area check OK

17[00] Bφ-ch error wire map check OK

17[50] " " pedestal map σ dev > 35% !! looks OK.

17[57] muon crate B had to be reset from hall .. in the meantime Z-ch trip.

18[15] Cello - new ill = 15 mms

18[25] Bφ-ch error pedestal map σ dev > : 7 Ferst OK

18[26] Beams dumped.

18[40] Check gas Zulauf 9.9 Kreislauf 9.6 so I've increased Äthan from 18⇒185

19[56] Beams hot, all chambers trips 20[00] roof-water turned off

22[15] Z-ch trip.

22[45] Z-ch trip, Bφ-ch voltage failure DMA timeout all at same time
Gas mix now Zulauf 10.1 Kreislauf 9.9.

23[05] YSTY dat error Trigger 1 output missing: 33

23.6.86

0[00] R. Hedgecock and H. Rieseberg

0[04] JDAS Readout error 44 - DMA TIMEOUT branch 2 crate 1 : Labdes

CARC	CARF	WCR	MAR	MODE	DMACOST	PIOCOST	ISR	IVR	WDOG
00606560	006560	000372	0574751	125000	000300	140204	000000	000120	000000

Start new RUN (#26955). Z-chamber trips was 2 min later (not before, see page 113)

0[15] Gas check done. Ethane primary pressure is decreasing, now at 10 bar. Watch. Bottle-battery 30 bar o.k.

0[30] VTXC Error reported :

Pedestal map	σ	> 35%	728
Pulse area	mean dev	> 60%	3
"	σ	> 80%	12

1[28] Simultaneously : Z-chamber trips, DMA Timeout, Muon crate 3 missing and VTXC error found.

2[10] Beams dumped

2[38] New fill ready

2[55] Background increases from TOF rate 1V ⇒ 3V, rapid beam decay.

3[13] Z-chamber trips, muon crate 3 missing, VTXC valve error all at once. Valve failure resets only with VS-gymnastics

5[10] Stops for beam dumps

5[42] NF ready

6[17] Z-chamber trips with DMA timeout

6[30] Changed over Äthan bottles on Main Gas System.

7[23] Switch off HV appears on screen followed by "Short Break".

7[35] Check with PKR. Short Break is likely to be a long one. Run magnet down to Soch.

9[00] Spitzer, Schmoll on shift

9[10] Gas check done: except Äthan ok.

9[25] Service called to solve the gas problem.

9[30] roof-water turned on

9[35] Restart : Late in the afternoon. Run magnet to 0.
Restart ca. 15[00]

9[15] PIO-DMA front end bus exchanged. J.O. No errors in Pulser run, cosmic test run with high tension.

14[20] " Restart ca. 20[00] "

16[00] Klasen & Steffens on Shift
Gas check OK

22[00] Roof Sprinkler turned off

22[15] Start Run # 26968 beam conditions not good.

according to PKR the problem is associated with the CELLO magnet not being ON. The beam orbits have required considerable local and global adjustment.
Never got a good beam.

Run	Date	Start	Stop	at run start I+	at run start I−	Dead time %	Time sec	Records in	Records out	All ×10⁶	TC_REJ ×10⁶	T1 Acc Sum	T2 Acc Sum	T1 Bit 2	T2 Bit 7	Processors on/off NSO	MIP	TOF	TRM
26925	22/6/86	9:58	10:01	7.89	8.77	20.7	173	603	354	45	9	392	339	84	1	ON	ON	ON	OFF
26926	"	10:02	10:12	7.72	8.57	24.0	625	2165	1237	163	39	1372	1379	303	9	"	"	"	"
26927	"	10:13	10:58	7.27	8.02	18.9	2648	8002	4344	687	130	5444	4964	1169	33	"	"	"	"
26928	"	10:58	11:45	6.07	6.71	16.2	2800	8002	4214	728	118	5535	4810	1110	31	"	"	"	"
26929	"	11:45	11:49	5.09	5.67	16.1	195	538	288	51	8	358	289	73	0	"	"	"	"
26930	"	11:51	12:37	4.98	5.56	14.1	2725	7470	3582	710	100	5297	4207	934	19	"	"	"	"
26931	"	13:07	13:18	8.85	9.00	19.8	641	2171	1273	167	33	1464	1212	325	7	"	"	"	"
88932	"	13:19	13:25	8.20	8.19	21.2	352	1176	672	92	19	768	673	170	6	"	"	"	"
26933	"	13:26	14:09	7.89	7.64	17.8	2562	8002	4481	667	119	5543	4551	1184	42	"	"	"	"
26934	"	14:09	14:13	6.54	6.33	16.4	168	541	308	44	7	375	288	80	1	"	"	"	"
26935	"	14:14	15:01	6.42	6.20	15.7	2610	7571	3819	680	106	5247	4324	971	12	"	"	"	"
26936	"	15:03	15:17	5.39	4.96	14.1	756	2084	1032	197	28	1448	1182	275	2	"	"	"	"
26937	"	15:46	15:47	8.90	8.87			— only for events —											
26938	"	15:48	16:32	8.70	8.66	16.8	2618	8002	4409	681	114	5509	4459	1220	38	"	"	"	"
26939	"	16:32	17:25	~~7.86~~ 7.57	~~6.75~~ 6.98	14.6	2823	8002	4127	734	107	5702	4361	1109	23	"	"	"	"
26940	"	17:25	17:30	5.86	5.75	13.4	279	783	375	73	10	562	387	110	3	"	"	"	"
26941	"	17:32	17:33	5.75	5.64			— only few events —											
26942	"	17:34	17:57	5.69	5.58	13.7	1291	3548	1754	337	46	2527	1903	484	10	"	"	"	"
26943	"	17:58	18:05	5.29	5.18	15.1	287	831	414	75	11	574	398	108	0	"	"	"	"
26944	"	18:06	18:27	5.17	5.05	12.8	1237	3239	1688	322	41	2278	1876	125	16	"	"	"	"
26945	"	18 54	18 59	9.53	9.51	18.2	248	889	530	64	11	601	464	133	4	"	"	"	"
26946	"	19 01	19 35	9.08	9.00	16.3	2052	6533	3829	534	86	4378	3416	925	23	"	"	"	"
26947	"	19 36	19 36					54	31										
26948	"	19 39	19 56	7.55	7.33	16.2	991	2985	1594	257	41.7	2700	1620	430	11	"	"	"	"
26949	"	20 26	20 34	10.00	9.67	19.1	481	1667	1021	125	23	1131	875	254	6	"	"	"	"
26950	"	20 36	21 18	9.29	8.84	17.3	2520	8002	4602	657	113	5605	4456	1189	31	"	"	"	"
26951	"	21 24	22 10	7.53	6.96	16.1	2717	8002	4261	707	114	5664	4547	1199	27	"	"	"	"
26952	"	22 11	22 48	6.33	7.58	15.3	2191	6219	3200	570	87	4383	3384	864	20	"	"	"	"
26953	"	22 50	23 06	5.66	5.04	13.6	940	2580	1287	245	33	1836	1423	294	3	"	"	"	"
26954	"	23 35	0 15	9.69	9.88	17.8	2357	7722	4618	613	109	5460	4082	1242	31	"	"	"	"
26955	23.686	00 19	00 51	7.46	7.64	16.8	1937	5995	3315	504	85	4211	3221	862	19	"	"	"	"
26956	"	00 52	1 14	6.58	6.69	16.4	1231	3623	1941	321	52	2525	1973	512	15	"	"	"	"
26957	"	1 15	1 30	6.08	6.18	14.8	837	2444	1295	218	32	1740	1321	334	6	"	"	"	"
26958	"	01 23	208	5.70	5.80	14.6	2018	5669	2801	525	77	4049	3095	691	20	"	"	"	"
26959	"	2 44	3 08	9.31	8.76	22.0	1389	4556	2703	361	80	3018	2774	717	14	"	"	"	"

⟨L⟩ 10^{30} cm^{-2}s^{-1}	Bhabha ∫L dt (nb^{-1})	∫L dt Exp. Guigay (nb^{-1})	IBM/TAPE OUTPUT	at run start TOF [V]	at run start ID [mA]	ONLINE REJECT SUM MIPREC T2 %	ONLINE REJECT NOISO Trate %	Σ Bhabha	MH	E Beam (GeV)	MAG. FIELD −1×G.	Remarks
		(35710.55)										
7.88	1.20	35711.75	IBM	1.8	0.3	48	44	21	0	17.500	4847	DMA time out
7.74	5.64	35717.39	"	"	"	48	44	99	4	"	"	" "
6.56	19.76	35737.15	"	2.0	0.3	53	47	347	8	17.501	"	
4.89	14.69	35751.84	"	1.1	0.2	53	49	258	5	17.500	4848	
4.12	0.63	35752.47	"	0.7	0.1	47	49	11	1	17.501	"	
3.72	11.33	35763.60	"	"	"	53	53	199	3	"	4850	
8.37	6.09	35769.69	"	1.0	0.2	48	43	107	1	17.500	4850	DMA time out
7.86	3.07	35772.76	"	1.2	0.2	46	45	54	0	17.501	"	— " —
6.96	18.33	35791.09	"	1.7	0.2	51	45	322	4	"	"	
6.19	0.97	35792.06	"	0.8	0.1	44	47	17	—	"	"	DMA time out
4.69	13.27	35805.33	"	0.8	0.1	51	51	233	4	"	4851	DMA time out
3.96	3.53	35808.86	"	0.75	≈0.1	52	52	62	1	17.500	4852	beams dumped
10.25	0.34	35809.20	"	1.2	0.2							DMA time out
7.65	22.32	35831.52	"	1.2	0.2	51	46	392	4	17.500	4850	
5.88	16.40	35847.92	"	0.6	0.15	52	50	288	5	17.500	4852	
4.84	1.59	35849.51	"	0.52	0.1	51	54	28	1	17.501	4850	DMA time out
5.10	0.34	35849.85	"	0.5	<0.1							DMA time out
4.28	7.29	35857.14	"	0.5	<0.1	52	52	128	0	17.500	4851	DMA time out
4.08	1.31	35858.44	"	0.48	<0.1	47	53	23	0	17.501	4851	DMA time out.
3.72	5.29	35863.71	"	0.44	<0.1	54	56	93	0	17.501	4851	~~DMA time out~~ Beam dumped.
9.87	2.85	35866.56	"	1.0	0.2	46	42	50	1	17.500	4850	DMA time out
8.84	16.80	883.36	"	0.8	0.2	54	43	295	8	17.501	"	"
	0.06	883.42	"	0.6	0.1							"
7.11	7.63	891.05	"	0.6	0.1	51	48	134	1	"	"	beams lost
10.17	6.09	887.14	"	1.0	0.2	47	40	107	2	17.500	4850	DMA time out
8.43	22.37	919.51	"	0.8	0.2	51	44	393	6	17.501	4850	
6.19	18.67	35938.18	"	0.8	0.1	54	48	328	8	17.500	4850	
4.99	12.18	35950.36	"	0.58	<0.1	52	50	214	1	17.501	4849	DMA timeout.
4.46	4.10	35954.46	"	0.5	<0.1	53	52	72	0	17.501	4847	Beams dumped
9.41	25.79	35980.25	"	1.0	.15	50	41	453	7	17.501	4847	DMA time out
7.05	15.60	35995.85	"	0.75	0.1	51	46	274	6	17.501	4847	DMA TIME-OUT
5.47	7.97	36003.82	"	0.7	0.1	51	48	140	4	17.501	4847	DMA TIME-OUT
4.87	4.44	36008.26	"	0.6	<0.1	53	49	78	3	17.500	4837	DMA TIME-OUT
4.21	8.71	36016.97	"	0.6	<0.1	53	52	153	2	17.500	4838	DMA TIME-OUT, beams dumped
7.93	13.21	36030.18	"	1.25	0.1	51	42	232	2	17.501	4835	DMA TIME-OUT

RUN	DATE	START	STOP	AT RUN START I+	AT RUN START I-	DEAD TIME %	TIME (SECS)	RECORDS IN	RECORDS OUT	ALL *10^6	TP Rej *10^6	T1 ACC SUM	T2 ACC SUM	T1 BIT2 E26>6GeV	T2 BIT1 2T1.E4 ≥ 2T2	PROCESSORS ON N50	PROCESSORS ON MIP	PROCESSORS ON TOF	FH
26960	23.6.86	3^09	3^51	8.05	7.59	19.1	2487	8002	4549	647	124	5483	4607	1219	28	ON	ON	ON	
26961	"	3^52	4^05	6.73	6.33	18.6	747	2494	1366	194	36	1713	1374	311	4	"	"	"	
26926	"	4^08	4^53	6.35	5.97	17.6	2713	8002	4314	706	125	5504	4681	1067	23	"	"	"	
26963	"	4^54	4^55	5.46	5.11	14.4	19	79	45	5	1	47	32	9	0	"	"	"	
26964	"	4^56	5^08	5.42	5.07	16.1	674	1942	941	175	28	1327	1185	229	7	"	"	"	
26965	"	5^46	6^19	8.12	8.63	18.4	1947	6137	3392	506	93	4179	3587	877	17	"	"	"	
26966	"	6^26	7^13	6.30	6.78	16.8	2745	8002	4320	714	120	5565	4764	1065	32	"	"	"	
26967	"	07^13	7.24	5.22	5.68	15.4	571	1695	847	148	25	1193	992	232	2	"	"	"	
26968	"	22:17	22:34	7.29	7.57	25.0	844	2703	1682	219	54	1766	1721	366	11	"	"	"	
26969	"	22:36	23:54	6.85	7.12	19.6	2629	8002	4632	683	134	5318	4919	1044	44	"	"	"	
26970	"	23.41	0.29	5.53	5.78	18.8	2442	7103	3742	634	119	4719	4498	846	35	"	"	"	
26971	24.6.86	0.29	1.08	4.77	5.00	16.7	2270	6335	3161	590	98	4288	4015	720	22	"	"	"	
26972	24.6.86	1.55	2.01	10.05	10.35	23.0	291	1089	674	76	17	709	613	164	5	"	"	"	
26973	"	2.01	2.04	10.11	9.81	24.0	130	434	281	34	8	320	274	61	3	"	"	"	
974	"	2.06	2.46	9.67	9.96	20.3	2374	7993	4836	617	125	5387	4623	1280	43	"	"	"	
975	"	2.47	2.52	NO LATCH BANK															
976	"	2.52	3.01	8.24	8.57	20.4	483	1608	917	126	26	1081	939	235	5	"	"	"	
977	"	3.01	3.44	8.00	8.27	18.6	2537	8002	4599	660	123	5399	4863	1197	34	"	"	"	
26978	"	3.45	4.10	6.94	7.19	18.0	1447	4607	2480	376	68	3199	2626	692	18	"	"	"	
26979	"	4^12	4^57	6.37	6.61	17.0	2641	7820	4181	687	117	5445	4589	1120	24	"	"	"	
26980	"	4^59	5^14	5.56	5.79	16.2	919	2628	1320	239	39	1810	1576	326	11	"	"	"	
26981	"	5^16	5^28	5.30	5.52	16.1	703	1978	980	183	29	1362	1193	243	9	"	"	"	
26982	"	6^19	6^59	10.17	10.85	21.1	2367	7961	4756	616	130	5340	4891	1243	29	"	"	"	
26983	"	7^00	7^43	8.80	9.45	18.9	2549	8002	4506	663	125	5468	4795	1156	37	"	"	"	
26984	"	7^43	8^19	6.80	7.54	18.0	1819	5693	3199	473	86	3336	3254	820	25	"	"	"	
26985	"	8^19	8^46	6.07	6.76	16.9	1217	3688	1917	316	53	2573	2743	477	9	"	"	"	
26986	"	8^46	9^12	5.59	6.26	17.0	1481	4294	2166	385	66	2968	2499	557	17	"	"	"	
26987	"	9^12	9^13					88	49										
26988	"	9^14	9^26	5.15	5.79	16.1	695	2069	1054	180	29	1424	1176	271	7	"	"	"	
26989	"	9^27	9^28					145	74										
26990	"	10^08	10^11	10.47	10.61	24.1	182	698	422	46	11	456	389	101	0	"	"	"	
26991	"	10^12	10^19	10.32	10.43	20.2	409	1406	896	106	21	934	824	212	8	"	"	"	
26992	"	10^20	10^42	10.03	9.80	19.9	1280	4273	2474	333	66	2944	2471	658	15	"	"	"	
26993	"	10^42	11^15	9.29	9.05	15.3	1933	5503	2775	503	77	3799	3236	687	15	"	"	"	

<L> 10^30 cm^-2 s^-1	BHABHA SLdt nb^-1	SLdt EXP. ENERGY	IBM TAPE OUTPUT	AT RUN START TOF [V]	AT RUN START J0 [mA]	ON LINE REJECT SUM MIPROC T2 %	ON LINE REJECT NOARD 50 T1+T2 %	Σ BHABHA	M/H	EBEAM	MAG FIELD kG	REMARKS
7.02	17.70	36 047,88	IBM	1.5	0.2	51	45	311	8	17.500	4835	
5.53	4.27	36 052.15	"	1.2	0.15	49	47	75	0	17.501	4834	DMA TIMEOUT
4.60	13.72	36 065.87	"	1.25	0.15	53	48	241	22	17.500	4834	
4.72	0.17	36 066.04	"	0.85	0.1	44	52	3	0	17.501	4834	DMA TIMEOUT
3.87	2.56	36 068.60	"	0.85	0.1	53	53	45	1	17.501	4834	DMA TIMEOUT , beams dumped
7.49	16,00	36 084.60	"	1.5	0.15	50	46	281	2	17.500	4834	DMA TIMEOUT
5.14	13.04	36097 64	"	1.1	0.1	54	47	229	4	17.501	4834	
4.06	3.36	36101.00	"	0.9	0.1	52	52	59	2	—"—	4834	BEAMS DUMPED.
4.53	4.38	36105.38	"	1.6	0.2	51	39	77	2	17,500	4834	DMA TIMOUT
4.56	13.26	36118.64	"	1.2	0.2	53	44	233	8	17.500	4845	
3.32	8.31 Midnight ~36 122	36126.95	"	1.0	0.2	53	49	146	3	17.500	4847	DMA TIMEOUT
2.64	7.17	134.12	"	1.0	0.2	54	52	126	1	17.501	4846	dump
10.02	2.90	137,02	"	1.75	0.2	46	40	51	1	17.500	4845	DMA TO
9.15	1.31	138,33	"	1.8	0.2	54	43	23	0	17.501	4846	DMA TO
9.70	25.05	163,38	"	1.5	0.2	50	41	440	4	17.500	4844	"
												Stopped
7.27	4.21	36 167.59	"	1.2	0.1	51	45	74	1	17.501	4844	DMA TO
7.72	18.33	36185.92	"	1.2	0.1	51	44	322	6	17.500	4844	
6.65	12.01	36 197.93	"	1.1	0.1	52	48	211	4	17.501	4844	DMA TO
5.54	15.20	36 213.13	"	1.0	<0.1	53	48	267	4	17.500	4844	DMA TO
4.57	4.33	36 217.46	"	0.85	<0.1	54	51	76	1	17.500	4844	DMA TO
4.43	2.79	36 220.25	"	0.8	<0.1	54	52	49	1	17.501	4844	Beams dumped
10.31	26.19	36 246.44	"	1.6	0.2	50	41	460	7	17.501	4844	DMA TO
8.02	21.86	36 268.30	"	1.3	0.1	52	45	384	2	17.500	4844	
6.70	13.15	36281.45	"	1.0	0.1	51	45	231	3	"	"	DMA TO
6.22	6.78	288.23	"	0.9	0.1	50	49	119	3	"	"	DMA TO
5.23	7.86	296,09	"	0.9	0.1	53	57	138	3	"	"	"
	0.06	296.15	"	0.8	0.1							"
4.73	4.16	300.31	"	0.8	0.1	50	50	73	0	"	"	"
	0.23	300.54	"				47	4	0	"	"	beams dumped
10.77	1.76	36302.30	"	2.2	0.2	48	42	31	2	17.501	4848	DMA Timeout
9.16	3.87	306.17	"	1.3	0.15	49	38	68	1	17.500	"	" "
9.60	13.15	319.32	"	1.3	0.12	51	43	231	9	17.501	4849	" "
5.17	9.51	36328.83	"	1.2	0.1	52	51	167	3	"	4850	beams dumped after partial beam loss

24.6.86 0.00 Naroska, Riesberg

Gas ok.

2.50 Z-chamber trip → DMA TIMEOUT → START NEW RUN

Run 26975
- No latch bank on colour TV (checked, it wasn't there)
- Z-chamber reset
- run restarted → No latch bank still → went to shake
- system crate, when I came back, latches were back. Start new run 26976

4 09 z-chamber trips, Muon crate 3 missing, VTXC-value failure, DMA time out · New run started

4 30 VTXC: Wire map deviation >2% : 2

5 26 Stop for refilling

6 15 New filling ready

6 42 VSPY: Muon digitizer 162 missing. Histograms and check report are normal.

8 00 Warming, Feist on shift
gas check done

10 15 Sprinkler turned on — don't forget to turn it off in the evening

16 00 Matsumura & Haidt on shift
Gas check done

16 30 13 muon chambers reconnected to HV. Total of dead chambers is down to 10 again. Testrun was successful. None of the chambers draws high currents. PWA

16 33 MIP were not on in run 27006, no start new one

17 05 Argon & Argon flow readjusted / Kreislauf was too low.
please check gas every 2 hours now until both Zulauf and Kreislauf are back to 100 Pfd

JDAS Error 64 AC2099 TOF-2 Q X missing stat N 3 A 0

18 18 IBM link down for about 10 minutes

20 20 Sprinkler off

20 50 DMA TO MOP Crash! JADEGO ok

21 — Run Summary break down

22 — " Program reloaded by Olsson — Why not do it yourself. Section A7 in JOBS manual!

25/6/86

0 00 Klein out, Stephens

0 15 gas check done

1 00 Partial beam Lost All ch. trip.

3 00 JOBS error 53 - System crate watchdog flag. PORTS = 000016 177777 (oct)

8 00 Feist & Hagemann on shift

8 10 Message on PETRA-TV: "Unterbrechung bis 10 Uhr" ⇒ Magnet to 1000 A

8 42 Gas check OK.

8 42 Sprinkler switched on

10 13 Message on PETRA-TV: Injection ⇒ Magnet to 7500 A

11 03 short track magnet → 1000 A

12 15 injection magnet → 7500 A

13 25 standard histograms OK.

14 39 beams lost - all chambers tripped

14 45 Call from HARRY: 15 min access for Cello

15 30 still short track magnet → 1000 A

16 00 Bethke, Kuies

17 30 JDAS Readout error 64, -AC2099 TOF-2 Q, X missing stat = 3 subcrate = 0

18 00 Sprinkler abgestellt

18 50 z-chamber HV fail

19 24 same JDAS as at 17 30

26/6/86 0:00 Dieckmann and Kado on shift

0:10 gas check done

0:44 DMA Time out br. 2 cr. 1 : Latches

1:03	"	"	"	"	"	"	"	but	started	with	VTXC	crate	– crate number unknown	
1:14	"	"	"	"	"	"	"	"	"	"	"	"	br. 1	cr. 4
1:33	"	"	"	"	"	"	"	"	"	"	"	"	br. 1	cr. 5
2:15	"	"	"	"	"	"	"	"	"	"	"	"	br. 1	cr. 4
3:48	"	"	"	"	"	"	"	"	"	"	"	"	br. 1	cr. 6
6:12	"												1	6

RUN	DATE	START	STOP	at run start I^+	at run start I^-	DEAD TIME %	TIME sec	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TOREF $\times 10^6$	T_1 Acc SUM	T_2 Acc SUM	T_1 Bit2	T_2 Bit17	Processors ON/OFF NSD	MIP	TOF	FPH
26994	24/6/86	12:28	12^{50}	8.52	7.84	20.9	1243	3881	2281	324	67	2567	2481	559	19	on	on	on	
26995	"	12^{51}	12^{51}					30	20										
26996	"	12^{53}	12^{58}	7.89	7.25	19.6	262	872	494	67	7	553	500	14	2	"	"	"	
26997	"	12^{59}	13^{19}	7.73	7.10	19.4	1166	3649	2000	303	59	2413	2179	455	21	"	"	"	
26998	"	13^{22}	13^{24}					301	168										
26999	"	13^{25}	13^{50}	7.18	6.57	18.5	1475	4406	2375	383	70	3005	2742	611	18	"	"	"	
27000	"	13^{51}	14^{19}	6.67	6.08	18.6	1647	4801	2609	428	79	3200	2944	632	16	"	"	"	
27001	"	14^{19}	14^{21}	6.97	5.61	17.9	493	1571	823	129	23	1040	888	198	3	"	"	"	
27002	"	14^{30}	14^{31}					132	70										
27003	"	14^{31}	14^{36}	5.99	5.43	17.3	259	831	432	67	11	553	474	107	3	"	"	"	
27004	"																		
27005	"																		
27006	"	16^{53}	16^{57}	10.86	10.67	48.3 !	173	615	322	44	21	274	286	73	1	"	OFF	OFF	OFF
27007	"	16^{57}	17.33	10.39	10.52	24.5	2056	7166	4393	535	131	4645	4491	1109	28	"	ON	ON	OFF
27008	"	17.33	18.12	9.45	9.26	21.7	2271	7574	4458	591	128	5010	4662	1139	29	"	"	"	"
27009	"	18^{12}	19^{12}	8.27	8.09	43.3	3552	8002	4734	524	400	5196	4870	1205	28	"	"	"	"
27010	"	19^{12}	19^{35}	6.81	6.64	18.8	1377	4182	2322	358	67	2833	2480	604	21	"	"	"	"
27011	"	19^{36}		6.33	6.11	17.8	927	2809	1474	241	42	1870	1675	360	12	"	"	"	"
27012	"	20^{24}	20.48	10.95	10.95	22.5	1267	4452	2712	330	74	2870	2601	712	22	"	"	"	
27013	"	20.49	21.29	10.12	10.13	22.4	2265	7691	4466	590	132	5067	4601	1185	35	"	"	"	"
27014	"	21.30	21.48	8.82	8.81	23.2	1065	3557	2010	277	64	2375	2104	513	12	"	"	"	"
27015	"	21.50	22.07	8.16	8.14	22.6	361	1240	707	94	21	783	684	172	8	"	"	"	"
27016	"	22^{24}	22.18	7.85	7.83	21.6	527	1755	10/4	137	30	1158	1017	255	7	"	"	"	"
27017	"	22.19	23.02	7.59	7.58	20.9	2601	8002	4617	676	142	5474	4685	1152	27	"	"	"	"
27018	"	23.03	23.16	6.65	6.63	20.1	761	2338	1246	198	40	1593	1332	334	7	"	"	"	"
27019	"	23.17	23.27	6.39	6.38	18.8	582	1830	974	151	28	1248	1036	263	8	"	"	"	"
27020	25/6/86																		
27021	"	0.26	0.48	11.35	10.73	23.7	1347	4734	2913	350	83	3100	2783	733	17	"	"	"	"
27022	"	0.51	1.28	10.40	9.82	21.3	1867	6007	3461	486	103	4075	3506	881	25	"	"	"	"
27023	"	1.30	1.32	7.43	6.99	16.4	106	355	190	28	4.5	239	190	48	0	"	"	"	"
27024	"	1.33	1.36	7.36	6.93	18.9	139	503	294	36	6.8	343	270	78	3	"	"	"	"
27025	"	1.37	2.07	7.28	6.84	17.8	1783	5294	2824	464	82	3704	2813	797	19	"	"	"	"
27026	"	2.08	2.55	6.33	6.22	15.9	2782	8002	4108	724	115	5611	4424	1167	25	"	"	"	"
27027	"	2.55	3.04	5.82	5.44	15.2	494	1458	685	128	19	1006	777	177	6	"	"	"	"

$\langle L \rangle$ $10^{32}\,cm^{-2}s^{-1}$	Bhabha $\int L dt$ nb^{-1}	$\int L dt$ EXP. ENERGY 3632.83	IBM/TAPE OUTPUT	at run start TOF (V)	at run start ID (μA)	ONLINE REJECT SUM MIPRA T_2 %	ONLINE REJECT NUROSD $T_1 T_2$ %	$\sum$ BHABHA	MH	E_{beam}	MAG. FIELD $-1 \times G$	REMARKS
7.56	8.86	36338.79	IBM	1.4	0.3	52	43	175	3	17.500	4840	DMA TO
	0			1.3	0.3							"
6.46	2.51	341.30	"	1.2	0.3	46	50	44	1	"	"	"
6.61	8.20	349.50	"	"	4	49	47	144	2	"	"	"
	0.28	344.78	"	"	"							"
5.67	8.14	357.92	"	1.1	0.2	54	47	143	3	"	"	"
4.91	9.11	367.03	"	"	"	52	47	160	3	"	"	"
4.55	3.19	370.22	"	"	"	47	50	56	0	"	"	"
	0.23	370.45	"	"	"							"
4.69	1.37	371.82	"	"	"	49	50	24	1	"	"	beams dumped
	—	—										junk
	—	—										"
7.65	1.42	36373.24	"	2.0	0.5		51	25	1	17.500	4840	
10.80	25.39	36398.63	"	2.0	0.5	49	40	446	7	17501	"	DMA TO
9.47	21.97	36420.60	"	1.5	0.4	50	42	386	5	17500	"	DMA TO
5.23	20.84	36441.44	"	1.3	0.3	52	42	366	6	17501	"	
5.35	8.65	36450.09	"	1.2	0.2	51	46	152	1	17500	"	DMA
4.32	4.50	36454.99	"	1.1	0.2	50	45	86	1	"	4839	beams dumped
10.20	12.81	36467.80	"	1.7	0.4	48	40	225	7	"	4837	DMA
8.06	20.50	36488.30	"	1.3	0.2	48	43	360	3	17501	4838	DMA
6.47	7.63	495.93	"	1.2	0.15	49	45	134	5	"	"	DMA
5.66	1.82	497.75	"	1.1	0.1	43	45	32	0	"	4837	DMA
5.27	3.81	501.56	"	1.1	0.1	48	44	67	0	17500	4838	Stopped to rebuild YRUNSM
9.85	14.91	36516.47	"	1.0	0.1	51	46	262	6	"	4837	DMA
4.16	3.60	36520.11	"	1.0	0.1	49	48	60	2	17501	4838	DMA
4.06	2.45	36522.56	"	0.9	0.1	50	48	43	0	"	4837	beams dumped
~~7.86~~			"	1.2								no events. weird day anew.
9.86	14.12	36536.68	"	1.2	0.2	47	40	248	2	17.500	4837	DMA
7.91	14.86	36551.54	"	1.1	0.15	50	44	261	4	17.500	4838	DMA
6.12	0.74	36552.28	"	0.72	.05	50	49	13	0	17.501	4837	DMA
5.85	0.87	36553.25	"	0.70	<.05	51	44	17	0	17.501	4837	DMA
5.64	11.67	36564.92	"	0.70	<.05	50	48	205	4	17.501	4837	DMA
4.57	12.58	36577.50	"	0.62	<.05	52	50	221	5	17.501	4837	
4.10	1.42	36578.92	"	0.59	<0.05	48	55	25	2	17.500	4837	Beam dumped.

RUN	DATE	START	STOP	AT RUN START I+	AT RUN START I-	DEAD TIME %	TIME (SECS)	RECORDS IN	RECORDS OUT	ALL * 10^6	TΦ Rej * 10^6	TiAcc SUM	TLAcc SUM	TiBTT2 $E_{kk} > 6$	TiBTT7 2T.Ek ≥ 2TR	PROCESSORS N/S	PROCESSORS M/I	PROCESSORS TAF	PROCESSORS OBS
27028	25/6/86	3.40	3.59	11.19	11.23	22.5	1098	3918	2453	285	64	2693	2138	665	16	ON	OU	ON	
27029	"	3.59	4.30	10.40	10.45	21.5	1796	6158	3775	467	100	4177	3469	1039	25	"	"	"	
27030	"	4.31	4.47	9.28	9.33	19.9	955	3287	1968	248	49	2294	1812	593	14	"	"	"	
27031	"	4.47	5.01	8.76	8.80	19.8	545	1883	1105	142	28	1297	1022	309	3	"	"	"	
27032	"	5.02	5.47	7.43	7.51	16.7	2648	8002	4309	689	115	5642	4298	1248	25	"	"	"	
27033	"	5.47	6.16	6.46	6.54	15.7	1706	4901	2563	441	70	3456	2742	733	18	"	"	"	
27034	"	6.44	7.21	11.36	11.38	23.0	2240	8002	4936	583	134	5419	4595	1387	33	"	"	"	
27035	"	7:22	8:00	9.79	9.82	22.3	2299	8002	4879	598	133	5418	4538	1343	23	"	"	"	
27036	"	8:01	8:04	8.53	8.55	21.7	169	697	415	44	10	480	308	118	1	"	"	"	
27037	"	12:25	12:29	10.09	10.29	21.3	190	660	411	49	11	455	368	99	3	"	"	"	
27038	"	12:30	13:10	9.92	10.11	20.2	2428	8002	4853	632	127	5477	4649	1284	28	"	"	"	
27039	"	13:11	13:50	8.53	8.72	18.9	2336	7509	4252	609	115	5163	4131	1246	26	"	"	"	
27040	"	13:52	13:57	7.41	7.59	19.4	274	922	516	71	14	623	515	146	2	"	"	"	
27041	"	13:57	14:24	7.26	7.43	18.0	1593	4951	2693	415	75	3461	2736	816	24	"	"	"	
27042	"	14:25	14:34	6.62	6.79	18.3	546	1742	962	142	26	1190	964	259	9	"	"	"	
27043	"	14:35	14:38	6.40	6.56	17.6	193	586	323	50	9	398	354	81	2	"	"	"	
27044	"	16:59	17:03	10.86	10.82	20.8	208	754	450	54	11	509	399	130	7	"	"	"	
27045	"	17:05	17:45	10.63	10.69	19.6	2378	8002	4825	619	121	5553	4356	1381	36	"	"	"	
27046	"	17:46	18:27	9.14	9.10	18.5	2483	8002	4594	646	119	5520	4501	1300	29	"	"	"	
27047	"	18:28	18:34	7.88	7.84	18.2	347	1150	648	90	16	774	620	181	4	"	"	"	
27048	"	18:36	19:19	7.67	7.63	17.9	2579	8002	4385	671	120	5613	4392	1269	38	"	"	"	
27049	"	19:20	19:38	6.66	6.63	17.5	1040	3197	1757	271	47	2200	1811	489	11	"	"	"	
27050	"	20:19	20:46	11.06	11.17	21.6	1654	5845	3687	431	93	3373	3277	1031	26	"	"	"	
27051	"	20:48	21:27	9.87	9.98	20.9	2313	8002	4813	476	126	5534	4416	1424	30	"	"	"	
27052	"	21:28	22:09	8.54	8.65	19.5	2451	7913	4600	637	124	5444	4464	1320	33	"	"	"	
27053	"	22:10	22:57	7.41	7.51	17.8	2585	8002	4502	672	120	5604	4437	1320	24	"	"	"	
27054	"	22:57	23:03	6.38	6.45	20.5	330	1079	561	85	17	733	533	130	3	"	"	"	
27055	"	23:04	23:13	6.26	6.33	16.4	468	1455	724	122	20	1051	737	208	7	"	"	"	
27056	26/6/86	0:44	0:46	10.81	10.50	21.4	51	240	157	13	3	144	111	29	1	"	"	"	
27057	"	0:48	1:04	10.68	10.37	20.8	976	3276	2006	254	53	2261	1823	547	9	"	"	"	
27058	"	1:05	1:16	9.99	9.69	19.6	634	2126	1312	165	32	1488	1153	357	10	"	"	"	
27059	"	1:17	1:36	9.57	9.28	19.5	1113	3674	2156	290	57	2539	2037	588	10	"	"	"	
27060	"	1:37	2:18	8.92	8.64	18.7	2400	7707	4286	624	116	5383	4296	1370	32	"	"	"	
27061	"	2:22	3:06	7.70	7.44	17.7	2625	8002	4292	683	121	5670	4370	1304	36	"	"	"	

∠L7 $10^{30} cm^{-2} s^{-1}$	BHABHA SLdt nb^{-1}	SLdt EXP. ENERGY	IBM/TAPE OUTPUT	AT RUN START TOF [V]	AT RUN START ID [μm]	ON LINE REJECT SUM MIPROC T_2 %	ON LINE REJECT WORDS50 TAF2 %	Σ BHABHA	N/H	E BEAM	MAG FIELD -1*G	REMARKS
11.39	14.18	36573.10	IBM	1.2	0.2	49	39	249	S	17.501	4836	DMA
10.24	19.07	36612.17	"	1.1	0.1	49	40	335	5	17.500	4838	DMA
8.84	9.96	36622.13	"	0.9	0.1	50	41	175	1	17.501	4837	DMA
7.76	5.18	36627.31	"	0.8	0.1	48	43	91	0	17.500	"	DMA
6.00	16.79	36644.10	"	0.8	0.1	51	47	295	6	"	4835	
5.20	9.45	36653.55	"	0.6	0.05	53	49	166	3	"	4836	beams dumped
10.97	26.19	36679.74	"	1.2	0.1	49	39	460	7	17.501	4838	
8.73	21.01	36700.75	"	1.1	0.1	49	40	369	6	17.500	4837	
7.91	1.82	36702.57	"	0.7	0.05	40	42	32	1	17.501	4838	beams dumped
10.51	1.82	36704.39	"	1.1	0.2	54	40	32	1	17.501	4844	DMA
9.32	24.48	36728.87	"	1.1	0.2	51	40	430	9	17.500	"	
7.75	20.72	36749.59	"	0.9	0.2	49	45	364	8	17.501	"	DMA
6.32	1.71	36751.30	"	0.8	0.15	49	46	30	0	17.500	4847	DMA
6.51	11.73	36763.03	"	0.8	0.15	50	47	206	5	"	4848	DMA
6.08	3.24	36766.27	"	0.8	0.15	49	46	57	1	"	"	DMA
4.57	0.80	36767.07	"	0.8	0.15	56	47	14	0	17.501	4849	beams lost
12.39	2.79	36769.86	"	1.1	0.2	47	42	49	1	17.500	4844	DMA
10.54	28.64	36798.50	"	0.9	0.2	49	41	503	7	"	"	"
8.18	21.35	36819.85	"	0.8	0.15	50	44	375	4	"	"	
7.00	3.07	36822.92	"	0.7	0.15	47	45	54	1	"	"	DMA
6.14	18.73	36841.65	"	0.7	0.15	51	47	329	6	17.501	"	
5.24	6.89	36848.54	"	0.7	0.15	~~50~~ 51	46	121	2	"	"	beams dumped
11.22	21.35	36869.89	"	1.2	0.2	48	38	375	3	17.500	4844	DMA
9.36	23.06	36892.95	"	1.0	0.2	49	41	405	2	"	"	
7.31	19.70	36912.65	"	0.9	0.1	50	43	346	3	"	"	DMA
5.96	17.31	36929.96	"	0.75	0.1	51	45	304	9	"	"	~~DMA~~
4.58	1.37	36931.33	"	0.7	0.1	50	51	24	0	"	"	DMA
5.37	1.76	36933.09	"	0.6	0.1	52	52	31	1	"	"	dumped
11.08	0.46	36933.55	"	1.1	0.1	33	38	8	0	17.501	4841	DMA Time Out
10.69	11.39	36944.94	"	1.0	0.1	50	40	200	1	17.500	"	" " "
10.27	6.66	36951.60	"	0.9	0.1	57	40	117	1	17.501	4840	" " "
9.21	9.57	36961.17	"	0.9	0.1	50	43	167	5	17.500	"	" " "
7.67	18.41	36979.52	"	0.8	0.05	57	46	357	5	17.501	4841	" " "
6.13	17.42	36996.94	"	0.7	<0.05	52	48	306	4	"	4840	

Run	Date	Start	Stop	At Run Start I^+	At Run Start I^-	Dead Time [%]	Time [sec]	Records IN	Records OUT	ALL [$\times 10^6$]	Tϕreö [$\times 10^6$]	T1 acc SUM	T2 acc SUM	T1 B:t2 $E_{tot} > 6$ GeV	T2 B:t1 $2T_1 E_{tot} > 2T_2$	Processors ON/OFF NSO	MIP	TOF	FAH
27062	26/6/86	3:07	3:50	6.74	6.49	16.4	2583	7615	3948	672	170	5452	4037	1237	27	ON	ON	ON	OFF
27063	"	3:52	3:56	5.95	5.72	15.1	263	713	351	68	10	509	403	116	1	"	"	"	"
27064	"	5:11	5:52	9.81	10.09	19.8	2468	8002	4659	642	127	5557	4453	1271	36	"	"	"	"
27065	"	5:53	6:10	8.49	8.76	19.3	1008	3391	1939	262	50	2377	1743	583	8	"	"	"	"
27066	"	6:11	6:18	7.99	8.25	18.3	373	1261	704	97	17	866	676	196	5	"	"	"	"
27067	"	6:18	6:42	7.80	8.06	17.9	1400	4355	2398	364	65	2980	2501	263	15	"	"	"	"
27068	"	6:43	6:47	7.21	7.46	18.1	227	743	411	59	10	524	361	113	3	"	"	"	"
27069	"	6:47	7:33	7.10	7.35	17.0	2678	8002	4256	696	118	5640	4372	1313	41	"	"	"	"
27070	"	8:28	8:31	10.42	10.52	22.6	179	661	390	46	11	450	334	90	1	"	"	"	"
27071	"	8:32	8:57	10.25	10.35	20.4	1520	5160	3449	396	81	3590	2811	882	32	"	"	"	"
27072	"	8:58	9:20	9.29	9.39	19.0	1141	3692	2120	287	56	2574	2046	610	15	"	"	"	"
27073	"	9:21	10:07	6.48	7.13	15.9	2738	8002	4117	712	113	5821	4464	1201	37	"	"	"	"
27074	"	10:07	10:27	5.64	6.26	15.7	1169	3358	1671	305	48	2401	1707	487	11	"	"	"	"
27075	"	10:28	10:33	5.31	5.91	14.9	277	800	395	72	11	598	395	136	6	"	"	"	"
27076	"	10:37	10:38	5.18	5.77	13.1	68	203	109	18	2	141	96	31	2	"	"	"	"
27077	"	11:12	11:17	11.12	11.41	23.0	246	953	605	64	15	645	487	165	1	"	"	"	"
27078	"	11:18	11:26	10.85	11.14	21.2	445	1635	1058	116	25	1195	836	317	8	"	"	"	"
27079	"	11:27	12:03	10.50	10.78	22.3	2133	7839	4859	559	127	5385	2253	1415	39	"	"	"	"
27080	"	12:04	12:14	9.03	9.29	22.9	585	2135	1371	152	35	1439	1172	401	5	"	"	"	"
27081	"	12:15	12:43	8.63	8.90	22.1	1612	5691	3438	420	93	3906	3222	1000	25	"	"	"	"
27082	"	12:43	12:49	7.76	8.01	25.4	285	1037	662	74	19	683	534	189	4	"	"	"	"
27083	"	12:51	13:31	7.53	7.78	20.4	2368	8002	4590	616	126	5459	4460	1386	37	"	"	"	"
27084	"	13:31	14:15	6.55	6.79	18.5	2454	7654	4415	639	118	5315	4403	1270	30	"	"	"	"
27085	"	14:43	14:53	10.38	10.32	24.6	548	2048	1291	143	35	1378	1100	357	13	"	"	"	"
27086	"	15:00	15:21	9.75	9.69	21.5	1261	4420	2653	328	71	3052	2474	786	13	"	"	"	"
27087	No	Data																	
27088	"	15:29	15:37	8.75	8.70	20.3	450	1536	917	117	24	1071	825	276	6	"	"	"	"
27089	"	15:37	16:11	8.46	8.41	20.2	1748	5796	3284	455	91	3988	3103	1008	19	"	"	"	"
27090	"	16:54	17:23	10.37	9.50	22.5	1756	6182	3792	457	102	4139	3547	1030	30	"	"	"	"
27091	"	17:23	17:29	9.31	8.48	21.9	298	1077	643	77	16	738	536	187	10	"	"	"	"
27092	"	17:29	18:11	9.11	8.29	21.1	2420	8002	4708	629	132	5382	4582	1397	35	"	"	"	"
27093	"	18:11	18:26	7.55	6.97	19.8	827	2749	1523	215	43	1868	1574	451	12	"	"	"	"
27094	"	18:26	18:47	10.10	9.62	18.7	1172	3840	2211	310	58	2731	2065	628	12	"	"	"	"
27095	"	19:23	19:39	10.10	9.62	22.2	947	3289	1998	246	55	2245	1827	520	13	"	"	"	"
27096	"	1940	19:47	9.52	9.06	21.0	422	1516	875	109	23	1019	816	249	7	"	"	"	"
27097	"	19:48	19:57	9.24	8.79	21.0	548	1954	1162	142	29	1322	1090	128	7	"	"	"	"

<L> [$\times 10^{30}$ cm^{-2}s^{-1}]	Bhabha $\int L\,dt$ [nb^{-1}]	$\int L\,dt$ Exp. Energy [nb^{-1}]	OUTPUT IBM/TAPE	At Run Start TOF [V]	At Run Start ID [nA]	Online Reject Sum MIP T_2 [%]	Online Reject Non50 T_1+T_2 [%]	Σ Bhabha	MH	E_{beam} [GeV]	Mag. Field [-1G]	Remarks
5.03	14.40	37011.34	IBM	0.65	~0.0	51	49	253	2	17.501	4839	DMA Time Out
4.25	1.02	37012.06	"	0.6	~0.0	56	53	18	0	17.500	"	beams dumped
8.85	21.24	37033.30	"	1.0	0,05	50	43	373	8	"	4837	
8.09	9.56	37042.86	"	0.8	.	49	44	168	3	"	"	DMA
7.70	2.51	37045.37	"	0.8	.	49	46	44	1	"	"	DMA
7.00	8.54	37053.91	"	0.8	"	50	46	150	1	"	"	DMA
6.37	1.14	37055.05	"	0.8	"	50	47	20	2	"	"	DMA
5.90	18.22	37073.27	"	0.7	"	52	48	320	2	"	"	beams dumped
11.05	2.05	37075.32	"	1.1	<0.1	48	43	36	0	17500	4838	DMA timeout
10.39	16.05	37091.37	"	1.0	"	50	40	282	3	"	"	DMA timeout
8.66	10.48	37101.85	"	0.95	"	51	44	184	4	17.501	4840	DMA timeout
5.27	16.34	37118.19	"	0.7	"	51	50	287	2	"	"	
4.59	5.64	37123.83	"	0.6	"	51	52	99	2	17.500	4842	DMA timeout
4.12	1.76	37125.59	"	0.5	"	57	53	31	0	"	4844	stopped for DL300 repair work
4.48	0.46	37126.05	"	0.5	"	53	51	8	0	"	"	beams dumped
12.61	3.30	37129.35	"	1.25	0.2	44	38	58	0	17.501	4844	DMA timeout
12.92	5.75	37135.10	"	1.2	0.2	48	36	101	1	17.500	"	DMA timeout
11.90	26.53	37161.63	"	1.2	0.2	48	39	466	3	"	4845	" "
10.32	7.06	37168.69	"	1.1	0.2	46	37	124	3	"	4846	" "
8.79	15.49	37184.18	"	1.05	0.2	50	41	272	7	7	7	" " jolted!
7.61	2.45	37186.63	"	1.05	0.2	49	39	43	0	0	7	" " DMA connection
7.28	19.92	37206.55	"	1.0	0.2	48	44	350	5	17.500	4847	Run ended normally!
5.55	15.43	37221.98	"	0.95	0.2	52	48	271	6	17.501	"	beams dumped
10.36	6.95	228.93		1.2	0.22	46	38	122	1	0	"	DMA Timeout
9.47	14.75	37243.68	"	1.1	0.2	50	41	259	0	7	8	" "
				1.0	0.2							Novd Reload.
8.91	4.55	37248.23	"	1.0	0.2	50	42	80	4	7	7	DMA Timeout
6.70	13.38	37261.61	"	1.0	0.2	49	45	235	3	17.500	4848	Beams dumped
9.88	19.24	37280.85	"	1,2	0,15	48	40	338	7	17.501	4847	DMA Timout
9.42	2.79	37284.64	"	1.2	0.25	45	42	49	0	"	4847	DMA Timeout
7.52	20.15	37304.79	"	1.1	0.2	49	42	354	5	"	4848	D " "
6.88	5.86	37310.65	"	0.9	0.2	50	46	103	1	"	4847	~~Beam dumped~~
5.97	7.06	37317.71	"	~~1.15~~	~~0.1~~	52	44	124	2	"	"	Beams dumped
9.68	9.96	37327.67	"	1,25	0,2	49	41	175	3	"	"	DMA timout
8.98	3.87	37331.54	"	1.2	0.2	46	44	68	0	"	"	DMA timeout
8.48	5.58	37337.12	"	1.1	0.2	48	42	98	0	"	"	" "

26/6/86

8[00] Krokbiel & Warming on shift

gas check done, Helium flow slightly readjusted

9[12] soft trip ID, shortly afterwards z-ch-trip, partial beam loss

9[25] Water sprinkler turned on, dont forget to turn it off in the evening!

10[10] z-ch-trip

11.20 JDAS Error 64 AC2099 TOF-2 Q,X missing stn = 3 subaddr = 0

12.30 BPCH Error Found Wire-Map Dev. > 50%

13.45 " " " " " " "

13.31 Hvd gave some impatient jolts to the connector conglomerate in front of system crate. From then on no more DMA timeouts. Reasons to become superstitious. The moment I put down the stop after the previous sentence, a timeout error occured! ~~Hat~~ Run stopped. Naughty connectors treated with Contact 600 cleaning material. (In reality: "Tuner 600" spray from "Kontakt-Chemie.")

15.25. Another Timeout. Next lower level of contacts cleaned. After this the run did not start properly. Nord reloaded.

15.53 Z-Ch. Trip

16[00] Dieckmann, Olsson on shift

16[10] Beam dumped due to high background

16[10] Gas check done

19[25] In last fill-period, DMA was completely taken out of system crate (Krokbiel, Dieckmann Olsson), clean all IC's moved, several suspicious short circuit possibilities repaired and all put together again. 33 min. Next run goes smooth, so far ... After 4000 triggers, DMT Timout comm again!

21[15] More DMA timeouts than ever after that operation!

22[00] Whole DMA (units A,B,C) exchanged, DMA Timeout error still occurs in VTXC pulser runs ... Fan of system crate also exchanged (problems started after fan changed), DMA problem still there ...

23[00] IVG exchanged, Cable repaired, DMA T.O. error still there story continues...

27/6

0[00] Hill joins Dieckmann + Olsson on shift. Gas check done.

2[00] Bad/broken connections found in cables in the back of the system crate. After repairing these it works!!! We are back in business! Olsson + Dieckmann go home. Mainframe 61 is down. Reset using Novatrix program.

2[14] All central chambers tripped

2[15] On continuing the run the monster reared its ugly head again.
" DMA TIMOUT. Brand 2 crate 1 Latches.
Start new run.

2[30] Zch trip - vertex chamber voltage failure.

2[20] another DMA timout. as above.
Before a new run can be started Petra tell us to switch off the volts.

Mipac rejection seems quite low ~ 17%?

3[30] Beam again.

3[41] DMA Timout br 2 cr. 1. Latches Start Newrun

3[46] JDAS readout error 32 missing lam br 3 crate 5. Z ch part 2

3[47] " " " 64 AC2099 TOF-2 Q,X missing stn = 3 Subaddr = 4

3[50] DMA Timout. br 1 crate 3 beam-pipe chambers

4[00] Ian Duerdoth.

DMA TimOut br 2 crate 1 latches 000300 000001 177604

4[00] Zch. trip.

DMA TimeOut br 1 crate 3

5[33] JDAS Error 64 AC2099 TOF-2 Q,X missing stn = 3 subaddr = 4

5[36] DMA Timeout br 2 cr 1 latches

JDAS 33 Missing LAM br 3 cr 5 Zch part 2.

5[52] DMA TimeOut br 2 cr 1 latches

7[08] DMA TimeOut as above.

7[51] DMA Time Out & 7[39]

7[56] Zch trip.

8[00] Spritzer & Warming on shift
Gas check ok

8[10] DMA timeout start new run

8[50] —"—

8[47] Part of beam lost: All chamber trips

9[56], 10[02] DMA T-out, then in the next run Missing LAM br 3 cr 5 Z ch part 2 continuously. Stop Reset run Ini. Error comes up again. Try JADEGO Does not help.

Run	Date	Start	Stop	At Run Start I^+	At Run Start I^-	Dead Time %	Time (secs)	Records In	Records Out	All $\times 10^6$	T∅ Rej $\times 10^6$	T_1 Acc Sum	T_2 Acc Sum	T_1 bit2 Ecc >66V	T_2 bit17 27.E4 = 2.7T	Processors NSO	Processors MIP	On/OFF ToF	On/OFF FIMS	<L> $10^{30}\,cm^{-2}s^{-1}$	Bhabha $\int L dt$ nb^{-1}	$\int L dt$ EXP. ENERGY	IBM/Tape Output	At Run Start TOF EVT	At Run Start ID EVAT	Online sampl T_e %	Reject NSO $T_1 \cdot T_2$ %	Σ Bhabha	M/H	E_{beam}	Mag Field $\times$ G	Remarks
27098	26/6/86	20:00	20:01	8.87	8.43	29	58	204	125							"	"	"		7.58	0.63	37337.75	IBM	1.0	0.2	49	42	11	0	17.500	4847	DMA timeout
27099	"	20:02	20:31	8.81	8.37	21,4	1717	6003	3471	447	96	4078	3314	999	93	"	"	"		8,50	19,47	37350,22	"	1.0	0.2	48	44	219	3	"	"	" "
27100	"	20:32	20:32	~~7,84~~	7,52	-	-	40	25	-	-	-	-	-	-	"	"	"			0,17	37350,39	"	1,0	0,15			3	0	"	"	" "
27101	"	20:33	20:41	7,91	7,49	21,1	483	1724	1016	196	26	1175	909	306	10	"	"	"		7,48	4,21	37354,60	"	1,0	0,15	46	42	74	1	"	"	" "
27102	"	20:42	20:49	7,65	7,24	20,3	379	1332	748	98	20	931	718	208	4	"	"	"		7,69	2,96	37357,56	"	1,0	0,2	50	45	52	0	"	"	" "
27103	"	20:49	20:53	7,46	7,06	20,8	227	875	482	-	-	-	-	-	-	"	"	"		6,91	2,05	37359,61	"	1,0	0,15	45	43	36	1	"	"	" "
27104	"	20:54		7,34	6,94	20,6	1933	~~4803~~	2997	321	66	2835	2243	671	17	"	"	"		6,72	10,08	37369,69	"	"	"	49	45	177	1	"	"	" "
27105	"	21:15		6,82	6,42	17,5	1045	3473	1943	272	53	2341	1972	547	21	"	"	"		6,09	7,63	37377,32	"	0.9	0,15	48	45	134	2	17501	"	Beams dumped
27106	27/6/86	1[45]	1[59]	7,14	7,06	17,5	838	2908	1840	218	37	1687	1358	420	6	"	"	"		0,52	6,15	37383,47	"	0,7	0,1	17	56	108	4	17500	4841	restart run to check logging volts
27107	"	1[59]	2[15]	6,82	6,31	18,1	567	2098	1059	147	26	1203	965	294	8	"	"	"		5,73	3,47	37386,94	"	"	"	15	51	67	1	17501	4840	DMA Timeout
27108	"	2[21]	2[28]	6,39	6,29	17,6	385	1460	717	100	17	825	668	178	7	"	"	"		5,36	1,99	37388,93	"	"	"	13	52	35	0	17500	4841	DMA Timout beams dumped.
27109	"	3[35]	3[44]	10,52	9,~~52~~	24,0	534	2071	1193	138	33	1273	1060	~~8~~286	9	"	"	"		10,29	5,98	37394,91	"	1,3	0,2	~~46~~,31	44	105	4	17500	4840	DMA TIM out.
27110	"	3[46]	4[01]	10.10	9.11	23.3	868	3339	1929	226	53	2052	1716	525	21	"	"	"		9.99	8.99	37403.90	"			31	44	158	4	"	"	DMA TimeOut.
27111	"	4[02]	4[39]	9.51	8.54	20.5	2189	8002	4482	570	117	5135	3927	1228	22	"	"	"		8.84	18.96	37422.86	"	0.9	0.1	33	45	333	5	"	"	
27112	"	4[40]	4[46]	8.37	7.46	19.6	360	1323	698	94	18	876	604	208	4	"	"	"		7.80	3.30	37426.16	"	.85	∿.05	33	49	58	2	"	4839	DMA Time out
27113	"	4[48]	5[13]	8.13	7.26	19.0	1184	4016	2250	308	59	2748	2088	648	10	"	"	"		7.08	9.34	37435.50	"	.8	∿.05	45	45	164	1	"	4840	DMA Time out
27114	"	5[14]	5[39]	7.51	6.65	17.7	1478	4640	2479	384	68	3197	2598	703	14	"	"	"		6.27	8.77	37444.27	"	.75	∿.05	49	48	154	5	17,501	4838	DMA Time out.
27115	"	5[40]	5[55]	6.93	6.10	17.1	870	2634	1415	226	39	1862	1419	403	15	"	"	"		5.57	5.07	37449.34	"	.7	∿.05	51	48	89	1	"	"	~~Beams Dumped~~. DMA TimeOut
27116	"	5[56]	5[57]	6.61	5.80	14.7	73	234	115	19	3	151	112	38	0	"	"	"		5.24	0.46	37449.80	"	.7	∿.05	41	55	8	0	"	4839	Beams Dumped.
27117	"	6[39]	7[10]	10.76	10.90	23.1	1879	6766	4152	489	113	4591	3850	1179	24	"	"	"		11.70	23.68	37,473.48	"	1.3	0.1	49	40	416	9	17500	4840	DMA TimeOut.
27118	"	7[11]	7[34]	9.45	9.61	21.8	1350	4814	2953	351	76	3250	2798	856	23	"	"	"		9.88	15.88	37,489.36	"	1.2	≤.1	49	40	279	6	17501	4841	DMA TimOut.
27119	"	7:35	7:52	8.68	8.63	22.0	349	1338	832	96	21	920	716	237	3	"	"	"		8.75	3.59	37492.95	"	1.1	≤.1	48	39	63	1	17500	"	"
27120	"	7:52	8:13	8.49	8.59	20.9	1207	5799	3528	444	92	3940	3331	979	26	"	"	"		8.00	16.34	37509.29	"	1.0	-"-	50	42	287	7	17501	"	"
27121	"	8:15	8:53	7.53	7.68	18.9	1659	5524	3016	431	81	3768	2911	895	18	"	"	"		6.84	11.75	37521.24	"	1.0	-"-	49	46	210	4	17500	4842	DMA TimeOut
27122	"	8:53	8:57	6.84	6.99	20.9	244	852	460	63	13	595	457	151	2	"	"	"		6.35	1.88	37523.12	"	1.0	-"-	44	49	33	0	"	4843	beam lost
27123	"	9:30	9:56	10.76	10.93	22.7	1525	5571	3484	396	70	3801	3105	989	32	"	"	"		11.58	19.41	37532.53	"	1.3	0.2	49	39	351	6	"	4845	DMA TimeOut
27124	"	9:57	10:02	9.70	9.96	23.5	226	932	601	58	13	591	476	157	6	"	"	"		10.82	2.90	37535.43	"	1.2	0.15	39	37	51	2	"	"	"
27125	"	10:03	10:05	9.17	9.73	47.6	57	166	76	11	7	107	74	21	0	"	"	"		7.29	0.23	37535.66	"	1.1		43	42	4	0	"	"	Missing CAM
27126	"	10:07	10:07	9.35	9.47			25	17			7	0	1	0	"	"	"			0,06	37535.72	"				64	1	0	"	"	"
27127	"	10:30	10:35	8.57	8.82	21.2	288	997	595	74	15	667	552	180	4	"	"	"		9.24	3.53	37539.25	"			48	42	62	1	"	"	DMA TimOut
27128	"	10:36	11:16	8.37	8.62	19.9	2374	8002	4639	618	123	5552	4403	1309	24	"	"	"		8.04	20.84	37570.09	"	0.9	0.15	49	43	364	7	"	4844	
27129	"	11:18	11:19	7.22	7.46	21.5	60	222	153	15	3	196	97	33	1	"	"	"		5.93	0.68	37570.77	"	0.8	0.15	45	40	12	0	"	7845	DMA Timout
27130	"	11:21	11:45	7.15	7.39	20.6	1431	4240	2717	372	76	3313	2548	760	16	"	"	"		6.30	9.85	37580.62	"	"	"	50	44	173	3	17501	4846	—"—
27131	"	11:46	12:10	6.57	6.74	21.2	1453	4245	2656	378	80	3209	2563	720	21	"	"	"		5.13	8.08	37588.70	"	"	"	50	45	142	0	"	7847	beams dumped

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME %	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $*10^6$	T_ϕ Rej. $*10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 &T_2 $E_B > 6$ GeV	T_3 &T_4 &T_1 &T_2 $E_4 > 2TR$	Processors ON/OFF NSD	MID	TOF	FAH
27132	27/6/86	12:46	12:47	10.91	11.07	23.8	61	295	201	16	3	190	113	46	1	ON	ON	ON	OFF
27133	"	12:48	12:49	10.81	10.97	16.7	41	135	66	10	1	75	77	10	1	"	"	"	"
27134	"	13:23	13:30	11.03	10.74	24.1	371	1383	855	96	23	899	798	229	6	"	"	"	"
27135	"	13:31	13:43	10.71	10.43	19.4	392	1303	757	102	20	890	766	213	4	"	"	"	"
27136	"	13:52	13:59	6.44	7.28	17.3	389	1224	652	101	17	856	681	196	4	"	"	"	"
27137	"	14:02	14:19	6.12	7.05	17.2	964	3000	1611	251	43	2092	1603	489	8	"	"	"	"
27138	"	14:50	14:52	11.78	10.77	23.4	147	539	324	38	9	351	314	101	2	"	"	"	"
27139	"	14:53	15:01	11.60	10.64	24.4	436	1588	988	114	28	1036	910	248	4	"	"	"	"
27140	"	15:01	15:11	10.70	9.84	23.5	577	2171	1363	150	35	1475	1166	356	6	"	"	"	"
27141	"	15:12	15:20	10.27	9.43	24.1	471	1784	1076	123	30	1214	1000	302	5	"	"	"	"
27142	"	15:20	15:29	9.94	9.11	23.7	493	1740	1066	128	30	1194	988	302	8	"	"	"	"
27143	"	15:30	16:08	9.59	8.78	21.8	2275	8002	4826	592	129	5534	4669	1425	39	"	"	"	"
27144	"	16:08	16:10	8.34	7.58	20.8	53	241	148	13.9	2.8	150	106	42	1	"	"	"	"
27145	"	16:11	16:46	8.27	7.52	19.7	2074	7025	4038	540	106	4900	3942	1235	35	"	"	"	"
27146	"	16:46	16:49	7.31	6.68	18.4	144	486	264							"	"	"	"
27147	"	16:49	17:11	7.22	6.53	18.3	1252	3974	2278	325	59	7803	2717	653	14	"	"	"	"
27148	"	17:33	18:12	10.71	10.77	21.6	2316	8002	4876	602	130	5459	4641	1350	36	"	"	"	"
27149	"	18:12	18:51	9.17	9.22	20.7	2323	8002	4707	603	126	5543	4543	1424	36	"	"	"	"
27150	"	18:52	19:33	7.89	7.93	18.5	2459	8002	4474	640	118	5512	4497	1329	36	"	"	"	"
27151	"	19:36	19:59	6.72	6.79	16.8	1032	3151	1666	268	45	2239	1727	435	8	"	"	"	"
27152	"	20:57	21:35	10.68	10.69	20.9	2302	8002	4916	599	125	5546	4361	1335	43	"	"	"	"
27153	"	21:35	22:16	9.19	9.20	19.3	2428	8002	4689	631	121	5609	4498	1383	29	"	"	"	"
27154	"	22:17	23:01	7.91	7.91	20.1	2773	8002	4706	630	126	5820	4136	1260	22	"	"	"	"
27155	"	23:01	23:30	6.78	6.35	16.8	1708	5328	2821	444	74	3757	2959	826	21	"	"	"	"
27156	"	23:55	0:36	11.19	10.85	21.6	2265	8002	4800	589	127	5488	4545	1357	26	"	"	"	"
27157	28/6/86	0036	0115	9.57	9.26	20.6	2338	8002	4774	603	124	5560	4519	1357	25	"	"	"	"
27158	"	0116	0159	8.26	7.92	18.4	2436	8002	4468	634	117	5649	4363	1298	28	"	"	"	"
27159	"	0159	0237	7.10	6.78	17.2	2080	6393	3364	541	93	4517	3476	1038	23	"	"	"	"
27160	"	320	358	11.00	10.12	21.1	2297	8002	4875	598	126	5530	4587	1361	39	"	"	"	"
27161	"	359	417	9.59	8.73	19.4	1063	3543	2088	277	54	2442	2003	583	12	"	"	"	"
27162	"	422	508	8.78	7.86	18.3	2442	8002	4545	635	116	5654	4500	1298	25	"	"	"	"
27163	"	508	518	7.53	6.77	17.0	528	1703	934	137	23	1173	923	288	6	"	"	"	"
27164	"	550	628	10.82	10.53	20.6	2294	8002	4912	597	123	5594	4479	1368	31	"	"	"	"
27165	"	629	716	9.27	9.01	19.7	2405	8002	4617	626	127	5592	4464	1428	29	"	"	"	"

$\langle L \rangle$ $10^{30} cm^{-2} s^{-1}$	BHABHA $\int L dt$ nb^{-1}	$\int L dt$ Exp., Energy	IBM/TAPE output	AT RUN START TOF [V]	AT RUN START ID [kV]	ONLINE REJECT SUM MPREC T_3 %	ONLINE REJECT NORDSO $T_3 T_4$ %	Σ BHABHA	MM	E_{BEAM}	MAG FIELD −1 kG	REMARKS
13.03	0.85	37582.70 37589.55	IBM	1.3	0.2	31	35	15	0	17500	4837	DMA Timeout
2.48	0.23	37589.78	"	"	"	45	19	4	0	17401	4838	—"— , beams lost, dumped
11.08	3.93	37598.71	"	1.2	0.2	47	40	69	1	17.500	4837	DMA timeout
8.24	3.64	37597.35	"	"	"	52	43	64	0	17.501	4838	run stopped at end of run $E_{BEAM} = 17.523$, IBM down
6.02	3.02	37600.37	TAPE JDAS07	0.75	0.1	52	48	53	1	—"—	4839	first 2 minutes of run $E_B = 17.523$, DMA T/O
5.82	7.17	37607.54	JDAS08	"	"	49	48	126	0	17.500	4838	beams dumped
8.44	1.82	37609.36	IBM	1.5	0.3	50	42	32	1	17.501	4840	DMA Timeout
9.80	4.73	37614.09	"	1.4	0.25	47	39	83	1	"	4839	temporarily $E_B = 17.523$, DMA-Timeout
10.77	6.49	37620.58	"	1.35	0.25	47	39	114	3	"	4840	DMA Timeout
10.34	5.58	37626.16	"	1.25	0.2	49	41	98	3	17.500	4839	—"—
9.36	5.24	37631.40	"	"	"	50	40	92	3	"	4840	—"—
8.62	24.08	37655.48	"	1.2	0.2	51	40	423	5	17.501	4838	no VTX-ch
7.16	0.51	37655.99	"	1.0	0.18	30	42	9	0	"	4837	DMA Timout, VTX in
7.20	18.73	37674.72	"	"	"	50	43	389	3	17500	4838	no VTX-ch, normal stop.
6.46	0.63	37675.35	"	0.8	0.15			11	0	"	4839	VTX in, DMA Timout
5.90	8.94	37684.29	"	0.75	0.15	51	46	157	6	17501	4838	No VTX-ch. beams dumped
10.41	23.17	37707.46	"	1.5	0.3	49	40	407	10	17500	4837	No VTX-ch
8.87	24.25	37731.71	"	0.9	0.15	50	42	426	9	17501	4838	"
6.85	19.18	37750.89	"	0.8	0.1	49	45	337	7	17500	"	"
5.49	6.89	37757.78	"	0.75	0.1	51	48	181	2	17.500	4839	Beams dumped
10.72	25.34	37783.17	"	1.00	0.25	48	39	446	7	17.500	4837	"
8.63	22.71	37805.88	"	0.90	0.2	50	42	399	15	17.500	4835	No VTX-CH
6.77	17.36	37823.24	"	0.75	0.2	51	42	305	8	17.501	4834	"
5.60	9.91	37829.15	"	0.7	0.15	51	48	184	2	17.500	4834	" Beams Dumped
10.87	25.96	37855.11	"	1.3	0.2	48	40	456	8	"	4831	VTX CH OFF
9.19	22.55	37,877.66	"	1.1	0.1	50	41	396	12	17501	"	"
7.38	19.24	37,896.90	"	0.9	<0.1	50	45	338	7	"	4833	"
5.88	12.47	37,909.37	"	0.7	<0.1	50	48	219	7	17500	"	" Beams Dumped
10.31	26.36	37935.73	"	1.3	0.2	50	40	463	7	17500	4828	VTX CH OFF
9.28	10.70	37946.43	"	0.9	0.1	49	42	188	3	17501	"	"
7.73	21.40	37967.83	"	0.9	0.1	51	44	376	4	17500	"	"
6.57	4.16	37973.99	"	0.8	0.1	47	46	73	1	"	"	" beams lost
11.02	27.04	38001.03	"	1.2	0.2	50	39	475	13	"	"	VTX CH OFF
9.13	23.28	38023.31	"	1.0	0.1	50	43	409	8	"	"	"

27/6/85

1^{05} Reload NORD. Still missing LAM br. 3 cr 5 : Z-ch part 2
J.O. helped by switching Z-ch. cr off and on.
1^{35} DMA Time out
11^{15} found a hole in Z-ch Amplitude map, DL8 #6, Richard is coming
12^{30} Ex. Controller exchanged, DMA T.O.-error still there in VTX pulser run --- J.O. story continues...
13^{29} DMA time out
13^{38} PETRA transmitter failure caused partial beam loss and Energy change $E_B = 17.523$ for ≈ 10 Min.
2 minutes later IBM down, disk problem, estimated duration ≈ 1 hour
now we write to tape.
14^{48} IBM up again
Run 27139 : temporarily $E_{Beam} = 17.523$
15^{30} Run 27143 without Vtx-ch (readout pattern set to 77735 B), for test purpose

16^{00} Bethke, Grässer on shift
Gas Check → ok.
HV-power supply underneath the tagging Hv-supply MFR G1 switched off, because for it noisy and nothing is connected to it anyhow. Why was it switched on ??
17^{00} after several runs, it seems clear that readout of Br 7 causes the DMA Timout errors (VTX-chamber crates 1-7)
17^{40} Exchange of Br. highway cable did not bring improvement. Next: Exchange of Br. Coupler 7, in next fill period.
Br. Coupler exchange not possible this fill, only spare shows error, old one back, error continues, at high frequency.
Reasonable data taking for the time being only without VTX-chamber!
Suggested course of action: reprogram, turn Branch 7 into 5 (programs to change ~~ZDAS, SET-CLOCK, ZREAD, VTXH, YPARA, YPARAT, MIPCOM, YMPROG, YTEXT~~)
Further hardware work in system crate too risky
Program changes will be made tomorrow, too tired now.
⇒ Run without VTX-chamber tonight --- J.O.

19^{00} Sprinkler switched off.

June 28. 00,01 Ian Duerdoth. Gas Check done.

0021 Z chamb trip. missing xmitter crate 3.
0135 Z chamb trip.
0223 "
0400 Matsumura
0415 Error JDAS Error 33 Missing LAM branch 3 crate 5 Zchamber Part 2 r3
" 51 False DL8 interrupt b 3 c5

0417 JADE Go
0707 Missing Lam at FEP Ready (Jetch) → JADEGO ok

8:10 Heintzelmann & Warren on shift
8:50 Gas check done Methan flow readjusted
9:15 Sprinkler on
12:00 Methan flow readjusted slightly
15^{00} Branch Coupler 1 was exchanged at noon; the new one gave no error in VTX pulser run, however, after 7000 triggers in real data taking, DMA timeout occurred. In next fill, the interrupt cable bundle on back of System Crate was exchanged against a new one (made by Rosbander). Again, pulser tests ok. story continues J.O.
15^{15} Petra says "short break", they have problems with a transmitter, magnet down to 1500 A
16^{00} Chris Hill PMR : up to 1 hour more to wait...
16^{11} With the new cable, DMA timeout occured after 17K triggers J.O.
PIO-NIO C,D, IVC exchanged (now everything except the crate itself has been exchanged!), pulser tests Ok. → J.O.
But also now DMA-Timeout, what next? ---
16^{10} Gas check Okay.

17^{45} "Short Break" after beams lost. magnet down to 5000 → 3000 → 1500 Amps (18^{00} h)
" up from 1500 → 3000 → 5000 → 7500 (18^{35} h)

21^{46} JDAS readout error 33 Missing lam br 3. cr 4 Zch part 1
22^{54} " " " 60 T2 Trig bank Wrong length = 25.
23^{22} " " " 51 false DL8 interrupt br 3 Cr 5.

29/6/85 0^{00} Walker & Reckbeil on shift.
0^{40} Short break. However Beams circulating at 6.961 GeV.
1^{00} injection again !
1^{25} Beams slowly lost at ≈ 6.5 GeV.
2^{30} Beams up again
Run 27188-9 for a change stopped with pertinent error T2 - Trig Bank wrong length.
4^{20} Z-Chamber Trip
4^{30} Just one JDAS Err. 60, T2-trig-bank wrong length 25. Run continuing.
4^{30} Gas check o.k.
5^{22} VTC valve failure as HV runs down.
6^{18} JDAS Error 60, same as at 4.30.

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 $\times 10^6$	T1 Acc Sum	T2 Acc Sum	T1 bit 2 Ecl>66eV	T2 bit 17 ZT.Ec >2TR	Processors ON	Processors H10	Processors ToF	Processors ZN
27166	28/6/88	7:10	7:59	7.85	7.61	17.7	2550	8002	4383	663	118	5651	4016	1361	37	ON	OU	ZN	
27167	"	7:59	8:12	6.74	6.52	16.7	737	2321	1220	192	32	1630	1267	339	10	"	"	"	
27168	"	8:43	9:22	10.54	10.60	21.0	2320	8002	4843	604	127	5349	4467	1858	31	"	"	"	
27169	"	9:22	9:59	9.10	9.16	18.2	1687	5782	3621	489	799	3345	3169	882	20	"	"	"	
27170	"	10:37	11:16	10.60	9.89	22.6	2210	8002	4927	574	130	5838	4255	1368	26	"	"	"	
27171	"	11:16	11:56	9.15	8.49	19.5	2372	8002	4573	617	121	5609	4372	1438	28	"	"	"	
27172	"	11:56	12:38	7.95	7.34	17.7	2455	8002	4402	639	113	5622	4404	1358	37	"	"	"	
27173	"	12:38	12:49	6.94	6.37	17.8	607	1860	1000	157	28	1279	1077	303	6	"	"	"	
27174	"	13:50	14:20	9.43	7.79	18.5	1812	5601	3165	471	87	3802	3283	984	23	"	"	"	
27175	"	14:21	14:52	7.30	6.39	17.7	1852	5709	3047	482	85	3937	3216	871	16	"	"	"	
27176	"	17:10	17:22	10.25	10.53	23.0	681	2372	1533	177	40	1586	1314	402	12	"	"	"	
27177	"	17:22	17:39	9.73	10.02	20.2	939	3279	2010	244	49	2307	1737	614	9	"	"	"	
27178	"	17:39	17:45	9.09	9.38	17.9	358	1178	663	93	16	884	596	209	9	"	"	"	
27179	"	18:56	19:07	9.69	10.38	21.2	579	2012	1215	150	31	1399	1090	349	9	"	"	"	
27180	"	19:08	19:49	9.25	9.92	19.3	2380	8002	4794	619	119	5608	4276	1475	32	"	"	"	
27181	"	19:51	20:02	7.79	8.42	20.0	594	1989	1137	154	30	1371	1117	384	11	"	"	"	
27182	"	20:02	20:23	7.45	8.07	20.4	1182	3951	2274	307	62	2712	2123	720	10	"	"	"	
27183	"	20:25	21:08	6.87	7.46	18.6	2484	8002	4369	645	120	5636	4334	1394	28	"	"	"	
27184	"	21:09	21:44	5.86	6.41	17.3	2135	7133	4197	578	118	646	520	152	4	"	"	"	
27185	"	22:04	7:18	7.58	7.87	17.8	2571	8002	4463	669	119	5534	4497	1191	38	"	"	"	
27186	"	22:50	23:34	6.51	6.78	17.3	2587	8002	4250	672	116	5661	4340	1289	35	"	"	"	
27187	"	23:34	23:44	5.60	5.86	16.7	550	1788	906	143	23	1253	919	264	2	"	"	"	
27188	29./6/88	2.37	3:01	10.15	10.55	21.3	1364	4852	2952	355	76	3347	2634	812	27	"	"	"	
27189	"	3.01	3:20	9.16	9.57	20.3	1080	3730	2234	284	57	2612	1982	648	17	"	"	"	
27190	"	3:20	4:03	8.49	8.90	18.4	2469	8002	4531	642	118	5643	4284	1408	38	"	"	"	
27191	"	4:03	4.46	7:27	7:67	18.2	2551	8002	4325	663	120	5657	4325	1303	45	"	"	"	
27192	"	4.46	5.23	6.28	6.65	16.5	2164	6491	3354	562	92	4582	3514	1047	26	"	"	"	
27193	"	5.47	6.28	10.54	10.72	20.1	2331	8002	4672	606	121	5578	4377	1330	34	"	"	"	
27194	"	6.29	7.09	8.96	9.17	17.3	2229	7381	4186	579	111	5129	4016	1329	35	"	"	"	
27195	"	7.14	7.19	7.55	7.73	20.7	234	794	495	60	12	611	416	133	2	"	"	"	
27196	"	7.22	8.05	7.35	7.53	17.3	2544	8002	4273	672	116	5647	4361	1357	27	"	"	"	
27197	"	8.06	8.09	6.32	6.49	16.5	121	387	216	31	5	265	202	68	9	"	"	"	
27198	"	8:40	9:18	10.60	10.81	24.4	2285	8002	4905	599	126	5543	4305	1480	35	"	"	"	
27199	"	9:19	9:25	9.07	9.28	20.7	360	1339	731	98	19	844	647	228	8	"	"	"	

$\langle L \rangle$ $10^{30}\,cm^{-2}\,s^{-1}$	Bhabha $\int Ldt$ nb^{-1}	$\int Ldt$ Exp Energy	IBM/TAPE OUTPUT	At Run Start ToF [V]	At Run Start ID [μA]	On Line Reject Sum Hi/Pro T2 %	On Line Reject Nord SD T1+T2 %	Σ Bhabha	M/H	E beam	Mag Field -1.5 G	Remarks
7.02	19.13	38042.44	IBM	0.8	0.1	51	46	336	10	17500	4828	vtx dr off
6.21	4.90	38047.34	"	0.7	0.1	50	49	86	1	17501	4828	"
9.69	22.94	38070.28	"	1.2	0.1	49	40	403	10	17501	4830	"
6.58	12.01	38082.29	"	1.0	0.1	50	46	211	3	17501	4831	" dumped
9.98	24.96	38106.77	"	1.1	0.2	49	39	430	9	17501	4834	"
8.61	21.92	38128.69	"	1.0	0.2	49	44	385	13	17500	4834	"
6.67	19.64	38148.33	"	0.8	0.2	50	46	345	4	17501	4837	"
5.71	4.27	38152.60	"			51	48	75	1	17500	"	" beams dumped
6.67	13.43	38166.09	"	1.05	0.2	50	45	237	4	17500	4839	~~DATA~~ vtx dr on - DAQ timeout
5.26	11.67	38177.76	"	0.8	0.1	50	48	205	1	"	4840	~~beam~~ " - beams dumped
11.42	7.34	38185.10	"	1.2	0.2	47	37	129	2	"	4838	VTX on. Run stopped - DAQ timeout.
10.99	12.18	38197.28	"	1.0	0.2	49	40	214	6	"	"	VTX off. " " To get VTX another dose!
8.28	3.02	38200.30	"	0.9	0.2	47	45	53	0	17501	4839	VTX on. beams lost.
10.87	6.60	38206.90	"	1.2	0.2	50	41	116	3	"	4844	Run stopped - DAQ timeout.
9.57	24.14	38231.04	"	1.0	0.2	49	41	424	5	"	"	
7.56	5.24	38236.28	"	0.9	0.2	51	44	92	0	"	"	Run stopped - DAQ timeout
6.05	9.96	38246.24	"	0.9	0.2	48	44	175	3	"	"	" "
5.80	15.49	38261.73	"	0.85	0.2	51	47	272	5	17501	4846	
4.99	1.37	38263.10	"	0.8	0.2	51	48	24	1	17500	"	beams dumped.
6.37	14.75	38277.85	"	0.80	0.2	52	45	259	10	17501	4844	
4.31	14.35	38292.30	"	0.75	0.2	51	48	252	5	"	"	
4.08	2.45	38294.75	"	0.65	0.1	48	51	43	0	"	"	beams dumped
10.85	16.62	38311.37	"	1.15	0.15	48	40	292	83	17500	4840	Permanent DAQ Error: T2-Trig bank wrong length
9.86	10.76	38322.13	"	0.95	0.07	49	47	189	4	"	4841	" " " " " " "
8.30	23.12	38345.25	"	0.84	0.05	50	45	406	5	17501	4840	Run ended normally!
6.26	17.09	38362.33	"	0.75	0.05	51	47	300	8	17500	4839	
4.96	11.24	38374.17	"	0.65	<0.05	51	50	208	3	"	4838	Beams dumped.
10.06	24.89	38399.05	"	1.2	0.1	50	43	407	5	"	4839	
8.26	21.12	38420.17	"	0.9	0.05	50	44	371	8	17501	"	
7.24	1.71	38421.89	"	0.9	0.05	42	47	30	0	"	4841	DAQ timeouts.
6.11	15.54	38437.42	"	0.75	0.05	51	48	273	4	"	4840	
5.14	0.85	38438.27	"			50	47	15	0	17500	4842	beam dumped
1961	26.87	38465.14	"	1.2	0.15	49	40	472	9	"	4844	
9.09	3.76	38468.90	"	1.0	0.15	50	42	66	2	"	"	DAQ Timeout

29/6/86

6⁵⁹ z-ch trip + valve failure
7⁰⁵ All chamber trig + colour TV picture goes pale. Run stopped - was ready & finished anyway.
7¹⁵ The Curse of the DMA Timeouts Strikes Again!! Run stopped.
7¹⁸ JDAS error 60, as before.
8⁰⁰ Spitzer
Gas check OK (different numbers in statistics)
8²⁰ Ask for new initialization on the MOP terminal. "R", "N" Then it reads: "wrong number of parameters, traceback called from..." Reload MOP. Doing it from JADE terminal leads to 'No trigger'.
Try reloading from MOP terminal. Ok. In fact "no trigger" was allright since HV was not on at the test run.
9:25 DMA time-out
9:30 ERROR 74 wrong LAM br 1 cr 1 BPCM
9:36 -"- 60 T_2 trig. bank wrong length = 25 (dec) 11⁵⁶ DMA time out. (Run 27204 is < 1sec long!)
12⁰ Duevdoth.
The only AUDIBLE indication of "End of Run" is the Gould Printer chugging away.
You don't get this if the Gould is letton to LOCAL. I lost ~5 mins of data taking because I was sitting at a terminal.
14⁵⁷ Z chamber trip.
15⁰⁵ Readout JDAS/ERROR 51 False INT Interrupt br3 cr5 again at 15¹⁰.
16⁰⁰ J. Olsson, U. Schneekloth Gascheck done
DMA Timeout error is now very rare. Although I intended to exchange the system crate itself next, I decide to do nothing as long as things run so smoothly. J.O.
21⁴⁵ ZREAD extended to enable readout of z-trigger FADC, Br-C: 3-1 Electronics doesn't work properly yet, no data is arriving in computer in short testrun.
Rebuild JVOLTS after SYSTEM-console error message.
22⁵⁸ JDAS 60 - T2 Bank wrong length: has occurred earlier in connection with DMA Timeout error checks. ? times!
23⁰⁰ Zimmoni restarted, had crashed---
23¹⁰ " crashed again, restarted...
23²⁰ Just passed 500 nb⁻¹ for today!

30.6.86 0.00 Naroska + Raucke
Gas check ok.
4:50 DMA time out error
4.56 Several Z-Chamber trips

8⁰⁰ Skard, Chrin on shift.
Gas check OK.
8⁰⁵ Several (3) JDAS readout error 60 - T2-trig bank wrong length = 25 (dec)
" " and many more of the same thing (~ once or twice every 5 minutes so far...)
9¹⁵ At run start: 3 x T2 bank wrong length, + JDAS readout error 33, Missing LAM br 4 cr 3 : JETC point 704.
9⁴⁰ MOP display crashed, restarted with ZIMMONI.
10²⁵ " "
10⁵⁸ Run stopped due to continuous JDAS readout error 60 - T2-trig bank wrong length = 25 (dec).
11⁰² Z-chamber trip
11⁰⁸ 7 x JDAS readout error 33 - Missing LAM bank 3 crate 2 : Muon Chambers.

15⁰⁰ { Sudden beams loss. / VTX, Z, JD chambers trip } Picture on colour TV vanishes. No response from Sdas consol. Remaining detector voltages dis-enabled manually.
Error on system consol says "Power Fail". Run summary lost.

Action: Reload-Nord; Re-start JDAS - but colour TV does not activate
Try Re-starting SDAS again - This time colour TV activates. Magnet Trip.

"Short Break". ⇒ Magnet: raised to 3500 by hand
" then lowered to 1500 by computer (because of the short break).

16⁰⁰ Duevdoth, Olsson. Gas check done. - Extern Flow measured. VTX-processors reloaded, all testruns OK, seems no programs were hurt by the power break.
17¹⁵ After 3 min run on new fill, large beam loss, soft Jets, hard VTX trig and beams dumped. $E_b \to 17503$ at end.
23¹² FEP's reloaded after continuous Miss. Lams

1/7/86
0⁰⁰ Schmidt und Wagner on shift
0¹⁰ gas check done: ok.
JDAS readout error 60 T2-trig bank wrong length = 25 || times in run 27257 (self-recovering)
" " " " " " |||| " " 27258 " "
0⁴⁰ we had again to trigger Mark J to ask for a new fill
Petra has got magnet trouble and is not able to make a new fill for some time
1⁰⁰ z-ch trip + valve failure
JDAS readout error 60 T2-trig bank wrong length = 25 ||| times in run 27259 (self-recovering)
1⁴⁵ z-ch trip
1⁵⁸ JDAS readout error 64 - AC2099 TOF-2 Q,K missing stn 3, subaddr = 1

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME %	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $*10^6$	T_8 Rej. $*10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 b/f 2 $E_{LG}>6GeV$	T_1 b/f 7 $2T_1E_4$ $>2TR$	PROCESSORS ON/OFF NSD	MIP	TOF	FEL
27200	29/6/86	9:26	10:07	8.82	9.03	19.2	2325	8002	4659	604	116	5447	4196	1416	31	ON	ON	ON	ON
27201	"	10:07	10:49	7.55	7.76	18.1	2498	8002	4325	659	117	5656	4323	1359	19	"	"	"	"
27202	"	10:50	10:51	6.52	6.72	19.1	36	135	66	9	1	84	72	20	0	"	"	"	"
27203	"	11:18	11:48	10.82	10.77	22.6	2239	8002	4950	582	131	5760	4298	1385	19	"	"	"	"
27204	"	11:56	11:56	9.25	9.23		0	61	36			36		9	0	"	"	"	"
27205	"	11[5]7	12[2]7	9.21	9.19	20.6	2308	8002	4760	600	124	5519	4407	1365	17	"	"	"	"
27206	"	12[4]5	13[2]6	7.69	7.68	18.2	2466	8002	4416	641	117	5693	4250	1416	30	"	"	"	"
27207	"	13[2]7	13[3]4	6.65	6.64	17.0	452	1416	785	118	20	1010	741	234	4	"	"	"	"
27208	"	14[3]0	15[1]1	10.79	10.61	21.5	2306	8002	4975	600	129	5413	4557	1396	32	"	"	"	"
27209	"	15[1]1	15[5]0	9.12	8.98	21.4	2322	8002	4711	604	129	5506	4445	1356	46	"	"	"	"
27210	"	15[5]1	16[3]2	7.84	7.72	20.2	2449	8002	4540	637	129	5556	4364	1324	45	"	"	"	"
27211	"	16[3]2	16[5]0	6.79	6.68	18.8	1032	3257	1719	269	51	2288	1804	496	11	"	"	"	"
27212	"	17[1]4	17[5]4	10.31	10.41	22.0	2284	8002	4981	594	130	5447	4443	1386	27	"	"	"	"
27213	"	17[5]4	18[3]5	8.82	8.93	19.8	2431	8002	4647	633	126	5515	4472	1343	25	"	"	"	"
27214	"	18[3]5	19[1]8	7.53	7.63	18.6	2507	8002	4361	652	121	5571	4353	1336	25	"	"	"	"
27215	"	19[1]8	19[3]0	6.47	6.58	18.7	696	2262	1209	181	34	1566	1238	302	11	"	"	"	"
27216	"	19[5]6	20[3]7	9.79	10.16	20.8	2341	8002	4733	609	127	5514	4322	1327	28	"	"	"	"
27217	"	20[3]6	21[1]8	8.37	8.72	19.8	2444	8002	4483	636	126	5539	4404	1270	49	"	"	"	"
27218	"	21[1]8	21[4]5	7.16	7.50	20.0	1541	4999	2833	401	80	3468	2683	757	14	"	"	"	"
27219	"	21[4]8	22[0]0	6.47	6.79	18.6	754	2315	1324	197	36	1613	1276	353	9	"	"	"	"
27220	"	22[5]2	23[3]3	9.86	9.81	20.3	2375	8002	4745	618	125	5488	4545	1283	26	"	"	"	"
27221	"	23[3]3	0.15	8.43	8.39	18.4	2413	8002	4556	627	115	5627	4257	1278	35	"	"	"	"
27222	30.6.86	0.15	0.59	7.20	7.17	16.9	2552	8002	4215	663	112	5687	4234	1222	26	"	"	"	"
27223	"	0.59	1.04	6.21	6.11	16.2	~~2343~~ 2352	~~8478~~ 8478	452										
27224	"	1.04	1.23	6.09	6.07	16.9	1073	3234	1708	279	47	2273	1754	458	10	"	"	"	"
27225	"	1.24	1.49	5.33	5.30	15.4	1475	4373	2145	383	59	3100	2341	605	14	"	"	"	"
27226	"	2.43	3.24	10.56	10.21	21.8	2319	8002	4926	602	131	5376	4742	1287	31	"	"	"	"
27227	"	3.25	3.35	8.96	8.66	21.0	572	1978	1170	148	31	1348	1137	335	7	"	"	"	"
27228	"	3.35	4.17	8.62	8.33	18.8	2426	8002	4491	631	125	5536	4578	1277	28	"	"	"	"
27229	"	4.17	4.46	7.46	7.20	20.0	1561	5138	2858	406	~~385~~ 381	3529	2878	787	17	"	"	"	"
27230	"	4.45	5.09	6.78	6.53	20.3	1304	4290	2379	339	69	2928	2371	641	10	"	"	"	"
27231	"	5.51	6.11	9.88	10.12	21.4	1141	4030	2406	297	63	2745	2262	610	15	"	"	"	"
27232	"	6.13	6.54	8.82	9.35	20.0	2385	8002	4671	621	124	5575	4509	1335	29	"	"	"	"
27233	"	6.55	7.37	7.53	8.02	18.0	2496	8002	4374	649	117	5587	4418	1297	30	"	"	"	"

CLT $10^{30}cm^{-2}s^{-1}$	$\int Ldt$ nb^{-1}	$\int Ldt$ EXP. ENERGY 38468.90	IBM TAPE OUTPUT	AT RUN START TOF [V]	AT RUN START ID [μA]	ONLINE REJECT SUM MIPROC T_2 %	ONLINE REJECT NORDTO T_1T_2 %	Σ $\int Ldt$	MH	E_{BEAM}	MAG FIELD −1KG	REMARKS
8.20	20.84	38489.74	IBM	1.0	0.15	50	43	766	9	17501	4854	
6.69	12.50	38508,24	"	0.8	0.15	51	47	325	7	−"−	"	
5.81	0.11	38508.35	"	0.7	0.15	53	58	2	0	"	4856	beam dumped
10.82	25.16	38533.51	"	1.2	0.2	47	39	442	9	17500	"	
	0.23	38533.74	"	1.0	0.2		32	4	0	17501	4847	DATA Timeout, Run is < 1 sec long.
8.89	21.92	38,555.66	"	1.0	0.2	49	42	385	4	17500	4847	
6.85	20.33	38,575.99	"	.8	.2	51	46	357	2	17501	"	
6.04	8.07	38,579.06	"	"	"	51	46	54	0	"	4848	Beams Dumped.
10.38	25.62	38,604.68	"	1.15	0.2	49	39	460	5	"	4847	
8.63	21.12	38,625.80	"	1.1	0.2	49	42	371	12	17500	4849	
6.69	18.90	38644.70	"	.9	.2	50	45	332	5	"	"	
5.17	5.69	38650.39	"	0.8	0.2	51	49	100	7	"	"	Beams dumped.
10,38	25,50	38675.89	"	1,25	0.2	49	39	448	5	17501	4848	
8,53	21,98	38697,87	"	0,95	0,15	50	43	386	9	"	4847	
6,51	17,02	38714,89	"	0,8	0,15	50	47	299	4	"	4848	
5,30	3,64	38718,53	"	0,75	0,15	50	48	64	0	17500	"	Beams dumped.
9.17	24.54	38743.07	"	1.2	0.2	49	42	431	4	"	"	
7,91	19,64	38762.71	"	0,8	0.2	49	45	345	7	"	4847	
6,32	10,70	38773,41	"	0,75	0.15	50	45	188	1	17501	"	stopped for z-trigger test run
5,69	3,98	38777,39	"	0,75	0,15	50	48	70	2	"	"	Beams dumped.
9.51	23,57	38800,96	"	1,1	0.2	50	42	414	2	17500	4844	
8.28	22.09	38823,05	"	0,85	0,15	50	44	388	6	17501	"	
6.54	19.07	38842,12	"	0.61	0.10	50	48	335	7	17501	4844	
5.94	1.48	38843.60	"	0.60	0.005							trig bank wrong length
5.22	6.72	38850,32	"	0.60	0.05	57	49	118	1	17501	4844	" " " "
4.76	7.46	38857,78	"			57	52	131	0	17500	4844	dump
10.22	26.13	38883.91	"	1.5	0.21	50	40	459	4	17501	4841	
9.10	5.98	38889.89	"	1.3	0.20	51	42	105	2	"	4840	Trig bank wrong length
7.75	19.70	38909.59	"	1.25	0.15	51	45	346	6	17500	4840	
6.12	10.02	38919.61	"	1.2	0.1	50	46	176	3	17501	"	DATA Timeout
5.20	8.31	38927.92	"	1.1	0.1	51	47	144	3	"	4841	beams dumped
9.65	11.73	38939.65	"	1.4	0.1	49	42	206	2	"	4839	DATA timeout
8.93	22.20	38961.80	"	1.2	0.1	51	43	390	5	"	4839	
6.94	19.13	38980.93	"	1.0	0.1	50	47	336	8	17500	4840	

RUN	DATE	START	STOP	AT RUN START I+	AT RUN START I−	DEAD TIME %	TIME SEC	REC IN	REC OUT	ALL *10⁶	TΦ REJ *10⁶	T₁ ACC SUM	T₂ ACC SUM	T₁ BIT 2 E_Lab > 66 GeV	T₂ BIT 17 2T·E_Y ≥ 2T_X	PROCESSORS ON/A: IUSO	MIP	TOF	REMARKS
27234	30.6.86	7:36	8:20	6,50	6,96	18.2	2585	8002	4203	673	123	5584	4434	1156	37	ON	ON	ON	
27235	"	8:21	8130	5,66	6.09	17.7	493	1532	805	129	23	1089	781	253	5	"	"	"	Beams dumped
27236	"	9.17	9.59	10.78	9.19	19.5	2419	8002	4672	629	123	5584	4362	1332	26	"	"	"	
27237	"	9:59	10:40	9.32	7.86	17.9	2465	8002	4456	641	115	5608	4314	1333	20	"	"	"	
27238	"	10:40	10:58	8.06	6.71	17.8	997	3226	1704	259	46	2245	1792	498	7	"	"	"	Run stopped w/T2 trig. bank wrong length (=25)
27239	"	10:58	11:35	7:59	6.29	18.5	2136	6542	3491	556	103	4581	3565	1022	25	"	"	"	Beams dumped
27240	"	12:34	12:43	11.32	10.90	24.0	400	1518	961	104	79	1016	826	248	5	"	"	"	
27241	"	12:43	13:01	10.86	10.46	25.3	995	3848	2484	258	65	2565	2128	669	23	"	"	"	Run stopped; DMA Timeout.
27242	"	13:01	13:39	10.03	9.64	22.9	2223	8002	4813	578	132	5463	4328	1356	34	"	"	"	
27243	"	13:39	14:05	8.55	8.18	21.4	1447	4940	2866	377	80	3350	2749	743	20	"	"	"	
27244	"	14:05	14:19	7.71	7.37	20.2	586	2016	1160	152	30	1356	1071	326	7	"	"	"	beam dumped
27245	"	14:50	≈15:00	9.61	10.54											"	"	"	beams (ø ausschwang!) lost.
27246	"	17:12	17:18	10.54	10.52	21,6	169	598	372	44	10	395	324	97	0	"	"	"	Beams dumped after large loss.
27247	"	17:49	18:00	10.52	10.39	23,8	592	2106	1301	154	37	1393	1143	361	6	"	"	"	T2-trig length error.
27248	"	18:00	18:23	10.05	9.93	19,5	1357	4359	2412	353	69	2939	2446	644	14	"	"	"	DMA-Time out error
27249	"	18:24	18:24	7,32	7,73	16,4	16	82	53							"	"	"	T2-trig length error
27250	"	18:25	18:57	7,49	7,70	17,1	1890	5636	2987	492	84	3862	3258	815	17	"	"	"	Beams dumped
27251	"	19:34	20:00	10.44	10.09	20.5	2140	7185	4220	~~4877~~ 4857	~~1054~~ 1034	~~4876~~ 4856	4054	1170	22	"	"	"	DMA Time out
27252	"	20:11	20:52	8.79	8.67	18,5	2475	8002	4462	644	119	5548	4352	1227	28	"	"	"	
27253	"	20:53	21:38	7,47	7,36	17.9	2611	8002	4285	679	122	5505	4527	1264	32	"	"	"	
27254	"	21:39	21:45	6.33	6.23	16.9	361	1111	589	94	16	769	611	187	3	"	"	"	
27255	"	22:43	23:12	8,98	10,08	19.2	1688	5397	3127	439	84	3719	3038	832	17	"	"	"	Missing LAM FEPs Reload with JADEGO
27256	"	23:14	23:56	7,92	8,95	18,5	2515	8002	4402	654	121	5540	4430	1269	26	"	"	"	
27257	"	23:56	0:41	6.72	7.67	17.2	2638	8002	4254	686	118	5557	4538	1211	31	"	"	"	
27258	1/7-86	0:41	1:27	5.72	6.59	16.9	2732	8002	4071	710	120	5532	4577	1059	25	"	"	"	
27259	"	1:27	2:15	4.90	5.71	15.6	2854	8002	3856	742	116	5610	4516	1068	27	"	"	"	
27260	"	2:16	2:19	4.22	4.96	15.0	199	604	311	52	8	412	327	83	1	"	"	"	
27261	"	2:20	2:28	4.12	4.90	16.0	486	1292	586	126	20	904	773	134	3	"	"	"	
27262	"	3:34	3:49	10.17	10.28	20.4	885	2894	1755	230	47	2000	1625	245	9	"	"	"	
27263	"	3:49	4:31	9.57	9.68	18.2	2488	8002	4538	647	117	5660	4317	1339	26	"	"	"	
27264	"	4:31	5:15	8.20	8.31	17.5	2644	8002	4386	687	120	5572	4467	1239	31	"	"	"	
27265	"	5:16	6:02	7.09	7.19	16.4	2754	8002	3950	716	117	5496	4588	1080	26	"	"	"	
27266	"	6:02	6:15	6.21	6.30	15.7	740	2071	1034	193	30	1467	1139	314	3	"	"	"	
27267	"	6:44	7:30	10.72	10.67	19.3	2469	8002	4750	642	124	5615	4386	1415	35	"	"	"	

⟨L⟩ 10³⁰ cm⁻² s⁻¹	BHABHA Sldt nb⁻¹	Sldt E_CP ENERGY	IBM TAPE OUTPUT	AT RUN START TOF [V]	AT RUN START ID [kV]	ONLINE REJ SUM MIPROC T_Z %	ONLINE REJ IUSO T_X+T_Z %	Σ BHABHA	MUHA	E_BEAM	MAG FIELD −1×6	REMARKS
5.28	14.58	38995.51	IBM	0.8	0.1	51	49	256	1	17.501	4840	
4.77	3.42	38998.93	"	0.7	0.05	51	49	60	1	"	4844	Beams dumped
9.62	27.33	39026.26	"	1.0	0.2	50	43	480	13	17.500	"	
8.39	21.52	39047.78	"	0.9	0.2	50	46	378	3	17.501	4845	
6.89	7.63	39055.41	"	0.8	0.2	51	49	134	4	17.500	4847	Run stopped w/T2 trig. bank wrong length (=25)
5.89	12.30	39067.71	"	0.75	0.2	51	48	216	4	"	"	Beams dumped
12.65	5,69	39073.40	"	1.35	0.3	47	38	100	0	17.493	4849	Run stopped w/T2 trig. bank wrong length (=25)
11,76	11,95	39085.35	"	1.3	0.3	46	37	210	6	17.494	4850	Run stopped; DMA Timeout.
10.11	23,32	39108,67	"	1.3	0.3	47	41	410	9	"	"	
8,31	12,17	39120,84	"	0.95	0.2	49	44	214	5	17.493	"	Run stopped w/T2 Trig. bank wrong length=25 (dec)
6,75	4,44	39125,28	"	0.9	0.2	46	44	78	1	"	"	beam dumped
			"	1.2	0.3							beams (ø ausschwang!) lost.
11,32	1,71	39126,99	"	1,85	0,25	47	40	30	0	17593 17501	4841	Beams dumped after large loss.
10,17	6,77	39133,76	"	1,25	0,95	46	40	119	3	17500	4841	T2-trig length error.
7,78	11,61	39145,37	"	1,15	0,3	47	46	204	2	"	"	DMA-Time out error
5,98	0,06	39145,43	"	0,8	0,2			1	0	"	4842	T2-trig length error
5,59	11,10	39156,53	"	"	"	51	48	195	3	"	4843	Beams dumped
9,25	21,86	39178,39	"	1.1	25	49	42	384	1	17501	4844	DMA Time out
7,76	19,47	39197,86	"	0.9	0,2	49	45	342	8	17500	4845	
5.51	17.19	39,215.05	"	0,8	0,2	50	48	302	4	"	"	
4.54	2.28	39217.33	"	-	-	51	49	40	0	"	4846	Beams Dumped
8.45	15.26	39242.59	"	1.05	0,2	50	43	268	3	17500	4844	Missing LAM FEPs Reload with JADEGO
7,14	21,07	39263.66	"	0.85	0,2	50	46	370	7	"	"	
5.36	16.00	39278.66	"	0,75	0,2	51	48	281	6	17501	"	
3.94	11.39	39290.05	"	0.75	0.2	51	51	200	2	"	4842	
3.04	8.99	39299.04	"	0.65	0.1	53	53	158	3	17.500	4841	
2.70	0.57	39299.61	"	0.55	<0.1	51	51	10	0	"	4840	Run stopped T2-trig bank wrong length
2.63	1.71	39301.32	"	"	"	53	57	30	0	17.501	"	beams dumped
9.96	10.36	39311.68	"	1.15	0.18	51	41	182	3	17.500	4839	DMA timeout
8.59	24.03	39335.71	"	1.0	0.15	50	44	422	3	17.501	"	
6.42	16.74	39352.45	"	0.8	0.1	51	46	294	14	17.500	"	
4.36	12.18	39364.63	"	0.75	<0.1	51	52	214	6	"	"	
3.79	3.70	39368.33	"	"	"	53	52	65	0	"	4838	beams dumped
9.18	24.08	39392.41	"	1.15	0.2	51	42	423	10	17.501	"	

1/7/86

2^{18} run 27260 stopped because of continuous FDAS readout errors 60 shortly after run start.
run 27261 FDAS readout error 60 : HHT IIII
2^{27} beams finally dumped
run 27262 FDAS readout error 60: HHT II
} many of them happened during standard histograms printing
3^{45} run 27262 stopped because of DMA timeout Nr. 1 ←
run 27263 FDAS readout error 60 : II
run 27264 " " " III
run 27265 " " " I
run 27266 " " " II
run 27267 " " " IIII
} mainly shortly after run start
6^{54} hard trip all 3 ch's.
run 27268 FDAS readout error 60: IHI
Meson crate 13 missing, remote reset does not work, reset in hall OK

8:00 Glauser & Krahbill

Gas check done

Run 27269 FDAS readout error 60 II all subsequent runs irregular stop with dataset help
27270
27271
10:15 attempted run start interlock problem in Petra

Run 27272 FDAS Err 60 III in a row, run cont.
Run 27273 Irresistible sequence of Errors after 3703 Triggers
11.55 2-Ch. Trip together with Pickup-Event.
Run 27274 and 5: for a change stopped with DMA Timeouts.
12.55 Error FDAS Error 64 AC2099 TOF-2 Q,X missing stn 8, subadd. 1.
13^{30} RTX - N10 Camac - N10 interface exchanged. Errors still occur in Testruns

16:00 Duerdoth, C Bechmann Gas check done.
16:4 Run 44 DMA TimeOut Nr1 on2 Latches StopRun & Restart
33 missing LAM to 2 c6 : Readglass ADCs

22^{50} Z chamber trip
Standard Histograms: "Z chamber MEAN A+ AND A-" was abnormal at 6:00 this morning. OK again now.

2/7/86

0^{00} Bartel, Bethke on shift. Gas check ok.
1^{30} after some partial beamlosses, energy is now 17.523 GeV/beam. PKR has problem with klystrons. They will dump beams, and hope to be able to run at lower currents.

2^{45} Beams ready (2×10 mA), but during running up HV, partial beam-loss and "switch off HV". At the same time, both LG DC power supplies tripped and colour TV turned black! Also at the same time: vtch valve error. Coincidence?
4^{50} "Restart 7:00". Klystrons tripped and also some PETRA-magnets. Run down magnet to 1000 A.
Found that also IBM-graphics TV does not work any more. MOP hangs up in addition.
→ These probably was a spike on the main 220V lines that caused all this trips.
Reloaded Nord and MC68K.
Found and exchanged a broken 8V-power supply of FADC (ID).
Eye-check of the rest of the detector: no other errors found.
3^{35} Run down magnet to 0 and go home. Bartel will come at 7:00.
7^{55} Switch on Magnet

8:00 Walker and Kado on shift

8:20 gas check done

11.05 Luminosity.
11.06 HT refuses to run up. TOF-BF error 2 on alarm+control interface.
MKR 54.55 reset manually. Try again.
11.5 VTX-ch trip while running up volts.
11.8 Stable run. 57 variables of error message on line printer.
11.35 TOF-walls has a back-ground variation between 2 and 4 volts.
12:53 all chambers hard trip / beams lost

16:00 Hellenbrand, Naroska

Gas check done
20.30 background ~50% higher than normal. Asked Petra to check.
I_+ = 10.11 TOF = 1.6 Dead time 25.1 %
I_- = 9.67

3.7.86

0:00 J. Chrin, U. Schneekloth

2.58 JDAS READOUT ERROR 44 DMA TIMEOUT frequently appearing started new run
3.40 DC 300 monitor crashed, reloaded
3.50 Gas check done
6.52 HV Error: LG distribution 19 HV = 1.697 should be 1.870

Run	Date	Start	Stop	AT Run start I^+	AT Run start I^-	Dead time %	Time (Secs)	Records IN	Records out	ALL $\#10^6$	TØ Req $\#10^6$	T_1 Acc SUM	T_2 Acc SUM	T_1 bit 2 $E_{cl}>1GeV$	T_2 bit 17 2T Ec >2Th	Processors ON/OFF NSO	MIP	TOF	FAH	CLT $10^{30}cm^{-2}s^{-1}$	BHABHA SLdt mb^{-1}	SLdt Exp. ENERGY	IBM/TAPE OUTPUT	At Run start TOF [Hz]	At Run start ID [mA]	ONLINE REJECT SHE Hadron T_2 %	ONLINE REJECT WORSD T_1T_2 %	Σ BHABHA	KUHA	E Beam	FAG FIELD -1+G	Remarks
27268	1.7.86	7:30	8:19	9.00	8.16	17.9	2545	8002	4147	661	118	5520	4403	1237	27	ON	ON	ON	OFF	6.83	17.39	39409.80	Y	0.8	0.1	50	56	320	7	17.500	4840	
27269	"	8:13	9:00	7.79	7.61	17.1	2647	8002	4245	648	117	5531	4349	1256	19	"	"	"	"	5.39	16.28	39426.08	"	0.75	0.1	50	48	296	5	17.500	4841	
27270	"	9:00	9:12	6.70	6.02	19.1	650	1823	932	169	32	1291	977	278	12	"	"	"	"	4.11	2.50	39428.58	"	0.6	0.1	52	51	44	0	17.500	4842	stopped in hope of curing JDAS err 60 detritwork
27271	"	9:12	9:41	6.46	5.78	20.9	1689	4932	2554	439	89	3412	2701	735	17	"	"	"	"	3.96	8.31	39436.89	"	0.5	0.1	50	50	146	5	17.500	4843	Beams Dumped
27272	"	10:59	11:40	9.24	9.20	20.3	2388	8002	4790	622	126	5495	4391	1312	37	"	"	"	"	8.96	25.73	39462.62	"	0.95	0.2	48	41	452	5	"	4847	Wellthrown Error occured 3x in a row, but run continued
27273	"	11:40	11:56	7.85	8.15	21.7	872	2962	1739	227	49	2051	1620	483	12	"	"	"	"	7.81	7.86	39470.48	"	0.95	0.2	50	43	138	3	"	"	Run stopped. Irrecoverable JDAS Error
27274	"	11:56	12:26	7.37	7.66	21.5	1724	5774	3347	449	96	3899	3224	949	27	"	"	"	"	6.60	14.06	39484.54	"	0.9	0.2	49	44	247	8	17.501	"	" " " " " "
27275	"	12:26	12:35	6.59	6.86	20.9	580	1947	1091	151	32	1309	1054	314	11	"	"	"	"	5.75	3.24	39487.78	"	0.86	0.2	46	46	57	4	17.500	"	" " " " " "
27276	"	12:37	13:16	6.33	6.61	20.0	2357	7059	3893	588	118	4785	4014	1080	36	"	"	"	"	4.93	10.47	39498.25	"	0.86	0.18	50	46	184	7	"	"	Beams dumped.
27277	"	13:40	13:47	8.32	10.99	22.7	330	1182	724	85	19	861	594	193	6	"	"	"	"	9.06	3.30	39501.55	"	1.65	0.25	45	41	58	2	17.500	4849	
27278	"	13:48	14:28	8.06	7.39	21.1	2386	8002	4727	621	131	5435	4524	1310	29	"	"	"	"	7.87	20.56	39522.05	"	1.0	0.2	48	42	360	4	7	"	Run ended manually.
27279	"	14:34	15:06	6.62	8.98	22.8	1631	5470	3175	425	97	3658	3230	893	23	"	"	"	"	16.10	10.48	39532.53	"	1.0	0.2	49	43	184	3	7	4850	Beams dumped
27280	"	15:44	16:17	9.25	10.89	22.4	1973	6923	4232	514	115	4704	3853	1161	29	"	"	"	"	9.78	20.10	39552.63	"	1.35	0.25	48	40	353	3	.1	"	DMA Time Out.
27281	"	16:19	16:59	7.91	9.44	21.1	2366	8002	4662	616	129	5505	4443	1444	28	"	"	"	"	7.93	22.26	39574.89	"	1.1	.15	49	43	391	9	"	4850	
27282	"	16:59	17:38	6.66	8.06	19.8	1978	6490	3683	514	102	4605	3538	1079	30	"	"	"	"	6.18	14.29	39589.18	"	0.9	0.15	52	44	351	2	"	4850	Beams dumped
27283	"	18.23	19:04	8.87	10.26	20.3	2381	8002	4665	619	125	5516	4465	1326	28	"	"	"	"	8.86	22.37	39611.55	"	1.4	0.25	50	43	393	6	"	4850	
27284	"	19:03	19:46	7.43	8.66	18.9	2475	8002	4485	643	121	5613	4259	1324	32	"	"	"	"	7.05	19.41	39630.96	"	0.9	0.2	50	45	341	6	"	4849	
27285	"	19:46	20:25	6.26	7.38	17.9	2336	7336	3956	607	108	5106	4000	1162	29	"	"	"	"	5.19	11.96	39642.92	"	0.8	.1	49	48	210	3	"	4849	Beams dumped
27286	"	21:17	21:56	10.12	10.13	21.6	2362	8002	4853	614	130	5348	4597	1360	39	"	"	"	"	9.10	23.97	39666.89	"	1.04	.2	47	40	421	3	"	4847	
27287	"	21:56	22:37	8.55	8.58	19.6	2400	8002	4532	624	123	5574	4360	1366	28	"	"	"	"	7.12	20.33	39687.22	"	1.0	0.2	49	45	357	3	"	4847	
27288	"	22:37	23:19	7.32	7.36	19.6	2497	8002	4440	649	127	5508	4485	1345	33	"	"	"	"	6.00	17.25	39704.47	"	0.9	0.15	50	46	303	7	"	4847	
27289	"	23.19	23:34	6.27	6.22	18.5	914	2985	1597	237	44	2093	1592	486	11	"	"	"	"	5.14	5.58	39710.05	"	0.8	0.1	49	48	98	1	"	4844	Beams dumped
27290	2.7.86	0:05	0:17	10.61	10.46	24.7	692	2543	1583	180	44	1712	1413	458	12	"	"	"	"	10.41	9.11	39719.16	IBM	1.5	0.2	48	39	160	2	"	"	Beam lost
27291	"	0:49	1:31	10.26	10.50	19.6	2237	7089	3939	582	114	4774	4202	1070	23	"	"	"	"	6.80	14.52	39733.68	"	1.5	0.2	50	46	255	8	17.501	"	$E_{Beam} \rightarrow 17.523$: dumped.
27292	"	11.22	12:08	6.51	7.14	19.6	2691	8002	4508	700	137	5352	4466	1124	41	"	"	"	"	4.88	13.61	39747.29	"	1.2	0.42	51	45	239	3	17.500	4852	
27293	"	12:10	12:10	5.54	6.12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	junk beams dumped
27294	"	12:42	12:58	10.15	9.99	22.8	920	3277	2059	240	55	2207	1778	583	16	"	"	"	"	10.69	10.82	39758.11	"	1.5	0.2	47	38	190	3	17.500	4844	beams lost
27295	"	14:15	14:54	9.71	9.72	21.1	2323	8002	4761	604	128	5505	4482	1376	42	"	"	"	"	10.02	27.44	39785.55	"	1.4	0.2	49	39	482	6	"	4847	
27296	"	14:59	15:47	7.84	7.86	21.3	2404	8002	4770	625	133	5463	4502	1427	36	"	"	"	"	6.46	18.10	39803.65	"	1.0	0.2	49	42	318	3	"	"	
27297	"	15.47	16.15	6.27	6.30	21.4	1477	4945	2796	390	83	3383	2327	831	28	"	"	"	"	4.76	7.57	39811.22	"	1.1	0.2	51	45	133	1	"	"	Beams dumped.
27298	2(7.86	17:41	18:23	7.03	10.22	22.1	2391	8002	4894	622	138	5379	4663	1376	41	on	on	on	off	7.60	18.50	39829.72	IBM	1.4	0.2	49	40	325	6	17.501	4847	
27299	"	18:24	19:04	5.79	8.69	22.1	2392	8002	4588	622	137	5503	4613	1427	32	"	"	"	"	5.53	14.23	39843.95	"	1.3	0.2	51	44	250	7	17.500	4847	
27300	"	19.05	19.18	4.84	7.48	22.1	802	2797	1647	208	46	1899	1544	532	15	"	"	"	"	4.83	4.33	848.28	"			48	43	76	1	17.501	4847	dump
27301	"	20.34	21.02	10.01	8.68	24.2	1488	5353	3374	386	93	3574	3084	923	30	"	"	"	"	10.03	15.88	864.16	"	1.8	0.3	48	38	279	2	"	4845	DMA TIMEOUT
27302	"	21.03	21.48	8.67	7.15	21.7	2683	8002	5049	698	151	4896	5335	1144	36	"	"	"	"	6.88	20.84	885.00	"	1.2	0.3	47	38	366	15	"	4844	
27303	"	21.46	22.33	7.15	7.36	20.7	2649	8002	4937	688	142	4827	4946	1452	41	"	"	"	"	5.05	15.09	39 900.09	"	1.0	0.3	50	40	265	5	"	"	

Remarks

Run	Date	Start	Stop	At Run Start I+	At Run Start I−	Dead time %	Time [secs]	Records IN	Records OUT	ALL *10⁶	T0 Rej. *10⁶	T1 Acc sum	T2 Acc sum	T1 Bit 2 E16 >6GeV	T2 Bit 17 2T. Eq. ≥2 TR	Processors on/off N50	MIP	TOF	FAMP
27304	2/7/86	22.31	2306	6.00	6.18	19.1	1918	5640	3245	499	96	3697	3464	1067	33	ON	ON	ON	OFF
27305	"	23.36	019	10.57	10.59	23.8	2377	8002	5288	619	147	5182	4979	1589	35	"	"	"	"
27306	3/7/86	019	101	8.76	8.62	21.2	2512	8002	4933	654	139	5283	4892	1691	27	"	"	"	"
27307	"	102	149	7.31	7.17	19.7	2639	8002	4701	686	135	5249	5010	1552	36	"	"	"	"
27308	"	150	200	6.02	5.88	19.6	581	1774	991	151	29	1155	1017	347	12	"	"	"	"
27309	"	274	304	10.68	10.55	24.3	1663	5716	3793	432	105	3657	3491	1111	26	"	"	"	"
27310	"	306	350	9.31	9.20	21.4	2474	8002	5006	644	138	5364	4819	1719	40	"	"	"	"
27311	"	3^{50}	4^{33}	7.62	7.50	19.4	2589	8002	4665	673	130	5467	4702	1667	30	"	"	"	"
27312	"	4^{33}	5^{09}	6.41	6.31	17.6	1979	5851	3320	515	90	3968	3546	1216	28	"	"	"	"
27313	"	5^{44}	6^{24}	10.41	10.12	23.0	2374	8002	5248	617	142	5173	4925	1650	35	"	"	"	"
27314	"	6^{24}	7^{00}	8.68	8.43	21.0	2496	8002	4908	649	136	5335	4734	1622	35	"	"	"	"
27315	"	7^{00}	7^{51}	7.28	7.06	19.3	2629	8002	4722	684	132	5315	4861	1578	46	"	"	"	"
27316	"	7^{53}	8^{18}	6.12	5.93	18.3	1465	4325	2452	381	70	2873	2698	856	21	"	"	"	"
27317	"	9^{30}	10^{11}	9.98	9.48	21.0	2452	8002	5099	638	134	5185	4887	1542	39	"	"	"	"
27318	"	10^{11}	10^{54}	8.30	7.85	20.3	2544	8002	4791	662	134	5387	4706	1628	35	"	"	"	"
27319	"	10^{54}	11^{32}	6.96	6.56	22.5	2146	6379	3692	559	126	4237	3827	1238	36	"	"	"	"
27320	"	12:30	13.12	10.70	10.62	23.7	2350	8002	5214	611	144	5140	4925	1527	48	"	"	"	"
27321	"	13:10	13:41	8.90	8.83	23.2	1705	5768	3683	444	103	3788	3537	1151	24	"	"	"	"
27322	"	13:46	14.25	7.62	7.56	23.3	2194	~~47825~~	4654	572	133	4814	4438	1464	30	"	"	"	"
27323	"	14:47	15.27	5.95	5.91	20.4		7116	7416							OFF	"	"	"
27324	4/7/86	4.14	455	9.34	10.58	23.6	2464	8002	5106	638	151	4993	5086	1382	37	ON	ON	ON	OFF
27325	"	456	539	7.77	8.82	21.4	2596	8002	4731	675	144	5141	4868	1500	40	"	"	"	"
27326	"	543	600	6.42	7.34	19.7	344	1086	662	89	18	685	655	210	9	"	"	"	"
27327	5/7/86	11.27	12:01	5.09	4.38	19.2		5311	3038	512	98	3376	3209	865	27	"	"	"	
27328	"	13:02	13:22	7.23	7.67	26.0	(7833)	2747	1721	203	52	1665	1486	439	14	"	"	"	"
27329	"	13.22	14:04	7.03	7.00	23.1	(6354)	8002	4723	637	147	4906	4484	1470	47	"	"	"	"
27330	"	14:04	14:48	5.90	5.88	20.9	2631	8002	4534	584	142	4927	4877	1427	46	"	"	"	"
27331	"	14:48	14:52	4.38	4.36	21.8	224	723	369	58	12	412	362	113	3	"	"	"	"
27332	"	15:27	15:48	8.27	8.43	38.6	590	2156	1232	153	59	1100	1015	339	11	"	"	"	"
27333	"	15:43	16:05	7.68	7.82	26.0	1274	4358	2776	337	86	2822	2542	791	23	"	"	"	"
27334	"	16:07	16:50	5.78	5.82	22.8	2555	8002	4848	665	152	4888	5014	1477	46	"	"	"	"
27335	"	16:50	17:07	5.76	5.88	30.1	1012	3535	1775	263	79	1752	1686	490	16	"	"	"	"
27336	"	17:37	17:56	8.53	8.51	30.3	1111	4001	2150	285	285	2077	1812	580	9	"	"	"	"
27337	"	17:57	18:00	4.77	4.75	27.6	185	754	383							"	"	"	"

(L)	∫Ldt Bha	∫Ldt EXP	IBM TAPE	TOF	ID	SUM MIPRO	NORD 50	Σ Bhabh	MH	E beam	MAG f	
3.72	8.77	39 903.86	IBM	1.0	0.3	50	44	154	4	17501	4844	dump
9.15	25.22	39934.08	"	1.4	0.4	49	35	443	8	"	"	
6.98	20.89	39954.97	"	1.2	0.3	50	40	367	3	17500	"	
5.30	15.14	39970.13	"	1.0	0.2	50	43	266	3	"	"	
4.33	2.62	39972.75	"	0.9	0.2	45	46	46	2	"	"	beams dumped
9.50	15.77	39988.52	"	1.6	0.3	47	35	277	5	"	"	DMA timeout
7.65	21.06	40009.58	"	1.2	0.2	51	39	370	6	"	4840	
5.65	17,42	40027.00	"	1.0	0.2	51	43	306	3	"	4841	
4.50	9.85	40036.85	"	1.0	0.2	51	44	173	3	"	4840	beams dumped
8.87	24.71	40061.56	"	1.5	0.3	48	36	434	7	"	4839	
6.91	18,56	40080.12	"	1.2	0.2	49	40	326	6	17501	"	
5.29	16.11	40096.23	"	1.1	0.2	50	42	283	5	"	4841	
4.02	7.40	40103.63	"	0.9	0.2	51	45	130	1	17500	"	beams dumped
8.88	24.80	40128.43	"	1.5	0.25	48	37	436	3	17.494	4844	
6.65	17.19	40145.62	"	1.1	0.2	50	41	302	8	17.500	"	
5.08	12.13	40158.75	"	1.0	0.2	49	43	213	4	"	"	beams dumped
9.10	22.09	40180.84	"	1.6	0.4	48	36	388	9	"	4847	
7.31	15.26	40196.10	"	1.3	0.2	49	37	268	4	"	"	DMA Timeout
5.49	~~17~~86	40210.96	"	1.2	0.2	49	38	261	3	"	4850	
3.64	~8	40218.96	"	1.0	0.2	24				"	4850	without N50 Beams dumped
7.45	19.98	40238.94	"	2.0	0.4	47	37	351	4	"	4844	
5.27	14.69	40253.63	"	1.3	0.2	47	42	258	4	"	"	
4.48	2.11	40255.74	"	1.0	0.18	47	41	37	0	17501	4845	Beams lost
2.12	4.78	40260.52	"	1.1	0.15	50	44	84	2	17.501	4844	Beams lost
5.8	6.72	40267.24	"	1.5	0.30	34	39	118	0	"	"	DMA timeout, clock run with 10 Hz instead 1 Hz
(1.82)	13.04	40280.28	"	1.2	0.2	38	43	229	4	"	"	partly
3.49	10.13	40290.41	"	1.0	0.2	42	45	178	2	"	"	
3.00	0.97	40291.38	"	0.9	0.2	22	51	17	0	"	"	beams dumped
6.05	4.27	40295.65	"	1.7	0.4	4	45	75	3	"	"	DMA timeout
6.43	9.00	40304.65	"	1.4	0.4	46	38	158	4	"	"	
5.08	14.23	40318.88	"	1.3	0.4	45	39	250	4	"	4850	
3.66	4.72	40323.60	"	1.2	0.3	2	52	83	1	17.500	"	
7.07	7.91	40331.51	"	1.2	0.3	6	48	139	4	"	"	
6.69	1.42	40332.83	"	1.0	0.3			25	0	"	"	DMA time out

8⁰⁰ Kleinwort, Buchmann on shift

8²⁰ Gas check done

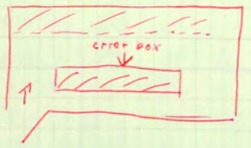
9⁴⁰ waterpipe for WC damaged by work for them, Sprinkler for roof cooling is effected ~~too~~ not!

13:38 DMA Timeout and numbers on MOP flashing
J68K reloaded and new run started

14:20 Get Message IBM ONLINE-JOB ERROR CHECK 2 } JDAS Console
BAD EVENT STRUCTURE } Contour TV
FAULTY PART: 1017
\+ YOPN50: Memory out of range at 161454 } on System Printer
Arithmetic overflow
Reload ZDAS doesn't help.
Rebuilt ZHONX " Call J.O.
CONF (DA) ZDAS0 Run without N-50 R 27323 No errors in this case.

15:30 Due to high Temperature (29°) at the inndetector we stop data taking for ~3 hours and run down the magnet to 500 Amp.
Takes 3h to cool down.
Do not ~~switch on~~ raise magnet current until 18:30 !

16:00 Vertex chamber pressure wrong alarm disabled due to high temperature in chamber. Please read the pressure value every 4 hours (error box in rucksack). If the value is in the range from 1140 to 1200 mbar it is O.K. if not call expert.



20⁰⁰ HV's ✓
22¹⁵ HV's ✓
23⁵⁵ HV's ✓

16⁰⁰ Hedgecock + Zorn on shift x3157

16³⁰ Gas Check made.

17²⁰ The Norel-50 problem seems to have been a temperature problem. After opening up the covers and cleaning air filter mats, the errors don't occur. J.O.

18⁵⁰ I.D.-temperature raised to 29.4°C. Found that magnet cooling water stabilised at 55°C! That's too hot. So phoned K-people in order to cool down more.
Besides that, the whole detector is very massive and it may probably last quite long until I.D. starts to cool down. There is no other way than waiting. S.R.

19⁰⁰ Magnet completely off breaker!
Magnet temperature lowered to ~35°C by K-people
Leave the water flowing.

To restart: switch on magnet as described on the info sheet in the counting house. W. Bartel

21⁰⁰ I again asked the K group to check the water, again they have lowered the water inlet temperature. We stand by.

22¹⁵ Inn-Detector temperature (T_2) is still above 29°C.

4/7/86 00⁰⁰ Skard, Komamiya on shift.

00¹⁵ Gas check done.

01¹⁵ New fill, I.D. temperature 28.7°C, more waiting.....

02³⁵ ID temp now at 28.4°C; seems to be dropping faster than before. Having the wide doors completely open seems to have helped (a strong, cool breeze into the hall). With less than ½ hr. left of fill, might as well wait for next fill...

03³⁰ ID at 28.2°C. Beams about to be dumped. PKR says OK to run the magnet up after they have dumped beams, before they start injecting. Will do this, and hope for some data from the next filling....

03⁴⁵ Magnet at 7500 A.

04¹³ Start taking data without problems!

04²⁰ ID temperature stays stable: 28.1°C.

05⁴³ ID BP Soft trip

05⁵⁹ Beams lost. 3 chambers tripped

06²² "Shot breach" on TiV.

08⁰⁰ I finished the final shift for JADE (S.K)
Do not worry! I will not push the "Not Entlüftung für Innendetector".

8:00 Cartwright and Kado on shift

Vertexchamber: T = 26.3°C, P = 1172 mbar → pressure wrong alarm enabled again

8:10 gas check done
PETRA TV: "Vakuum leck, Restart: 11.00 Uhr ?"
Magnet OFF

11:00 now: "Restart ca. 1:00 PM"

100 Now "Restart 2300"

16:00 Diedemann on shift

Gas check done

22:00 In course of afternoon, the system crate (mechanical crate) and its powerpack were exchanged. DMA time out errors occurred in BPCH pulser runs afterward. After this, pulser runs with various crates in Br1 removed from readout, or switched off, were tried, without learning much. After switching Br1 Cr2 on again, problems developed with loading processors in Br1 and only after much cable inspection and contact cleaning did it work. J.O. / J.H.

5.7.86

0:00 Hill on shift

"Twelve o'clock and all is well"

Gas check done,

6:30 Hagemann on shift

7:15 PETRA-TV: "Restart about 2 pm"

8:00 Heinzelmann

8:05 Gas check done

9:55 Injection Magnet tach to 7500A

12:00 Kuhlen on shift

13:24 Noticed that CAMAC clock was still running with 10 Hz instead of 1 Hz. The 10 Hz had been used for tests during fill time. Therefore the LUMI ~~had to be multiplied~~ from the run summary had to be multiplied by 10 before writing it into the Logbook. This is true for run 27328 and partly for 27329.

15:27 all chambers tripped

15:35 Plessey does not reject any event. Fiddling with the contacts helped.

16:00 Becker - Ghim 20:00

Gas Check Done

17:20 Readout of vertex-chamber, Br 7, now changed to Br 5, 6 programs were changed correspondingly. Copy of system-disc made before, as backup --- J.O.

This forenoon, the NSO program and VCLRTV were changed, so that data errors in the vertex-chamber are shown immediately as a red message on the colour TV. This new feature makes use of bit 10 in the N10/SU urgent error word (Head bank word 28). Bit 10 was up to now unused.

Effective from Run 27327

J. Olsson

17:40 The readout in Br 5 makes no change for the data error in BPCH.

The Plessey wackelkontakt problem is back, as of today ⇒ 0% rejection and high deadtime. Now believe that this cable connection (for which there is no replacement) causes all of our Camac Problems. J.O.

18:00 - 18:20 3 x DMA time out - J. Olsson will exchange hardware after this fill.

18:43 Stop run: repair hardware - Stop running

19:30 Try again (new fill)

19:57 - 20:03 Error message on system console: Error 37; 10X Error address 103263; Unit (Dec) 8.
(J.O. says this is connected to the Jolus readout error 53).

Run No 27342 did not automatically print the run summary sheet - although histograms saved.

22:30 During evening, the connection cable and CESY unit inspected for cold solders, one place repaired. Also Executive controller exchanged, the previous seemed to have corroded contacts, for the highway. This had no effect. Finally a cable in the arbitration highway (for µProc16) with faulty groundconnection was exchanged. Again no effect.

6.7.86 Rueckmann and Middleton on shift

0:00

0:25 gas check ok.

still lots of DMA timeouts!

8:00 Warming and Hellenbrand on shift

gas check done, OK

8:06 JDAS readout error - missing Lam br cr (2:cl part I)

8:13 system crate watchdog and then DMA timeout

nobody put any histograms into the folder since 3 days!

Is there a new policy regarding standard histograms?

For the time being I stick to the old rule: histograms at least once per shift.

8:50 Gould plotter in bad shape: paper advance not working occasionally.

9:49 system crate watchdog* - nothing else *) = 000016 177777

occassionally flashing message: BP dr. error - faulty part 8 169

9:59 DMA Timeout br 2 or 1, followed by system crate watchdog*) and 10X error, recovered by itself, data taking continuing *) = 000016 030300

10:06 more watchdogs 000016 030300

10:10 I wanted to change error limit to 2 by S-E-L 2 command, resulted in "Fatal Error, Com Proc Aborted"

Run	Date	Start	Stop	At Run Start I^+	At Run Start I^-	Dead Time %	Time sec	Rec IN	Rec OUT	ALL *10⁶	TØ REJ. *10⁶	T_1 Acc SUM	T_2 Acc SUM	T_1 B+2	T_2 B+2	PROCESSORS N50	PROCESSORS MIP	PROCESSORS TOF	PROCESSORS FAM
27338	5.7.86	18:11	18:13	4.62	4.61	27.3	685	2537	1258							ON	ON	ON	OFF
27339	"	18:17	18:23	7.07	4.07	24.6	302	1178	584							"	"	"	"
27340	"	18:24	18:34	6.86	6.85	24.4	548	2037	1013							"	"	"	"
27341	"	18:36	18:43	6.53	6.30	25.3	440	1643	788							"	"	"	"
27342	"	19:31	20:08	8.32	8.39	28.3	2191	8002	4188	569	161	4024	3769	1792	37	"	"	"	"
27343	"	20:09	20:40	7.02	7.09	26.9	1798	6635	3393	467	125	3393	3027	1024	29	"	"	"	"
27344	"	20:41	20:54	6.15	6.22	25.9	783	2897	1425	203	52	1427	1373	460	17	"	"	"	"
27346	"	21:05	21:08	5.60	5.66	20.2	179	543	328	46	9	346	289	91	4				
27345	"	20:55	20:57	5.81	5.88	28.2	68	292	151	17	4	141	119	37	2	"	"	"	"
27347	"	21:33	21:42	7.89	8.80	20.8	372	1248	789	96	20	827	716	256	6	"	"	"	"
27348	"	21:43	21:46	7.52	8.43	18.8	167	561	335	43	8	370	315	119	2	"	"	"	"
27349	"	21:47	22:30	7.39	8.30	24.3	2557	8002	4842	665	141	5381	4815	1604	36	"	"	"	"
27350	"	22:32	22:47	6.07	6.88	20.1	897	2803	1603	233	46	1854	1668	565	24	"	"	"	"
27351	"	22:48	23:05	5.69	6.47	19.7	925	2876	1644	240	47	1872	1701	584	9	"	"	"	"
27352	"	23:05	23.11	5.32	6.07	20.0	322	999	539	83	16	658	575	184	5	"	"	"	"
27353	"	23:38	00:00	8.63	8.85	22.7	1246	4129	2618	324	73	2739	2438	851	25	"	"	"	"
27354	6.7.86	00:01	0:15	7.77	8.04	21.4	809	2559	1581	210	45	1679	1554	509	12	"	"	"	"
27355	"	0:16	0:34	7.29	7.55	20.2	1071	3377	2021	279	56	2252	1933	697	21	"	"	"	"
27356	"	0:35	1:04	6.74	6.99	21.3	1730	5398	3236	450	96	3640	3202	1073	26	"	"	"	"
27357	"	1:04	1:20	5.99	6.22	20.1	904	2778	1592	235	47	1846	1653	538	8	"	"	"	"
27358	"	1:20	1:27	5.63	5.86	19.9	378	1207	727	99	20	792	698	221	6	"	"	"	"
27359	"	1:28	1:31	5.48	5.70	19.3	185	591	331	48	9	390	336	113	3	"	"	"	"
27360	"	1:32	1:35	5.39	5.61	19.1	145	469	262	38	7	304	265	94	2	"	"	"	"
27361	"	2:32	2:35	9.03	9.06	23.9	155	570	375	40	10	350	320	87	4	"	"	"	"
27362	"	2:36	3:02	8.84	8.88	23.2	1512	5028	3232	393	91	3289	3060	799	19	"	"	"	"
27363	"	3:03	3:08	7.88	7.93	21.7	314	1047	646	82	18	669	615	211	3	"	"	"	"
27364	"	3:09	3:41	7.67	7.72	22.1	1909	6177	3816	497	110	4083	3615	1293	26	"	"	"	"
27365	"	3:42	3:49	6.72	6.76	21.9	427	1383	875	111	24	917	806	269	6	"	"	"	"
27366	"	3:50	4:16	6.50	6.55	21.7	1515	4752	2826	374	86	3164	2899	920	27	"	"	"	"
27367	"	4:16	4:28	5.88	5.93	20.8	685	2137	1217	178	37	1408	1285	408	9	"	"	"	"
27368	"	4:31	4:42	5.57	5.62	21.0	587	1821	1025	153	32	1184	1106	344	11	"	"	"	"
27369	"	4:43	4:43	5.35	5.40	21.8	28	110	83	7	2	71	49	23	0	"	"	"	"
27370	"	5:21	5:50	8.74	8.87	21.3	1235	3806	2344	321	68	2503	2264	748	18	"	"	"	"
27371	"	6:17	6:41	9.27	9.33	24.2	1359	4411	2723	353	85	2880	2574	828	22	"	"	"	"
27372	"	6:41	7:15	8.39	8.44	23.8	1992	6025	3603	518	123	3927	3655	1157	25	"	"	"	"
27373	"	7:15	7:32	7.34	7.39	23.3	973	2896	1743	194	59	1951	1708	601	11	"	"	"	"
27374	"	7:33	7:55	6.90	6.94	23.5	1328	3802	2185	345	81	2540	2303	684	22	"	"	"	"

<L>	BHABHA Clct	Clct Exp. ENERGY	IBM TAPE	AT RUN START TOF	AT RUN START I D	ON LINE REJ. SUM MIP Acc T_2 %	ON LINE REJ. N 50 T_1+T_2	Σ BHA	MH	E_{Beam}	Main Field −17G	REMARKS
6.79	6.09	40339.02	IBM	0.9	0.2		50	107	3	17.500	4850	DMA time out
5.68	2.11	40341.13	"	0.9	0.2		52	37	0	"	"	DMA time out
5.24	3.30	40344.43	"	0.8	0.2		52	58	1	"	"	- " - " - " -
5.15	7.68	40347.11	"	0.8	0.2		54	47	1	"	"	- " - " - " - Stop Run
6.37	14.91	40362.02	"	1.1	0.3	—	49	252	2	"	4849	
5.24	10.25	40372.27	"	0.95	0.25	-	50	180	4	17.501	4848	DMA timeout.
4.55	4.33	40376.60	"	0.9	0.2	-	52	76	0	"	"	" " → beam dumped.
3.38	0.28	40376.88 (40379.73)	"	0.9	0.2	-	52	5	1	"	"	" "
8.08	4.10	40381.83	"	1.2	0.25	48	38	72	2	"	4847	" "
7.64	1.54	40383.37	"	1.1	0.25	47	42	27	1	"	"	" "
6.37	18.50	40401.87	"	1.1	0.25	51	41	325	2	17.500	"	RUN ENDED NORMALLY after 8000 evnt !!
5.00	5.75	40407.62	"	0.9	0.2	48	44	101	1	17.501	"	DMA timeout
4.58	5.29	40412.91	"	0.9	0.15	47	44	93	1	"	"	" "
4.22	1.54	40414.45	"	0.9	0.15	47	48	27	0	17.500	"	beam dumped.
7.97	12.30	40426.75	"	1.4	0.3	49	38	216	8	"	"	DMA Timeout
6.89	5.75	40432.50	"	1.1	0.2	50	39	101	0	"	"	"
6.26	7.63	40440.13	"	1.0	0.2	48	41	134	2	"	"	"
5.14	9.79	40449.92	"	1.0	0.1	50	41	172	6	"	"	"
4.62	5.18	40455.10	"	0.9	0.1	49	44	91	2	"	4.846	"
4.25	1.65	40456.75	"	0.8	0.1	47	41	29	0	"	4846	"
4.02	0.91	40457.66	"	0.8	0.1	48	46	16	0	"	4.847	"
4.02	0.68	40458.34	"	0.8	0.1	47	47	12	1	"	4845	beam dumped.
8.02	1.48	40459.82	"	1.35	0.2	41	36	26	0	17.500	4.844	DMA timeout.
8.22	14.57	40474.39	"	1.2	0.2	49	37	256	5	"	"	"
7.23	2.39	40476.78	"	1.1	0.2	45	40	42	2	"	"	"
6.11	15.26	40492.04	"	1.1	0.1	48	40	268	2	"	"	"
5.77	2.28	40494.32	"	1.1	0.1	49	38	40	0	17.501	4.845	"
4.84	9.79	40504.11	"	1.0	0.1	50	42	172	2	17.500	"	"
4.12	2.68	40506.79	"	0.95	0.1	49	45	47	2	17.501	4.844	"
3.99	2.68	40509.47	"	0.9	0.1	48	45	47	0	"	"	"
3.84	0.40	40509.87	"	0.9	0.1	53	50	7	0	17.500	"	beam dumped.
6.94	8.88	40518.75	"	1.2	0.2	48	40	156	1	"	4.844	beam dumped
7.69	11.90	40530.65	"	1.2	0.2	47	40	209	3	"	"	DMA timeout
6.20	13.95	40544.60	"	1.0	0.1	48	42	445	3	"	"	"
5.23	5.47	40550.07	"	1.0	0.1	50	41	96	1	"	4844	"
4.25	5.92	40555.99	"	1.0	0.1	50	44	104	4	"	"	"

Run	Date	Start	Stop	At Run Start I+	At Run Start I−	Dead time %	Time (secs)	Records in	Records out	All ×10⁶	TØ Rej ×10⁶	T1 Acc Sum	T2 Acc Sum	T1 Bit+2 E_LG >6GeV	T2 Bit+4 2T.E4. ≥2TR	Processor ON/OFF: N50	MIP	TOF	EMU
27375	6.7.86	7.56	8:19	6.35	6.39	20.0	1308	3992	2370	340	68	2654	2420	768	18	ON	ON	ON	OFF
27376	"	8:19	8:53	5.65	5.89	18.9	1982	5760	3292	516	97	3872	3486	1083	27	"	"	"	"
27377	"	9:39	10:16	9.31	9.40	19.9	2084	6415	3877	542	108	4221	3877	1152	32	"	"	"	"
27378	"	10:18	10:19																
27379	"	10:21	10:22																
27380	"	10:31	10:48	6.51	6.76	19.3	1010	3118	1829	263	51	2072	1816	587	23	"	"	"	"
27381	"	10:49	10:53	6.09	6.34	18.8	263	783	451	68	13	527	500	168	4	"	"	"	"
27382	"	10:54	11:38	5.97	6.21	18.3	2607	7520	4311	678	124	5014	4613	1408	47	"	"	"	"
27383	"	11:39	11:39	5.11	5.34			21	18			6				"	"	"	"
27384	"	11:39	12:16	5.09	5.32	16.8	2160	5890	3226	562	94	3939	3707	1040	24	"	"	"	"
27385	"	12:22	12:43	4.44	4.65	18.8	1267	3619	2003	330	62	2372	2265	640	15	"	"	"	"
27386	6.7.86	13:23		9.12	9.81			901								on	on	on	off
27387	"	13:28	13:58	8.91	9.59	22.7	1749	5705	3599	455	103	3726	3534	1093	26	"	"	"	"
27388	"	13:58	14:17	7.85	8.49	22.2	1046	3428	2095	272	61	2282	2055	662	17	"	"	"	"
27389	"	14:20	14:54	7.27	7.87	21.3	2000	6395	3889	520	111	4273	3807	1229	32	"	"	"	"
27390	"	14:55	15:16	6.31	6.87	21.0	1195	3772	2240	311	65	2572	2231	748	21	"	"	"	"
27391	"	15:17	15:33	5.83	6.37	19.8	943	2824	1718	245	49	1850	1738	523	19	"	"	"	"
27392	"	15:34	15:59	5.48	6.01	18.9	1469	4373	2507	382	72	2875	2653	805	21	"	"	"	"
27393	"	16:00	16:10	5.02	5.52	17.9	563	1617	910	147	26	1044	983	296	8	"	"	"	"
27394	"	16:10	16:59	4.85	5.34	18.0	2812	8002!	4413	732	132	5298	5076	1439	42	"	"	"	"
27395	"	17:00	17:09	4.13	4.58	15.8	499	1285	1241	130	20	878	802	231	4	"	"	"	"
27396	"	20:18	20:31	5.48	5.99	15.9	757	2113	1183	196	31	1399	1302	386	16	"	"	"	"
27397	"	21:06	21:51	10.81	10.33	21.2	2483	8002	5035	646	137	5350	4925	1581	40	"	"	"	"
27398	"	21:51	22:34	8.36	8.50	20.8	2567	8002	4779	667	133	5379	4978	1575	38	"	"	"	"
27399	"	22:35	23:24	7.04	7.16	18.0	2782	8002	4536	723	130	5365	5156	1511	28	"	"	"	"
27400	"	23:24	0:02	5.88	6.00	16.5	2245	6153	3269	583	96	4161	3931	1072	21	"	"	"	"
27401	7/7/86	00 43	01 27	10.09	10.02	20.9	2353	7541	4864	612	128	5052	4754	1552	48	"	"	"	"
27402	"	01 24	02 08	8.44	8.23	18.5	2672	8002	4884	685	127	5394	5009	1546	31	"	"	"	"
27403	"	02 09	02 55	7.08	6.87	17.4	2760	8002	4554	718	125	5414	5055	1486	45	"	"	"	"
27404	"	02 55	03 17	6.01	5.81	16.8	1277	3659	2002	332	55.7	2524	2141	710	16	"	"	"	"
27405	"	03 51	4 33	10.41	10.39	21.4	2448	8002	4997	637	136	5344	4902	1550	41	"	"	"	"
27406	"	4 33	5 15	8.71	8.41	20.9	2500	8002	4802	650	136	5397	5011	1551	43	"	"	"	"
27407		5 16	6.00	7.38	7.10	20.1	2626	8002	4778	683	137	5321	5061	1512	36	"	"	"	"
27408		6.01	6.24	6.29	6.03	19.8	1337	3994	2479	348	68	2654	2584	733	16	"	"	"	"

<L> 10^{30} cm^{-2}s^{-1}	Bhabha ∫Ldt nb^{-1}	∫Ldt Exp. Energy	IBM/Tape	At Run Start TOF [V]	At Run Start ID [μA]	ONLINE REJECT Sum MIPROC T2 %	ONLINE REJECT N50 T1+T2 %	Σ Bhabha	H4	E Beam	Mag Field −1.6	Remark
		40 555.99										
4.71	7.74	40 563.73	IBM	0.9	0.1	50	42	136	4	17.501	4844	DMA timeout
3.85	9.39	40573.12	"	"	"	51	44	165	3	17.500	"	Beams dumped
7.06	14.35	40587.47	"	1.7	0.4	49	41	252	7	"	"	run stopped because of JDAS stand up
				0.95	0.1							— jump —
				"	"							— jump —
5.52	7.51	40594.18	"	"	"	48	43	132	5	"	"	DMA timeout
4.90	2.11	40597.09	"	0.9	0.1	55	44	37	1	"	"	DMA timeout
4.20	11.78	40608.87	"	"	"	51	44	207	6	"	"	DMA timeout
0	0			0.8	<0.1							DMA timeout
3.23	7.23	40616.10	"	"	"	53	47	127	0	17.500	4.844	DMA timeout
2.83	4.61	40620.71	"	"	"	50	46	81	0	17.500	4.846	Beams dumped
	2.68	40623.37	IBM									clock with 10 Hz
7.93	15.49	40638.86	"	1.3	0.15	49	38	272	6	17.501	4847	DMA timeout
6.58	7.29	40646.75	"	1.2	0.1	49	40	128	0	17.500	4.847	JDAS destroyed
5.43	11.44	40657.59	"	1.1	0.1	50	40	201	4	17.501	4.847	DMA timeout
4.64	5.35	40662.94	"	1.1	0.1	52	42	94	1	17.500	4.847	— " —
4.15	4.27	40667.21	"	1.1	0.1	50	41	75	2	17.501	"	— " —
3.89	6.83	40674.03	"			51	43	120	5	"	"	— " —
3.32	1.71	40675.74	"	0.85	0.05	47	45	30	1	17.501	4847	— " —
2.83	8.37	40684.11	"	0.8	<0.1	51	46	147	4	17.500	4848	Run ended normally!!!
2.29	1.65	40685.76	"	0.75	<0.1	55	50	29	1	17.501	"	DMA timeout; Jan working; beams dumped 1½ h late
4.35	3.64	40689.40	"	0.75	0.1	50	45	64	1	17.501	4847	beams dumped
8.18	23.40	40712.80	"	1.3	0.2	50	38	411	9	17.501	4847	Without VTX chambers
6.21	18.59	40731.19	"	1.1	0.2	51	41	323	4	17.500	4847	— " —
4.65	15.49	40746.68	"	1.0	0.15	52	44	272	6	17.501	4846	— " —
3.44	8.37	40755.05	"	0.85	0.1	53	48	147	1	17.504	4844	— " — beams dumped
8.23	27.85	40778.90	"	1.7	0.2	51	36	419	17	17.500	4.844	Without VTX chamb. DMA timeout.
6.42	18.85	40797.75	"	1.1	0.15	51	40	331	4	"	"	— " —
4.54	14.75	40812.50	"	0.95	0.10	52	44	254	3	"	"	— " —
3.31	5.41	40817.91	"	0.90	0.10	52	46	95	3	"	"	— " — beams dumped
8.64	23.57	40841.48	"	1.4	0.2	50	38	414	11	"	4842	Without VTX chamb.
6.30	17.02	40858.50	"	1.3	0.15	51	41	299	4	17.501	4844	"
4.56	13.38	40871.88	"	1.2	0.10	50	41	235	2	"	4843	"
3.62	6.03	40877.92		1.1	0.10							" beams dumped

Remarks

- 27375: DMA timeout
- 27376: Beams dumped
- 27377: run stopped because of JDAS stand up
- 27378: — jump —
- 27379: — jump —
- 27380: DMA timeout
- 27381: DMA timeout
- 27382: DMA timeout
- 27383: DMA timeout
- 27384: DMA timeout
- 27385: Beams dumped
- 27386: clock with 10 Hz
- 27387: DMA timeout
- 27388: JDAS destroyed
- 27389: DMA timeout
- 27390: — " —
- 27391: — " —
- 27392: — " —
- 27393: — " —
- 27394: Run ended normally!!!
- 27395: DMA timeout; Jan working; beams dumped 1½ h late
- 27396: beams dumped
- 27397: Without VTX chambers
- 27398: — " —
- 27399: — " —
- 27400: — " — beams dumped
- 27401: Without VTX chamb. DMA timeout.
- 27402: — " —
- 27403: — " —
- 27404: — " — Beams dumped
- 27405: Without VTX chamb.
- 27406: "
- 27407: "
- 27408: " beams dumped

6/7/86

10^{03} story continues: - JDAS console inactive, no response from Nord to any key of JDAS console,
- when hitting F1 (~~or was it ESC by mistake?~~ it was not ESC!), I got into the sequence ENTER ? PASSWORD ? ....
- By doing ENTER RT, PASSWORD Z, ORT ZDAS, DLOG I got the JDAS console back to life.
- Because I was not sure of the states of NORD/JDAS, I stopped run and started a new one, but Color TV was stuck in the states of the previous run.
- Therefore I made EXIT and restarted ZDAS (same input sequence as before), now everything back to normal.

10^{26} - NORD clock now wrong by 5 Minutes!

10^{46} Jan Olsson arrives - immediately afterwards another DMA timeout to welcome him.
Color TV has 1st Wackelcontact, knocking against the desk makes it dimmer or brighter

11^{25} remind Henk J of asking for a new fill

11^{35} reply from Henk J: Petra got vacuum problems, no new fill in next 2 hours

13^{23} R 27386 after work on system crate and observing clock was left at 10Hz for the first 600 events.
Run stopped

14:15 Olsson destroys ZDAS in setting new ERROR LIMIT

16^{00} Cartwright (Magnussen coming later) (16^{24})
Gas check done, OK

16^{15} System crate watchdog flag, PARMS = 000016 177777 again 16^{16}, 16^{35}, 16^{41}, 16^{49}, 16^{59} (twice)

16^{25} VXC soft trip (CQ 4)

16^{39} System crate watchdog flag, PARMS = 000502 — " —

16^{40} VXC soft trip, then JETC + VXC soft trip

16^{45} Wrong LAM br 4 cr 1: JETC pivot 501

18^{00} New fill ready but Jan not — Nord seems to have collapsed (multiple IOX errors)

20^{20} Errors in arbitration highway, system crate. Common effort of Krebbiel/Olsson finally brought success. The "Überwachungseinheit" in the arbitration removed. One faulty Branch Coupler found. Finally it was found that vertexch. readout brings missing lam in JETC readout, probably there is still an error in the Branch Coupler/interrupt mechanism. Decide to measure without vertex chamber to night, continue error search tomorrow. J. Olsen

21:16 System crate watchdog flag, PARMS = 000016 177777 (again 21:27, 21:40, 22:19, 22:22)

22:22 Simultaneously with last spl. crate watchdog, on teletype: Error 37, IOX-Error ⟵ LeCroy PARMS: 000016 030300
Address 103263, LEVEL 8

23:22 Same Error as 22:22 ; PARMS = 000016 030300

23:50 gas check done

7-7-86 00^{00} Greenshaw (Steffen coming later)
Note, CAMAC clock ~ 7 minutes fast.

00^{50} JDAS error 53 - System crate watchdog flag PARMS = 000016 177777
00^{55} " "
01^{07} " "
01^{11} JDAS readout error 44 - DMA timeout, br. 2 cr. 1 latches, simultaneously
" " 53 - System crate watchdog flag PARMS = 000016 030300
Run stopped
01^{24} JDAS readout error 53 - System crate watchdog flag PARMS = 000016 177777 [= JDAS error A]
01^{58} "
02^{10} JDAS readout error 55 - AC2094 TOF-2, Q, X missing stn & subadd. 0
02^{16} JDAS error A
02^{20} " " 5*177777
03^{53} JDAS readout error 44 - DMA timeout, λ, br. 2 cr. 1 latches, simultaneously
" " 53 System crate watchdog flag PARMS = 000016 030300
450 Histograms of bunch-timing look funny: "e^+ and e^--timing left": peak shifted
bunchmarker " " " & asymmetric.
⟹ ask B. Naroska during daytime if this is normal.

7:05 JDAS ERROR 53 system crate watchdog flg PARMS = 000016 ~~030300~~ 177777
7:10 " " " " " "
7:20 " " 33 Missig LAM branch 3 crate 1 : ID current
7:25 " " 44 DMA - time out
" " 44 " " branch 2 crate 1 : latches.
" " 53 system crate watchdog flg. PARMS = 000016 030300
7:30 " " 44 DMA - time out : latches
" " 53
8:00 Cartwright, Hagemann
8:05 Gas check done
8:27 USERERROR 53 System crate watchdog flag PARMS 000016 177777 again 9:20, 9:49
8:36 " " " " " " 000014 177777
8:49 Pause Ken. Monitor program has crashed at 2^{45} this night. Ctrl-C + Run Zimmermann did not work (exception) and all other procedures so did auto restart OK
9:00 FORTRAN runtime error in YMENU (see system console)
while choosing views options (F06) on track display
10:06 YMENU rebuilt
10:45 YSPY - Trigger 3 input (ST2, 6P4) ch 122 missing P. Warming called. This might be low statistics because also the neighbor channels have very low input.

Run	Date	Start	Lumi Stop	I+ at run start	I− at run start	dead time [%]	Time [sec]	Records in	Records out	ALC [$\times 10^6$]	TO Reject [$\times 60^6$]	TAcc Sum	TAcc Sum	T4h.t.2 (E_cl > 6 GeV)	T24717 LT-Ev. > 2 Tr	Processors 64/0 N50	MIP	TOF	FAN
27409	7.7.86	7:02	7:43	10.77	10.54	22.8	2449	8002	5102	636	145	5847	4946	1570	48	04	04	04	44
27410	"	7:44	8:26	9.10	8.71	20.2	2520	8002	4875	656	132	5384	5002	1634	38	"	"	"	"
27411	"	8:27	9:17	7.75	7.36	18.6	2651	8002	4731	690	128	5361	4927	1515	36	"	"	"	"
27412	"	8:21	9:35	6.38	5.99	16.8	802	2348	1305	209	35	1563	1460	414	9	"	"	"	"
27413	"	9:37	10:02	6.04	5.65	16.9	1474	4173	2310	384	65	2852	2587	790	11	"	"	"	"
27414	"	10:38	11:19	10.88	10.47	20.5	2463	8002	5069	641	131	5316	4988	1532	32	"	"	"	"
27415	"	11:20	12:03	9.13	8.19	19.3	2577	8002	4689	671	129	5377	5004	1521	32	"	"	"	"
27416	"	12:03	12:49	7.76	6.74	18.2	2698	8002	4486	702	128	5378	4993	1463	31	"	"	"	"
27417	"	12:49	13:29	6.62	5.67	16.1	2377	6800	3664	619	100	4635	4114	1258	24	"	"	"	"
27418	"	JUNK																	
27419	"	16:34	16:37				97	529	527							"	"		
27420	"	16:40	16:42	9.33	9.15		239	365	235							"	"	"	"
27421	"	16:42	17:29	9.39	9.17	17.4	2715	8002	4732	706	122	5433	4899	1513	38	"	"	"	"
27422	"	17:29	18:17	7.86	7.70	17.0	2894	8002	4490	749	127	5471	4920	1390	31	"	"	"	"
27423	"	18:19	19:07	6.60	6.45	14.8	2489	6654	3574	648	95	4534	4016	1149	22	"	"	"	"
27424	"	19:40	20:24	10.98	10.48	19.9	2570	8002	5094	669	133	5365	4954	1520	42	"	"	"	"
27425	"	20:25	21:11	9.21	8.34	18.5	2748	8002	4623	600	118	5476	4926	1486	36	"	"	"	"
27426	"	21:12	22:00	7.76	6.96	15.6	2913	8002	4426	758	118	5390	5022	1401	25	"	"	"	"
27427	"	22:01	22:21	6.59	5.87	14.1	1195	3172	1677	311	44	2185	1936	568	14	"	"	"	"
27428	"	22:52		11.18	10.86	20.3	2428	8002	4981	631	128	5317	4844	1494	24	"	"	"	"
27429	7.7.86	23:33	0:17	9.42	9.09	18.6	2603	8002	4629	676	125	5357	4893	1462	35	"	"	"	"
27430	8.7.86	0:17	1:08	7.93	7.85	16.2	2877	8002	4533	747	120	5481	4982	1445	30	"	"	"	"
27431	"	1:08	1:29	6.56	6.53	14.6	1195	3155	1715	310	45	2177	1968	536	8	"	"	"	"
27432	"	2:51	3:38	9.46	8.76	17.5	2757	8002	4823	712	124	5303	4990	1364	42	"	"	"	"
27433	"	3:38	4:26	8.01	7.07	16.4	2856	8002	4508	743	122	5367	5174	1292	30	"	"	"	"
27434	"	4:26	5:09	6.83	5.93	14.6	2550	6666	3600	664	97	4462	4257	1052	29	"	"	"	"
27435	"	5:51	6:39	9.05	8.39	17.1	2849	8002	4589	741	127	5251	5232	1302	43	"	"	"	"
27436	"	6:40	7:30	7.64	7.05	16.0	3024	8002	4467	787	126	5377	5251	1328	39	"	"	"	"
27437	"	7:31	8:02	6.48	5.85	14.3	1868	5087	2771	486	73	3441	1538	838	23	"	"	"	"
27438	"	8:43	9:11	8.38	8.27	20.7	1661	5164	3218	432	88	3320	1731	902	18	"	"	"	"
27439	"	9:12	9:57	8.43	8.31	18.8	2636	8002	4788	687	129	5286	2542	1436	36	"	"	"	"
27440	"	9:57	10:46	7.14	7.03	17.7	2786	8002	4620	725	128	5285	2531	1386	31	"	"	"	"
27441	"	10:51	11:10	6.83	5.61	16.7	1101	3040	1668	287	48	2010	861	509	8	"	"	"	"

<L> [10^{30} cm^{-2}s^{-1}]	Bhabha ∫Ldt [nb^{-1}]	∫Ldt Exp. Expyr	IBM/tape output	at run start TOF	at run start 10	on line reject Summe MIPROC T1,T2c	on line reject N50 T4·T2c	Σ Bhabha	M/H	E beam	major Field	Comments.
		40 877.92										VTXC
8.95	25.45	40 903.37	IBM	1.5	0.20	50	37	447	44/37	17.501	4842	OFF
7.44	20.55	40923.92	"	1.2	0.15	51	40	361	6	17.500	4844	OFF
5.75	18.96	40942.88	"	1.0	0.15	50	42	333	8	"	"	OFF
4.74	4.44	40947.32	"	0.9	0.15	50	46	78	1	"	4846	OFF Run stopped to test readout of Br.5
4.19	6.66	40953.98	"	0.8	0.15	53	46	117	2	"	"	OFF Beams dumped
9.49	25.45	40979.43	"	1.6	0.3	49	37	447	8	"	4842	OFF
7.33	21.86	41001.29	"	1.2	0.2	51	42	384	5	"	4844	OFF
5.87	17.31	41018.60	"	1.1	0.3	51	45	304	9	17.501	4843	OFF
4.85	12.47	41031.07	"	0.85	0.2	51	47	219	8	"	4841	OFF Run stopped at request of Jan Olsson.
				1.0	0.2					JUNK		
9.31	2.22	41033.29	"	1.02	0.2							
9.36	1.59	41034.88	"	1.0	0.2							
8.81	24.29	41059.18	"	0.9	0.2	51	42	427	7	17.493	4841	BP chamber out: causes more errors than tolerable
6.14	19.13	41078.31	"	0.8	0.15	52	45	336	10	17.501	4841	
4.56	12.64	41090.95	"	0.75	0.15	52	47	222	6	17.500	4841	Beams dumped
9.46	25.39	41116.34	"	1.5	0.3	50	37	446	8	17.500	4840	BP chamber out
7.24	21.52	41137.86		0.9	0.2	52	43	378	9	17.501	4841	" "
5.46	16.68	41154.54	"	0.75	0.1	51	46	293	6	17.501	4841	" "
4.42	6.03	41160.57	"	0.70	0.05	52	48	106	1	17.501	4841	" " Beams dumped
10.10	27.38	41187.95	"	1.3	0.22	48	39	481	10	17.500	4839	"
7.72	21.18	41209.13	"	1.0	0.2	49	43	372	4	17.5	4838	
6.23	20.61	41229.74	"	0.7	0.1	53	44	362	4	"	4837	
5.15	5.98	41235.72	"	0.7	0.05	54	47	105	4	"	"	" Beams dumped
7.43	21.98	41257.70	"	1.1	0.2	49	41	386	9	"	4836	
5.61	16.91	41274.61	"	1.1	0.1	52	45	297	3	"	"	
4.67	14.01	41288.62	"	0.8	0.1	52	47	246	6	17.501	4837	Beams dumped
6.43	18.73	41307.35	"	1.25	0.2	51	44	329	5	17.500	4837	
4.76	17.76	41325.11	"	1.0	0.1	53	45	312	8	"	"	
4.50	10.30	41335.41	"	0.8	0.05	52	47	181	3	17.501	"	Beams dumped.
8.05	14.63	41350.04	"	1.8	0.2	48	38	257	7	17.500	"	
7.18	22.49	41372.53	"	1.7	0.15	49	41	395	11	"	"	
5.83	17.31	41389.84	"	1.1	0.15	51	43	304	4	17.501	4840	
4.60	6.71	41396.51	"	1.0	0.15	52	46	119	2	17.500	"	Beams dumped

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10:56 JDAS error 44 DMA timeout 3x 177777
" " " " " " 8-2 cr. 1 Latches
" " 53 system crate watchdog flag PARMS 000014 030300
12:05 " " 64 AC2099 TOF 2 Q,X missing stn 8 subadd. 4
12:28 System crate watchdog flag PARMS 000016 177777
13:45 VXC valve failure, reset eventually (had to open V2)
16:42 Beam Pipe chamber out until tomorrow 9 a.m.!
18:33 Jet chamber voltage fuses - reset.
19:00 Further work on systemcrate and vertexchamber in afternoon (Rehlich/Olsson): Several broken cables in arbitration highway found, this was cause of yesterdays failure with the "Überwachungsbox", furthermore a cold solder was found in the IPG unit. It is still not possible to measure with the vertexchamber, there is a problem with timing of camac cycles, in particular in the BPCH readout. Work will continue tomorrow. J.O.
20:12 DMA timeouts early in new run.
21:43 Missing LAM watch 2 crate 6 Leadglass ADCs
21:57 JDAS Readout error 62 - AC2949 TOF-2 Q,X missing stn: 13 subadd: 0
23:55 " " 64 " 2 " " 8 " 4

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0:00 Kuhlen on shift
Gas check okay
4:00 Middleton on shift ... all quiet.
4:00 JDAS READOUT ERROR 53 - System crate watchdog flag PARMS = 000016 177777 (oct)
5:52 JDAS READOUT ERROR 64 - AC2099 TOF-2 Q,X missing stn=6 subadd.=0
6:00 JDAS READOUT ERROR 53 - system crate watchdog flag PARMS = 000016 177777 (oct) - 3 times in 5 minutes!
6:32 and again (in a new run)
7:07 " "
7:18 2 DMA timeouts but still running ok.
NORD clock appears to be 8 minutes fast now!!
8:00 Bodtke, Schmidt on shift
8:00 Gas check done; ok.
8:45 2 JDAS READOUT ERROR 44 - DMA TIMEOUT 177777
8:54 " " " 53 - System crate watchdog flag PARMS = 000016 030300 (oct)
9:14 " " " 44 DMA TIMEOUT branch 2 crate 1, LATCHES
9:15 " " " 53 System crate watchdog flag PARMS = 000016 030300 (oct)

14:17 Data taking stopped. J. Olson and his crew tried to look for the error messages with a pulser.
16:00 Further work on system crate (Rehlich ...): 2 Branch Couplers found defect (?), no more errors in test runs. Start new fill: WD errors still present... Story will continue...
16:00 JDAS readout error 53 - sys. crate watchdog flag PARMS = 000016 177777 (oct)
16:15 Same again
16:16 and again.
16:00 Walker + Zorn on shift
16:28 missing LAM br. 3 cr. 4 : z-ch part 1
16:29 and error 53 again.
16:42 "
16:43 JDAS error 62 - AC2099 TOF-1 Q,X missing stn=12 subadd=7
17:32 " " 44 - wrong LAM br. 4 cr. 1 : TOF points 501
17:50 Jet-ch. high rate.
18:01 DMA timeouts x2, plus error 53 again (x2)
18:55 Run 27450 fails to start due to:
JDAS error 53 - System crate watchdog flag PARMS = 007503 177777 (oct)
Next run starts OK.
18:03 Back to error 53 PARMS = 000016 177777 (oct) again.
18:43 Ditto (x 2)
20:15 JDAS Readout Error 53, WD. PARMS = 000016 177777 (OCT)
20:20 same as above.
20:38 JDAS Readout Error 44. DMA Timeout / 1777 0402 0400 0107 + ... 53 x 32 (44 errors (7 different) total)
20:40 Paused.
20:45 Run restarted, after reloading MOP program, same run continued without error messages.
21:06 2 Error 44 DMA Timout 177777 000003, and then branch 2 crate 1 / Latches
2 Errors 53 - JDAS Readout error 53 - watchdog Parms 0 00763 030300 (oct)
after pause the run continued Parms 0 000154 030300 (oct)
~21:20 2,44 + 1,53 errors were repeated but with 030300 000003 000000 for 1st 44 error,
and with: branch 2 crate 1 Latches for 2nd 44 error
but with Parms 000016 030300 (oct) for 53 error,
21:25 repeated with same as above!
21:40 JDAS 64: AC2099 TOF-2 Q,X missing stn 8 subadd 1.
22:00 Jdas Readout error 53 - watchdog - Parms 000016 177777
" " 33 missing LAM branch 3 crate 4 : Z chamber part 1

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0:00 Olsson Gas check done. Reflux flow adjusted: there is, since long time, a difference 0,6 between Zulauf-Kreislauf
The manual says to adjust if difference > 0,2!
1:10 After beam loss at midnight, many unsuccessful attempts to accelerate beams.

Beam	Date	Start	Stop	Atr. Start I+	Atr. Start I−	Dead Time	Time (s)	Records in	Records out	All ×10⁶	TØ (?) ×10⁶	T1 Acc sum	T2 Acc sum	T1 Bit2	T2 Bit17	Processors on/off NSO	MIP	TOF	FAMP
27442	8/7/86	12:42	13:25	9.82	10.60	21.6	2520	8002	5114	655	141	5159	5077	1372	42	on	on	on	off
27443	"	13:26	13:33	8.27	8.91	17.6	402	1261	777	105	18	840	725	218	8	"	"	"	"
27444	"	13:33	13:52	8.03	8.65	18.4	1086	3301	1971	283	52	2147	2060	497	18	"	"	"	"
27445	"	13:54	14:04	7.43	8.01	17.2	590	1758	1013	154	26	1186	497	313	9	"	"	"	"
27446	"	14:08	14:25	7.04	7.58	17.0	854	2229	1559	248	42	1828	825	448	12	"	"	"	"
27447	"	15:59	16:40	11.15	10.90	22.7	2428	8002	5197	632	143	5189	5006	1466	29	"	"	"	"
27448	"	16:41	17:24	9.39	9.17	20.4	2545	8002	4915	662	135	5251	4943	1331	36	"	"	"	"
27449	"	17:24	18:12	7.96	7.77	19.2	2672	8002	4671	695	133	5231	5070	1347	48	"	"	"	"
27451	"	18:16	19:53	6.07	5.91	16.7	2244	6068	3316	534	97	3949	4005	917	26	"	"	"	"
27452	"	20:22	20:47	11.43	11.31	23.6	1485	5055	3304	386	91	3174	3202	861	29	"	"	"	"
27453	"	20:56	21:45	9.93	9.76	21.7	2527	8002	4989	683	148	5142	5163	1387	31	"	"	"	"
27454	"	21:47	22:32	8.17	8.03	18.4	2712	8002	4645	705	130	5185	5121	1346	31	"	"	"	"
27455	"	22:53	23:20	6.72	6.79	17.5	2730	8002	4458	723	126	5193	5075	1219	35	"	"	"	"
27456	9.7.86	00:06	00:09	11.58	10.72	28.0	202	723	482	52	13	424	444	108	4	"	"	"	"
27465	"	05:56	6:09	7.43	6.52	20.6	579	1770	1002	151	31	1055	1230	288	12	"	"	"	"
27466	"	6:13	6:56	7.03	6.15	19.6	2545	7247	4962	663	130	4580	5266	1113	31	"	"	"	"
27467	"	7:36	8:17	11.09	10.57	20.5	2477	8002	5035	645	132	5191	4766	1369	34	"	"	"	"
27468	"	8:17	9.02	9.36	8.88	18.9	2685	8002	4760	638	132	5210	4978	1347	29	"	"	"	"
27469	"	9:10	9:57	7.69	7.27	16.9	2836	8002	4563	738	125	5274	4853	1214	37	"	"	"	"
27470	"	9:58	10:10	6.50	6.12	15.4	667	1854	1002	174	27	1203	1100	263	7	"	"	"	"
27471	"	11:50	12:01	10.36	10.78	18.8	656	1999	1262	171	32	1282	1195	318	6	"	"	"	"
27472	"	12:18	12:51	9.26	9.68	16.3	1986	5701	3292	516	84	3804	3442	911	20	"	"	"	"
27473	"	13:02	13:51	7.85	8.25	15.8	2897	8002	4466	754	119	5346	4838	1264	22	"	"	"	"
27474	"	13:51	13:54	6.58	6.94	12.9	172	452	238	45	6	307	245	64	0	"	"	"	"
27475	"	14:51	14:52	10.82	11.18	?	?	48	35	?	?	24	0	5	0	"	"	"	"
27476	"	15:49	16:32	11.17	11.34	20.0	2542	8002	5098	661	132	5323	4886	1442	42	"	"	"	"
27477	"	16:32	16:50	9.30	9.47	18.2	1054	3170	1865	274	49	2119	1930	521	14	"	"	"	"
27478	"	17:57	18:42	11.37	11.27	19.6	2690	8002	4801	699	136	5171	5076	1238	34	"	"	"	"
27479	"	18:43	19:27	9.57	9.52	18.5	2627	8002	4841	683	126	5224	4858	1350	27	"	"	"	"
27480	"	19:27	20:14	8.07	8.03	17.1	2791	8002	4663	726	124	5244	4906	1307	30	"	"	"	"
27481	"	20:14	20:38	6.81	6.77	15.8	1414	3789	2067	368	58	2466	2472	529	16	"	"	"	"
27482	9.7.86	21:06	21:27	11.21	11.16	21.9	1243	4062	2587	323	71	2604	2429	681	10	on	on	on	off
27483	"	21:28	22:12	10.19	10.16	20.0	2607	8002	4802	678	136	5138	5017	1308	44	"	"	"	on
27484	"	22:12	23:00	8.53	8.51	18.8	2803	8002	4740	730	137	5120	5127	1339	38	"	"	"	"

CLT 10^20.2 um sec^-1	Bhabha Sldt	Sldt	IBM Trace output	Atr. Start TOF	Atr. Start ID	Online rej. Sum Mipos	Online rej. Max150	Σ Bhabha	MH	E beam	Mag. Field	
8.93	24.59	41421.10	IBM	2.0	0.3	48	37	452	14	17.500	-4841	
8.61	4.27	41425.37	"	1.1	0.2	47	40	75	2	17.501	4840	↑ 40 vxch.
7.96	9.17	41434.54	"	1.0	0.2	49	42	161	4	"	"	DHA timeout. +vxch!
6.70	5.18	41439.72	"	1.0	0.2	50	44	81	1	17500	"	+vxch DHA timeout.
6.05	6.03	41445.75	"	0.9	0.15	51	44	106	2	"	4841	+vxch. Stopped for System Crate work.
7.83	27.16	41472.91	"	2.0	0.3	49	36	477	10	17.501	"	
7.72	21.63	41494.54	"	1.5	0.2	50	41	380	11	"	4840	
5.83	18.16	41512.70	"	1.3	0.2	51	43	319	5	17.500	"	Run 27450 failed beam parameter setting finished.
3.73	7.69	41520.39	"	1.1	0.15	51	47	135	2	17.501	4841	Beams dumped.
10.95	17.48	41537.87	"	1.5	0.2	46	36	307	6	17.500	4841	
8.19	23.45	41561.22	"	1.3	0.2	49	39	412	6	"	4840	
6.4	20.95	41582.17	"	1.2	0.2	50	43	368	2	"	4841	
4.87	14.23	41596.40	"	1.1	0.2	49	46	250	5	17.501	4840	Beams dumped.
9.75	1.82	41598.22	"	?	?	43	35	32	1	"	4839	Beams lost
5.18	3.87	41602.03	"	1.8	0.1	52	44	67	1	17.499	4837	
7.52	13.35	41615.38	"	1.8	0.1	53	45	217	1	17.500	4837	Beams dumped
9.49	25.79	41641.17	"	1.4	0.2	47	38	453	1	"	4838	
7.36	22.37	41663.54	"	1.0	0.15	48	42	353	6	17.501	"	
5.69	16.80	41680.34	"	0.8	0.1	48	44	295	5	"	"	
4.87	3.98	41684.32	"	0.7	0.1	46	47	70	0	"	"	Beams dumped
9.76	6.49	41690.81	"	1.1	0.1	46	38	114	4	17.501	4847	run stopped for T.O. to limit DHA errors.
8.38	17.42	41708.23	"	0.8	0.05	49	43	306	3	17.500	"	stopped for System Crate work
6.22	18.05	41726.28	"	0.7	<0.05	50	45	317	5	"	"	
5.00	1.02	41727.30	"	0.6	<0.05	51	50	18	1	"	"	stopped for system crate work
?	0.11	41727.41	"	1.3	0.2	?	37	12	0	17.501	"	beams lost (didn't last long!)
10.45	30.51	41757.92	"	1.4	0.4	50	37	536	5	17.500	4848	
8.31	9.79	41767.71	"	1.0	0.25	51	42	172	5	17.501	4843	beams lost
8.61	24.19	41791.90	"	1.3	0.4	49	41	425	10	17.500	4850	
8.59	25.10	41817.00	"	1.0	0.3	48	41	441	9	17.500	4850	
6.78	20.78	41837.78	"	0.8	0.2	49	43	365	7	17.501	4850	
4.04	5.86	41843.64	"	0.75	0.2	50	47	103	2	17.500	4849	beams dumped
10.54	14.06	41857.70	IBM	1.4	0.35	45	37	247	2	17.501	4847	stopped to start FAMP
8.56	24.14	41881.84	"	1.2	0.30	47	41	424	5	17.500	4847	FAMP on
6.15	20.95	41902.79	"	0.9	0.3	49	42	368	4	17.500	4847	

4[00] FINAL - still no beams.
4[15] Beams, but background optimisation
5[15] During a period of low background I attempted to start a run. Run failed with message:-
Non standard readout on board 5 crate 0
Only 10 of 8 VTX crate cables dataq with SET-CAMAC
I typed SET-CAMAC, but could not understand what to do next, and could find no explanation in any manuals.
Meanwhile high background has tripped chambers.

5[45] After much struggle I appear to have worked out how SET-CAMAC works!
5[49] Background optimisation finished, I successfully start a run!

6[00] Jobs cmn 52 — correlpar 000700 (I.D. 6V alarm)
6[10] First watchdog flag error of the shift.
6[20] second " " " "
6[25] Third " " " "

. . . .

8[00] Middleton & Ramcke on shift
8[10] gas check OK.
8[13] ERR 53 System crate WD-flag PARMS = 000016 030700
9[00] —"— —"— 013716 030300
9[20] DMA-Timeout ERR 44, WD-flag " 000016 030300
10[05] Short break due to PETRA request (≈ 1.10 hours) magnet down to 1000 Amps
11[30] magnet back to 7500 Amps ... injection.
11[53] Tom Olsen stops run to continue hunt for readout errors.
12[10] start taking data again.

13 26 TOF COUNTER 6 +z is dead.
Fixed trigger to trigger only on -z PM,
TDC II will have a missing channel.

14[20] Vertex chamber valve failure ... reset in gas house ... OK.
14[45] hard trip and new beams lost!

16[00] Magnussen + Hellenbrand
Gas ok., Aetlan flow needs adjustment in near future
16 17 System crate watchdog flag PARMS = 000016 177777 ; again 17:56

16:45 All chambers tripped hard. e^+-beam lost.
18:01 Readout Error 44 DMA Timeout (thrice)
and: System crate watchdog flag PARM = 000016 030300, together with
Error 37 on Teletype!
19:46 System crate watchdog flag
20:00 Error 64: AC2094 TOF 2, Q, X missing stn = 7 subaddress = 0
20:02 — " — = 4
20:20 Energy = 17.523 for part of run # 27481
20:30 Gould does not advance paper anymore
21:20 FAMP switched on and is supposed to run with data taking for diagnostic purposes. If problem develops, switch off with F5, F9, 3 DL, F1. Note Bene: FAMP rejection is disabled, it is just analysing and flagging! J.O. / P.L.
23:45 phonecall from TASSO, PWR cannot get positrons, we keep present filling instead of low currents
23:50 IBM Transfer Error (oct): 052 suberr (oct): 0 the second time

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0:00 10.7.86 Becker, Matsumura
0:10 Gas check done
0:26 Error 64: AC 2088 TOF-2 Q, X missing stn = 2 subaddr = 5
0:46 " " " " " 8 " 4
3:45 " 33: Missing LAM br. 4 cr. 1
4 08 ← PWR PIA Problem Restart not before 8 AM
Magnet → 500A
8:00 Zimmer, Skard
8:20 Gas check done
8:45 "PIA vacuum trouble: RESTART ABOUT JULY 11, 10 AM"
Magnet current → 0 A.
15[20] everything looks o.k.
16[30] Gas check done (D. Hardt)
19[40] All's well

11/7/86
0:02 Heinzelmann
0:15 Gas check done

4:00 Chin
4:15 Gas check done. Temp. in hardware room at 17°C. Birds singing, skyline pretty
Why wasn't I told. Ott

Run	Date	Start	Stop	at Run Start I^+	at Run Start I^-	Dead time %	Time (sec)	Records IN	Records OUT	All $*10^6$	TB Rej. $*10^6$	T_1 Acc sum	T_2 Acc sum	T_1 Bit 2 $E_{LG}>6$ GeV	T_2 Bit 7 2 T. EQ. $\geq$ 2 TR	Processors on/off N50	MIP	TOF	FANS	$\langle L \rangle$ $10^{30}\,cm^{-2}s^{-1}$	Bhabha $\int L\,dt$ (nb^{-1})	$\int L\,dt$ EXP. ENERGY	IBM/TAPE OUTPUT	at Run Start TOF [V]	at Run Start ID [μA]	online Rejection Sum T_2 %	online Rejection NORDSO T_1+T_2 %	Σ Bhabha	Mh	E_{beam}	Mag. Field -17G	Remarks
27485	9.7.86	23:00	23:47	6.99	7.14	21.0	2804	8002	4673	730	154	5106	5147	1256	40	on	on	on	on	4.17	14.35	41916.74	IBM	1.0	0.25	49	43	252	6	17.501	4847	
27486	"	23:47	0:37	5.94	6.12	18.2	2856	8002	4328	769	140	5118	5178	1169	44	"	"	"	"	3.27	9.81	41926.05	"	1.0	0.2	50	47	174	6	17.500	4845	
27487	10.7.86	0:38	0:40	4.78	5.28	16.0	144	381	215											2.76	0.46	41926.51	"	0.7	0.2	45	48	8	0	"	4846	
27488	"						no	run	summary															0.7	0.2					"	"	
27489	"	0:46	1:40	4.66	5.15	15.4	3202	8002	4233	833	129	5191	5367	1118	20	"	"	"	"	2.43	9.17	41935.68	"	0.7	0.2	52	49	161	3	"	"	
27490	"	1:41	2:37	3.98	4.43	14.3	3322	8002	4004	864	124	5250	5213	1078	26	"	"	"	"	1.86	7.80	41943.48	"	0.6	0.1	53	51	137	2	17.501	"	
27491	"	2:38	3:37	3.41	3.82	13.0	3486	8002	4041	810	119	5333	5361	1021	22	"	"	"	"	1.35	5.35	41948.83	"	0.5	0.03	55	51	94	2	"	"	
27492	"	3:37	4:07	2.93	3.30	12.1	1803	3970	1845	468	57	2664	2604	507	13	"	"	"	"	1.11	2.51	41951.34	"	0.5	0.03	54	55	44	0	"	"	
27493	14.7.86	20.19	20.26	←	9.44	44	176	755	533	TREAT		WITH	CAUTION		ID	#	VERTEX	TRIGGER		BUT	DATA	TAKING	CONTINUED.	4.0	0.4						e⁻ only, (VTX: junk, pulser was still on) BEAMS LOST.
27494	"	21.28	22.33	—	8.73	16.3	3785	8002	5965	984	161	4905	5979	770	52	"	"	"	"	0	0	0	"	0.8	0.1	54	27	—	202	17500	4840	e⁻ ONLY XFOR
27495	"	22.35	22.55	—	7.69	13.2	999	2244	1060	260	34	1705	1562	297	11	"	"	"	"	0	0	0	"	0.75	0.05	52	55	—	—	17501	4840	e⁻ ONLY. IBM ERROR / STOPPED RUN.
27496	"	22.57	0:14	—	7.36	14.4	3701	8002	3812	963	138	5868	5835	864	44	"	"	"	"	0	0	0	"	0.6	-	54	54	—	—	17500	4840	e⁻ ONLY Beam dumped - MTE COORTIMING
27497	15/7/86	0.42	1.04	—	10.41	12.2	861	1658	720	224	27	1022	1323	142	8	"	"	"	"	0	0	0	"	0.6	—	57	59	—	—	17.501	4834	e⁻ ONLY CLEAR CLASSIFIC
27498	"	1.12	2.19	—	10.07	17.7	3275	8002	4020	852	151	4828	6250	911	44	"	"	"	"	0	0	0	"	1.0	—	54	52	—	—	17.500	4835	e⁻ ONLY
27499	"	2.20	2.58	—	7.06	17.6	1891	4648	2332	492	87	2803	3611	605	32	"	"	"	"	0	0	0	"	1.6	0.1	54	52	—	—	17.500	4835	e⁻ ONLY Beam dumped
27500	"	3.23	4.33	—	11.13	12.1	3924	8002	3306	1021	124	5073	5966	732	23	"	"	"	"	0	0	0	"	0.9	—	55	61	—	—	17.523	4834	e⁻ ONLY
27501	"	4.34	5.32	—	9.14	11.3	3448	6898	2960	898	101	4447	5141	749	25	"	"	"	"	0	0	0	"	0.8	<0.05	56	59	—	—	17.522	"	e⁻ ONLY run stopped due to TOF errors
27502	"	5.36	6.44	—	7.72	10.9	4075	8002	3278	1060	116	5169	5829	931	33	"	"	"	"	0	0	0	"	0.5	"	55	61	—	—	17.523	"	e⁻ ONLY
27503	"	6.45	7.04	—	6.38	11.2	1141	2299	905 1394	297	33	1486	1632	282	12	"	"	"	"	0	0	0	"	0.5	"	55	59	—	—	17.523	4836	e⁻ ONLY beam dumped
27504	"	8 08	10 24	0.0	11.28	18.4	3239	8002	3825	842	159	4248	6220	902	44	"	"	"	"	0.0	0.0	41951.34	"	2.3	0.6	48	55	0	0	17.522	4837	e⁻ only, frequent soft trips
27505	"	10 24	11 36	0.0	7.48	17.1	3728	8002	3849	866	148	4437	6173	981	34	"	"	"	"	0.0	0.0	41951.34	"	1.3	0.4	50	54	0	0	17.500	4839	——— " ———
27506	"	11 38	11 44	0.0	6.64	17.5	158	397	192	41.2	7.20	225	289	46	1	"	"	"	"	0.0	0.0	41951.34	"	1.2	0.5	52	55	0	0	17.499	4840	——— " ——— beams dumped
27507	"	12.50	14.55	0.0	10.93	11.2	5010	8002	3394	1072	116	5145	5908	952	26	"	"	"	"	0	0	0	"	2.5		56	59	0	1	17.499	4841	——— " ———
27508	"	14.55	15.15	0	7.04	9.5	1122	2117	845	292	28	1386	1564	259	3	"	"	"	"	0	0	0	"	0.7	.05	57	62	0	0	17.500	4844	beams dumped end of e⁻ running.
27509	"	16.36	17 21	10.19	10.46	18.1	2696	8002	4876	701	127	5204	5081	1444	41	"	"	"	OFF	8.48	26.82	41978.16	"	1.4	0.2	50	40	471	5	17.501	4844	e⁺e⁻
27510	"	JUNK — DIED DURING PEDESTALS																														
27512	"	17.35	17.37	8.16	8.38	23.5	~~328~~	~~228~~	135	20	4.5	142	130	36	0	"	"	OFF	ON	6.66	0.57	41978.~~73~~	"			50	45	10	0	17501	4844	Stopped due to TOF "pedestal" problem
27513	"	17.46	18:35	7.80	8.01	16.1	2917	8002	4346	758	121	5327	4986	1454	31	"	"	"	"	6.35	19.70	41998.43	"	0,8	0,15	52	47	346	4	"	"	
27514	"	18:36	19.11	6.60	6.80	15.9	2079	5479	3017	541	86	3620	3442	908	23	"	"	"	"	4.64	10.36	42008.79	"	0,75	0,15	51	46	182	5	17500	"	beams dumped.
27515	"	19.51	20.49	10.12	10.57	19.2	2532	8002	5095	659	127	5342	4802	1450	36	"	"	ON	"	13.23	24.14	42032.93	"	1.5	0.2	50	37	424	6	17501	"	<L7 50% high due to extra inner ring of tagging system.
27516	"	20.50	21.03	8.14	8.52	16.3	768	2196	1305	200	33	1458	1360	399	7	"	"	"	"	7.14	6.26	42039.19	"	1.0	0.2	51	42	110	1	17.501	4843	DMA TIME OUT
27517	"	21.05	21.53	7.65	8.02	16.5	2843	8002	4661	740	122	5251	5039	1513	38	"	"	"	"	6.33	20.15	42059.34	"	0.9	0.2	50	43	354	4	17.500	4844	
27518	"	21.53	22.30	6.44	6.78	17.2	1901	5240	2946	495	85	3490	3111	965	13	"	"	"	"	5.02	12.13	42071.47	"	0.8	0.2	49	45	213	1	17.501	4842	beam dumped.
27519	"	23.01	23.47	9.74	10.44	18.3	2674	8002	4841	696	128	5325	5044	1512	44	"	"	"	"	8.55	25.50	42096.97	"	1.4	0.2	51	41	448	8	17.500	4841	

FINCH

08⁰⁰ Arrived counting house - counting house locked!
08¹⁵ Successfully entered counting house
09⁰⁰ Gas check done
09¹⁰ Restart now c. 10 pm!
10³⁰ FAMP loaded with Program version PATH0812 (8602). Let it run in diagnostic mode (see p.167) so that we can see if the problem mentioned on p.8 is cured. P. Laurikainen & J.O.

12²⁰ Jade is still alive + well. Paul Hill

16⁰⁰ Elsen
Gas check done. Temp. in H.W. Room : 17.1 °C
20⁰⁰ Situation unchanged : PETRA down, Jade up. R. Munke
21⁰⁰ Petra presumably down over the weekend.

23⁴⁰ Petra screen : Restart not before July 17th

12.7.86
0²⁰ Gas check done, Temp in H-W-room : 16.9 °C C. Kleinwort
4:10 Check T. Spitzer
8⁰⁵ Gas check done ; temp. in H-W room 17.5 °C U. Schmeckloth
12²⁰ Gas check done ; HW room temp : 17.2 °C I. Walter
16³⁰ Gas check done (D. Haidt)
20⁵⁰ Temperature in HW room 17.1 °C E. Elsen

13/7/86 0⁰⁰ Hagemann
0¹¹ Gas check O.K., temperature in hardware room 17.2 °C
5¹⁰ Temperature 16°C A. Finch
7⁴⁵ Gas check done ; temperature in hardware room 15.0 °C N. Magnussen
12²⁰ Temperature 17.5 °C, E. Elsen
16⁰⁰ " 16.9 °C R. Heddock
16⁰⁸ Gas check complete.
20 10 00 Temp 17.1° 23 Zoll
Temp = 17.3 Gas Check OK 2
4:15 Temp = 17.6 in Hardware room

8:15 Gas check done, $T_{Hardware\ room}$ = 17.6 °C H. Kado

9:04 CAMAC clock reset to time signal. It was ~7 minutes fast! HEP
11⁸⁰ Temp in hardware room 17.4 °C, all quiet in the northwestern front SLC
15²⁰ e⁻-running in preparation, there are still problem with a transmitter, but should soon be repaired J.O.

16⁰⁰ C. Kleinwort on shift, Hedgcock too
Magnet water problems. Caused by fact that all exfets had gone home ?!?!
19⁰⁰ After some problems : Magnet at 7500 A
19⁵⁰ Beam ready, high background (TOF >60)
LC BARREL & P/SUPPLY TRIPPED ON O/I CURRENT RUN 27494
JDAS ERROR 44 DMA TIMEOUT 177777 00···3 0···0
" " 44 DMA TIMEOUT BR 2 CR1 LATCHES.
" " 53 SYSTEM CR. W/DOG FLAG PARMS = 0···14 030300

15/7/86
00⁰⁰ FINCH ON SHIFT
CAS CHECK DONE
0¹⁰ Ask for new fill
0⁴⁵ New fill ready - TOF ~~counter~~ very unstable, but able to run.
0⁵⁰ Watchdog flag
1⁰⁰ Lead glass alarm Lowered HV ON/OFF (LG BARREL - over current)
1¹⁵ VTX & ID SOFTTRIP AT START OF RUN 27498 — TOF RATE STILL UNSTABLE
1³⁴ " " "
1⁴⁸ " " "
2¹⁸ TOF RATE increasing steadily!
2⁵⁸ Ask for new fill
3²² NEW FILL READY
4⁰⁰ Hagemann on shift
4¹³ VTX + JETC HV fail Tof-rate
4⁴⁴ IBM transfer error S2, linked successfully
5¹³ System crash WD flag PARMS 0000 16 177777
5³³ JDAS readout error S2 controlword 1 Reasons 1 - Beam loss? NO many 10x errors ⇒ run stopped ⇒ start new run OK
6⁴³ " " " 33 missing LAM Kr. 3 cr. 4 2-c4 Part 1

15/7/86 08⁰⁰ Greenhow and Spitzer on shift.
Gas check done, all OK.
8⁵⁰ Repeated soft hpc. PhR say that a "Sender" is kaputt.

10 18 JOAS Readout error 44 - DMA Timeout . Br.2 Cr.1 Latcher
" " 53 System crate watchdog flag PARMS = 000016 030300
" " " " PARMS = 000016 177777
11 05 "
11 40 "
12 50 New fill ready. High, unstable background → soft trips continuously. The plane does not seem to be OK. (2.5V)
Eventually I managed to call PKR. They say they cut a transmitter and
by it do something about the background. (1308)
13 20 Two 10 sec runnings in par.
13 45 Tof rate ~.7 after background optimization. We started to run. $I^- = 9.31$ ~A
13 50 " Restart with positrons ca 3 pm."
14 33 ERROR 53 PARMS = 2 177777
14 38 "

16.00 Tuesday 15/7/86 Jan Chin, Fred Luebiger, Chris Haworth,
16 35 Restart of e^+e^- running.
17 23 Run 27510 died during pedestals with JOAS readout error 56: TOF banks wrong length = 364 (x3)
TOF niptecs reloaded — one test run OK, but second run to IBM not.
TOF crates modules screwed tighter, problem seems to have gone ....
18.00 Vertex chamber history error : Pedestalmap sigma devs. >40%: 48
18 00 Gas check done!
20 13 FOR RUN 27575 THE INNER RING OF THE TAGGING SYSTEM WAS ADDED TO TAGGER AS A TEST.
AS A RESULT TAGGING CHAN IS 50% TOO HIGH FOR THIS RUN AS FINAL
22 20 All 3 chambers trip.
22 38 One BPCH error fourth part 7.

16/7/86 Elsen
0 00 Gas check done.
2 15 IBM transfer error 52 Subcrate 0 crate 0
4:00 Hagrusser
5:30 IBM transfer error 52 0 0
6:17 all ch. tripped. beams lost
6:35 Short Break
7:20 Restart 8 00 am

16/7/86 8 00 PMCH, & ZORN ON SHIFT
8 05 GAS CHECK DONE
8 30 TAGGING THRESHOLDS ADJUSTED. ('IL' maybe a bit high) from Run 27529
9 21 TRIGGER 2 INPUT MISSING /63-5
9 30 BPCH error - part 5 (?)
9 35 " " " "
10:30 "spy - on Run 27530 - Trigger 3 I/P missing : ST 2L 6P 4

At 15 30 yesterday, Branch Couplers 2,3 were replaced with couplers that have been prepared by H. Rehlich (ground improvements, coupling condensors etc). We have since observed only one WD error with DATA timeout, which strengthens the theory of ground problems. (Acc. to Rehlich, these Branch Couplers are unsurpassed in bad craftmanship, for CAMAC design).
However, it seems that another problem has come with the coupler exchange, namely BPCH data structure error, mainly in crate 8, which is Br 3. It will be studied more and the coupler exchanged again.
Still another problem is the IBM transfer error (error 52), which indicates bad data structure not observed here at N10/50. It cannot be related to our camac problems, with high certainty. J.O.
18 20 Branch Coupler 3 exchanged again, old one in. No BPCH data error in pulser runs. J.O.
14 44 Beam pipe chamber valve failure - reset OK is Gas House

16 00 Becker
Gas check done

Dexter (roof) on - should be off ~ 22 h

FROM RUN 27541 INNER RING ADDED TO TAGG TRIGGERS.

17 14 error 37 - 10X err
17 30 " 53
18 00 " 64
" 64
18 23 " 44, 53, 37 - 10X err
20 00 Zimmer
20 10 JOAS ERROR 62 (64) TOF 1 (TOF2) 2,x Vmissing sh = 12 (3) Subaddress 5 (1)
20 20 " 44, 53
20 25 " 44, 53

RUN	DATE	START	STOP	AT RUN START I^+ (mA)	AT RUN START I^- (mA)	DEAD TIME (%)	TIME (SECS)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	T# RES $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT 2 $E_{LG} > 6$GeV	T_2 BIT 7 2T. $E_T \geq 2TR$	PROCESSORS ON/OF NSO	MIP	TOF	FANP
27520	15/7/86	23.46	0:36	8.12	8.42	15.8	2909	8002	4539	757	119	5306	5068	1397	36	ON	ON	ON	ON
27521	16/7/86	0:36	1:29	6.82	7.06	14.4	3137	8002	4395	816	117	5344	5189	1377	38	ON	ON	ON	ON
27522	— " —	1:33	1:37	5.67	5.87	14.8	223	632	342	58	8	413	365	100	4	ON	ON	ON	ON
27523	— " —	2:06	2:50	11.64	11.08	20.1	2577	8002	5868	670	135	5216	5014	1584	38	ON	ON	ON	ON
27524	— " —	2:50	3:36	9.25	9.25	17.6	2734	8002	4709	710	125	5288	4915	1501	34	ON	ON	ON	ON
27525	"	3:36	4:26	7.84	7.84	15.8	2929	8002	4497	762	120	5386	4943	1467	38	"	"	"	"
27526	"	4:26	4:47	6.68	6.68	15.6	1278	3380	1852	332	52	2221	2144	566	18	"	"	"	"
27527	"	5:15	6:03	11.46	11.16	20.5	2609	8002	5021	678	138	5210	4980	1576	36	"	"	"	"
27528	"	6:07	6:17	9.30	8.51	17.4	786	2308	1370	264	35	1519	1450	436	7	"	"	"	"
27529	"	9:03	9:57	11.38	9.90	18.9	2617	8002	5172	698	129	5370	4934	1541	44	"	"	"	"
27530	"	9:55	10.42	9.21	7.75	17.0	2836	8002	4681	737	125	5342	5049	1469	39	"	"	"	"
27531	"	10:43	11:35	7.71	6.39	15.7	2932	8002	4480	763	120	5448	4912	1467	29	"	"	"	"
27532	"	11:36	11:51	6.54	5.33	14.9	887	2374	1273	230	34	1629	1435	438	6	"	"	"	"
27533	"	12:30	12:40	9.96	11.62	24.1	549	1843	1210	142	34	1216	1053	339	9	"	"	"	"
27534	"	12:42	13:20	9.46	10.90	21.4	2216	6910	4429	572	123	4606	4070	1349	30	"	"	"	"
27535	"	13:20	14:05	8.13	9.46	18.3	2673	8002	4664	695	127	5332	4936	1539	31	"	"	"	"
27536	"	14:06	14:56	6.85	8.08	21.2	2977	8002	4534	612	165	5343	4896	1518	23	"	"	"	"
27537	"	14:56	15:07	5.62	6.59	14.4	266	763	413	69	10	498	428	137	8	"	"	"	"
27538	"	15:02	15:16	5.50	6.46	15.4	816	2134	1173	212	33	1415	1323	378	5	"	"	"	OFF
27539	"	15:16	15:19	5.25	6.16	15.2	95	293	172	24	3	190	141	49	~~6~~ 4	"	"	"	OFF
27540	"	15:19	15:29	5.2	6.13	15.8	573	1550	836	149	23	1035	959	285	~~6~~ 6	"	"	"	OFF
27541	"	16:32	17:14	10.53	11.03	21.8	2362	~~7797~~ 8002	5115	614	134	5255	4660	1463	25	"	"	"	"
27542	"	17:15	17:58	8.82	8.84	18.5	~~2560~~ 2560	~~8002~~ 8002	4852	666	130	5407	4805	1510	26	"	"	"	"
27543	"	18:02	18:43	7.53	7.19	17.0	2826	8002	4620	735	124	5400	4915	1395	24	"	"	"	ON
27544	"	19:33	20:25	10.69	9.79	23.2	2871	8002	5255	616	143	5258	4822	1451	36	"	"	"	ON
27545	"	20:26	21:09	8.88	7.71	20.8	2574	8002	4953	669	139	5316	4901	1477	39	"	"	"	ON
27546	"	21:10	21:45	7.63	6.57	19.1	2300	6304	4025	538	114	4571	4231	1272	28	"	"	"	ON
27547	"	22:36	23:16	10.78	9.53	23.9	2227	8002	5295	607	145	5328	4810	1441	38	"	"	"	ON
27548	"	23:16	23:58	9.22	8.45	21.7	2440	8002	5050	635	137	5315	4825	1543	45	"	"	"	ON
27549	"	23.58	0.43	7.89	7.19	19.2	2647	8002	4728	689	132	5442	4750	1529	39	"	"	"	"
27550	17/7/86	0.44	1:16	6.75	6.11	16.4	1838	5214	2909	478	78	3572	3097	961	11	"	"	"	"
27551	"	2.21	3.02	10.42	10.40	24.7	2377	8002	5281	618	153	5204	4717	1425	40	"	"	"	"
27552	"	3.02	3.03	8.77	8.59	20.9	14	115	79	3.6	0.8	72	25	18	0	"	"	"	"
27553	"	3.05	3.48	8.64	8.46	20.1	2524	8002	4843	657	132	5342	4720	1463	34	"	"	"	"

RUN	$\angle L$ 10^{30} cm^{-2} s^{-1}	BHABHA $\int L dt$ nb^{-1}	$\int L dt$ EXP. ENERGY	TBM/TAPE OUTPUT	AT RUN START TOF (V)	AT RUN START ID (μA)	ONLINE REJECTION SUM T_2 (%)	ONLINE REJECTION NSO SU $T_1 T_2$ (%)	Σ BHABHA	MHADS	E_{BEAM} (GeV)	MAG FIELD −1× G	REMARKS
27520	6.52	20.82	42117.29	IBM	1.0	0.2	51	44	357	2	17.500	4840	
27521	5.11	18.90	42136.19	IBM	0.8	0.2	53	46	332	4	17.501	4840	
27522	4.09	1.08	42137.27	— " —	0.7	0.15	49	48	19	0	17.501	4838	
27523	9.37	29.66	42166.93	— " —	1.5	0.25	49	38	521	15	17.500	4838	
27524	7.13	23.23	42190.16	— " —	1.0	0.20	50	42	408	8	17.500	4837	
27525	5.19	18.39	42208.55	"	0.8	0.15	52	45	323	5	17.500	4837	
27526	4.31	6.21	42214.76	"	0.7	0.1	51	47	109	2	17.501	4837	beams dumped
27527	8.52	26.19	42240.95	"	1.4	0.25	49	38	460	9	17.501	4838	
27528	6.88	6.55	42247.50	"	0.9	0.20	51	42	115	2	17.501	4837	beams lost
27529	11.76	27.78	42275.28	"	1.4	0.2	57	36	488	5	17.507	4838	tagging thresholds adjusted.
27530	8.49	21.12	42296.40	"	1.0	0.2	52	43	371	6	17.501	4.840	
27531	7.20	17.25	42313.65	"	0.9	0.2	52	45	303	2	17.501	4841	
27532	6.27	4.55	42318.20	"	0.8	0.2	53	48	80	0	17.501	4844	beams dumped
27533	13.30	7.71	42325.91	"	1.5	0.2	48	36	126	5	17.501	4.844	CAMAC hung up
27534	11.70	23.85	42349.76	"	1,4	0,15	48	37	419	7	17.500	4.844	
27535	9.85	22.26	42372.02	"	1.0	0.2	51	43	391	6	17.500	4844	
27536	6.90	17.82	42389.84	"	0.8	0.15	51	45	372	0	17.500	4845	
27537	6.39	1.14	42390.98	"	0.75	0.10	46	48	20	1	17.501	4847	Stopped for legal reasons
27538	5.45	4.38	42395.36	"	0.70	0.10	52	47	77	0	17.501	4.847	Stopped by CAMAC hung up.
27539	5.63	0.28	42395.64		0.70	0.10	44	45	5	0	17.500	4.847	" " " " "
27540	5.11	2.85	42398.49	"			53	48	50	3	17.500	4847	
27541	10.96	22.66	42421.15	"	1.3	0.2	50	35	388	5	"	"	err. 37 (10x err) Inner ring of tagging in Trigger
27542	8.95	19.47	42440.62	"	1.3	0.2	51	39	342	6	"	"	
27543	5,61	13.83	42454.45	"	0.8	0.15	52	44	243	3	"	4847	
27544	3,86	10.22	42475.17	"	1.2	0.1	48	35	364	6	"	"	
27545	7,78	16.62	42491.79	"	1.2	0.1	51	39	282	2	"	"	
27546	5,85	11.05	42502.84	"	1.0	0.1	51	43	134	4	"	"	beams lost
27547	10.38	20.89	42523.73	"	1.5	0.2	50	35	367	7	"	4844	
27548	8.81	18.62	42542.35	"	1.2	0.2	49	38	327	4	"	"	
27549	6.89	15.88	42558.23	"	1.0	0.15	51	42	279	5	"	"	
27550	5.39	7.52	42565.75	"	0.8	0.1	52	45	132	6	17.501	"	Beams dumped.
27551	10.98	23.23	42588.98	"	1.6	0.3	46	35	408	8	17.503	"	
27552	9.54	0.17	42589.05	"	1.1	0.3	-3?	37	3	0	17.501	4843	Control word error.
27553	8.30	18.90	42607.95	"	1.1	0.3	49	41	332	4	17.500	4844	

16-7-86 cont.

20 45 JOAS Error 44, 53
20 48 " " " "
20 50 " " " "
20 55 " " " "
21 00 IBM Transfer Error (oct) 000052 Sub Chn. 0 ... Restart Link OK.
21 40 JOAS Error 64, 53
23 45 IBM Trasf. Error Restart Link OK
23 50 JOAS 52, IOX 37

17/7/86 Thursday

0.00 Fred Luebinger on shift.
Gas check done.
0.09 JOAS error 53 PARMS = 00202 030300
0.22 " " 62 AC 2099 TOF-1 Q,X MISSING Stn 14, Subaddress 0.
0.30 " " 44 (x2)
" " 53 PARMS = 000002
" " 44 (x2)
" " 53 PARMS = 000000
" " " " 000002 (x2)
1.15 " " 52 Control word 000001
53 PARMS = 000000
62
1.20 Beam pipe chamber valve failure. Reset OK in gas house.
2.25 JOAS error 53 PARMS = 000002
52 + 53 (PARMS = 000000)
2.45 53 (PARMS = 000002) x3
3.05 Control word error ⇒ error 37 IOX error many times on line printer.
Could only clear by STOP & RESTART new run.
4.00 Ramche on shift
4:30 JOAS READOUT ERR 52 control word 000001 (Error 37 IOX err on line printer Run stopped
4:35 On line printer: Fortran Run time Error 000123 at Addr. 000352 File System Err.
File not opened for seq. write ⇒ happens several times
4:40 JOAS ERR 53 WD Parms 000002 030300

5.40 It seems that the Fortran Run time Err. 123 is related to the IBM-PC task.
The color screen says IBMPC inactive, but the IBM PC works. Reloading JOAS and VTXM don't help, task rebuilded ⇒ O.K.
5:48 JOAS READOUT Err 64 AC2099 TOF-2 Q,X missing Stn 6 Subadr=5
5:52 " 62 1 " 12 3
" 33 Hung Lam br 4 cr 1
5:53 " 44 DMA Timeout
" 53 WD 00202 030300
5:58 Error 37 on line printer again, JOAS READOUT ERR 52 control word 000001 ⇒ Run stopped
6:04 JOAS 52, IOX Err 37 again
6:12 ID-Softtrip
6:13 JOAS 52, IOX Err 37 again, again, again ⇒ Run stopped
6:29 " 53 WD Parms 000002 030300
" 44 DMA Timeout
32 Hung Lam at FEP Ready (JETCH)
08 00 Smolik, Olsson Gascheck done
9 20 VTX-Chamber valve failure. Reset OK
~14 00 Branch couplers 2 and 5 swapped, trap logic now on Br 2. Bad cable in Arbitration Highway exchanged.
What errors will happen now? Please note in LOGBOOK! J.O.
16 10 Gas check done. At least 2 manometer readings H2O vapor pressure and argon flow
Murphy & Glasser on shift
18:20 – short Break (vacuum)
19 51 "Trouble with vacuum in DESY"
Smolik says that ID is too hot; we turn magnet down to 1000 A, while PETRA is off.
2230 ID temperature 28.0°C
0002 " " 27.6°C
0.00 18/7/86 Friday Fred Luebinger.
6.15 Gas check done.
Latest estimate of PETRA on ~3.00.

4.00 Becker
8.00 Magnussen & Clarke
8.01 Gas check done. Adjusted Ar flow to reduce Kreislauf (was at 10.4). Check again at noon.
11.25 ID temperature 25.9 °C
12.35 Kreislauf now ok (10.1) N.H.
16.00 Narodka, Zimmer
16.30 Gas check ok.
23 00 Monitor: Restart not before Monday 18 00 !! (comp. off, isolator off)

No beams before 23.00. Turn magnet off.

RUN	DATE	START	STOP	AT RUN START I+ (mA)	AT RUN START I− (mA)	DEAD TIME (%)	TIME (secs)	RECORD IN	RECORDS OUT	ALL ×10⁶	T Ø REJ ×10⁶	T1 ACC SUM	T2 ACC SUM	T1 BIT2 ELG >46eV	T2 BIT7 2T. E_T ≥ 2T_R	PROCESSORS ON/OFF NSO	MIP	TOF	FAMP
27554	17/7/86	3:48	4:33	7.33	7.12	12.8	2655	7964	4485	691	183	5410	4624	1473	~~836~~	ON	ON	ON	ON
27555	"	4:36	4:47	6.23	6.03	18.1	413	1181	665	107	19	763	713	217	2	"	"	"	"
27556	"	5:50	5:58	10.17	10.29	21.0	1636	5389	3448	425	89	3645	3165	1035	27	"	"	"	"
27557	"	6.01	6:13	9.01	9.10	25.4	360	1090	655	93	24	733	637	197	3	"	"	"	"
27558	"	6.14	7.12	8.57	8.42	17.9	2650	8002	4746	669	123	5569	4546	1540	32	"	"	"	"
27559	"	7:13	7:51	6.38	6.76	17.6	2184	6531	3734	568	100	4466	3892	1223	28	"	"	"	"
27560	"	8:37	9:15	10.83	11.47	25.0	2246	8002	5448	584	146	5465	4500	1039	33	"	"	"	"
27561	"	9:15	9:21	9.16	9.68	22.5	328	1263	834	85	19	837	635	143	1	"	"	"	"
27562	"	9:22	10:02	8.92	9.43	20.3	2383	8002	5081	620	126	5435	4549	874	34	"	"	"	"
27563	"	10:02	10:45	7.63	8.11	18.1	2545	8002	4707	663	120	5468	4526	734	35	"	"	"	"
27564	"	10:46	11.03	6.51	6.97	17,9	1002	3043	1720	261	47	2066	1741	556	14	"	"	"	"
27565	"	11.04	11:35	5.34	6.51	17,2	1858	5259	2954	484	83	3631	3148	992	26	"	"	"	"
27566	"	12:14	12:23	11.00	11,14	25,1	514	1943	1334	134	34	÷	1010	346	7	"	"	"	"
27567	"	12:24	12:45	10.52	10.45	22.4	1251	4448	2960	325	73	2977	2509	553	19	"	"	"	"
27568	"	12.47	13:04	9.58	9.46	19.5	978	3101	1921	254	50	2089	1728	296	8	"	"	"	"
27569		Junk																	
~~27570~~		Junk																	
27570	"	14:00	14:36	6.38	5.04	15.3	2121	5884	3118	552	84	4039	3430	346	13	"	"	"	"
27571	"	15:47	16:29	10.62	10.69	21.6	2411	8002	5280	627	135	5364	4731	1471	36	"	"	"	"
27572	"	16:30	17:12	8.98	9.36	20.1	2457	8002	4937	638	128	5378	4659	1561	273	"	"	"	"
27573	"	17:12	17:57	7.59	7.07	19.5	2611	8002	4761	679	132	5431	4569	1494	34	"	"	"	"
27574	"	17:56	18:20	6.52	6.03	18.0	1328	4039	2377	345	62	2713	2342	789	21	"	"	"	"
27575	21.7.	19.58	20.13	8.09	8.40	27.3	852	2811	1865	221	60	1771	1734	455	20	"	"	"	"
27576	"	20.14	20.57	7.47	7.77	25.5	2523	8002	4960	656	167	5701	5072	1308	42	"	"	"	"
27577	"	20.58	21.17	6.04	6.31	19.3	989	2837	1622	258	49	1834	1797	458	10	"	"	"	"
27578	"	22.11	~~22.54~~	~~10.89~~	10.86	24.8	2457	~~8.002~~	5098	639	158	5047	5138	1335	50	"	"	"	"
27579	"	22.54	23.39	8.25	8.44	20.6	2675	8002	4785	695	143	5110	5303	1345	40	"	"	"	"
27580	"	23:40	0:14	6.65	6.82	19.6	2007	5781	3381	522	102	3734	3746	942	37	"	"	"	"
27581	22.7	1:05	1:52	8.41	9.59	21.5	2603	8002	4991	677	145	5074	5173	1432	52	"	"	"	"
27582	"	1:52	2:30	6.41	7.31	20.7	2245	6596	3855	584	121	4259	4236	1184	43	"	"	"	"
27583	"	3:35	4.22	8.48	9.58	18.8	2756	8002	4888	717	135	5220	5131	1384	27	"	"	"	"
27584	"	4.23	5,11	6,75	7.67	17.3	2886	8002	4494	750	129	5158	5193	1375	33	"	"	"	"
27585	"	5.11	5,32	5.41	6,19	17.0	1202	2954	1588	312	53	1916	1961	521	11	"	"	"	"
27586	"	6.13	6.59	10,32	11.05	24.5	2688	8002	5072	679	171	5116	5131	1387	39	"	"	"	"

RUN	⟨L⟩ $10^{30}\,cm^{-2}s^{-1}$	BHABHA $\int Ldt\ nb^{-1}$	$\int Ldt$ GAP. ENERGY	IBM/TAPE OUTPUT	AT RUN START TOF (V)	AT RUN START ID (μA)	ON LINE REJECT SUM T_2 (%)	ON LINE REJECT NORD 50 T_1T_2 (%)	$\sum$ BHABHA	M.MAGN	E_BEAM	MAG FIELD −1 × G	REMARKS
27554	6.14	14.75	42622.70	IBM	0.9	0.2	50	45	259	2	17.501	4842	stopped due to many Errors 37
27555	4.94	2.22	42624.92	"	0.9	0.1	49	46	39	1	17.500	4841	beams dumped
27556	10.63	16.00	42640.92	"	1.3	0.2	50	37	281	2	17.501	"	stopped due to Err 37
27557	8.63	2.85	42643.77	"	1.1	0.1	51	42	50	1	17.503	"	—" —
27558	7.70	18.05	42661.82	"	1.0	0.1	51	42	317	9	"	"	
27559	6.17	11.90	42673.72	"	1.0	0.1	52	44	209	3	17.511	4842	beams dumped
27560	12.94	22.37	42696.09	"	2.0	0.15	49	33	393	11	17.501	4844	
27561	11.79	3.93	42700.02	"	1.3	0.2	42	35	69	0	17.503	4844	run stopped dues to error 37 (→ 52)
27562	10.31	20.55	42720.57	"	1.2	0.2	48	37	361	0	17.500	4844	
27563	8.14	16.51	42737.08	"	1.0	0.15	49	42	291	6	17.500	4844	
27564	6.41	5.41	42742.49	"	0.8	0.15	49	45	95	1	"	4847	error 52 ("Beamloss") hangup.
27565	5.58	8,31	42750.80	"	0.7	0.1	53	45	146	4	"	4848	
27566	13,20	7,40	42758.20	"	1,6	0,25	44	33	130	2	17501	4847	Stopped by error 52 "Beamloss"
27567	12.33	12.69	42770.89	"	1,6	0,25	47	34	223	2	17.500	4847	—" —
27568	8.37	6.26	42777.15	"	1.3	0.2	~~48~~ 47	~~39~~ 37	110	2	17.500	4847	stopped because "short break"
27569													
~~27570~~													
27570	4.53	7.34	42784.49	"	0.7	0.15	51	48	129	4	~~17.501~~ 17.500	4850	
27571	10,72	20.55	42805.04	"	1.6	0.2	49	35	361	4	17.500	4850	
27572	8.66	19.51	42823.55	"	1.2	0.2	49	39	325	4	17.503	4850	
27573	7.28	16.71	42839.26	"	0.9	0.2	49	42	276	1	17.501	4850	IBM LINK LOST ; retrieved successfully
27574	6.03	8.91	42847.57	"	0.8	0.15	49	43	146	1	17.500	4849	" " " Beamgas Dumped
27575	6.92	6.26	853.83	"	1.5	0.35	48	35	110	3	17.501	4844	Stopped by "No triggers"
27576	5.67	14.06	867,89	"	1.5	0.3	49	39	247	2	17.501	4844	
27577	~~4.61~~	4.67	872.56	"	"	"	50	44	82	0	"	"	beams dumped
27578	7.64	18.10	890,66	"	2.0	0.3	48	38	318	2	"	"	
27579	5.72	15.31	42905.97	"	1.5	0.25	50	41	269	3	"	4842	
27580	4.98	10.08	42916.05	"	1.2	0.2	51	43	177	5	"	4843	beams
27581	6.57	18.56	42934.61	"	1,6	0.~~0~~3	48	39	326	6	17500	4841	Tag HV MFR61 was off at beginning of run
27582	4.96	11.90	42946.51	"	1.25	0.2	50	43	209	3	17507	4842	Beams dumped
27583	6.65	17,31	42963.82	"	1.25	0.2	51	40	304	9	17501	4842	
27584	4.67	14.97	42978.79	"	0.9	0,18	50	45	263	2	17501	4841	
27585	3.43	4.44	42983.23	"	0.8	0,16	52	48	78	1	17500	4841	Beams dumped
27586	7.57	20,38	43003.61	"	1.75	0.38	49	38	358	4	17501	4841	

19/7/86

0:00 Murphy and Kado on shift*)

*) virtuell shift - because there will be no beam until Monday!

0:20 gas check done – ok; Temperatur in hardware room: 16.7 °C; big door of JADE hall closed; leave experiment alone,

4:00 Thanks!

8:00 P. Steffen & F. Loehrer on (virtual) shift. gas check done OK, hardware tem: 17°C

13.00 Hardware room temp = 18°C. Turned sprinkler on.

16 10 Gas check done OK, Sudrik

21.30 Sprinkler off

No Beam at least until Monday 18.00

Problems with a DESY magnet; excessive vibrations give vacuum trouble. Possibly no beam until Wednesday.

Turn FADC-Electronics off? No Knoblich beam 23.10.

20/7/86 0 13 gas check OK. U. Aarbus

20/7/86 900 gas check – H₂O Monitor at -55°C – P. Murphy, G. Zorn, Vertex Ch + Gas Valve reset

1150 All OK. P. Murphy 1400 OK G. Zorn

16⁰⁰ Gas check OK. D. Schmitt

20/7/86 23 45 T Greenshaw. Gas check done, all OK.

21/7/86 6⁰⁰ M. Zimmer all OK.

8²⁰ W. Barthel gas check done

13 10 Temp. in Hadron Room 19.1° C → Sprinkler on

15 10 Magnet to 7500 A

14 30 Ethane bottles in gas house changed this morning. Consequently 14 meter reading high (~70 units!) instead of ~35), due to ethane bottles being full! This will drop to normal values within 2 days. B. Wahlicke says this is quite standard. G. Zhou.

16⁰⁰ P. Murphy & B. Nawrocka. Hardware room 19.0 °C. ID 25.7°C. Open big doors.

19. Modified prescaler for Lumi Triggers installed. Tentatively set to scale factor of 32

19.30 Finally beams again. Mark J does not take data because of some magnet problem (?)

We got IBM-TRANSFER ERROR 52 twice in our shift. J. Olsson says it might be connected with the FAMP being on again.

24⁰⁰ Knoblich + Clarke Gas check done

22/7/86

0 50 Beams up. Background beyond measuring.

1.05 Tag HV ~~Error~~ Error Printout MAR 61. HV was off, but could be switched on locally. HV was off until about Event 1000 (N10-N50) of Run 27587.

1.38 ~~TO~~ VTCH + JETCH Soft trip

2.20 Lousy Beam-lifetimes 2.5 hrs. Petra says: Vacuum ungood.

3.30 Background opt. for ages, with TOF Rate 2.5-3V. Don't dare to switch on. They optimize all the beams away!

04.10 Gas mixture "Methak" Zulauf ~9.6 instead of nominal 10.0 – OK.

05.11 IBM Error 52 at start of run 27585, followed by JDAS Err 33 Missing LAM b 4 c 1; JET pointer

05.32 HV DOWN for new field, VTX ch gas valve failure coincided, cleared in gas hut.

06.20 IBM Transfer error: 000052 Subcom 0 ERRCNT 0

6.35 " " " 52

6.43 " " " 52 - followed (after re-linking) by JDAS Readout error 44 DMA Timeout 177777 0 ... 3 0 ... 0

JDAS Readout error 44 b 4 . c 1 ; JECT point 402

07.00 Jet ch. trip JDAS Readout error 74 wrong LAM b 5 c 1 BPeh.

07.07 IBM Trans error 52

R	RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME %	TIME (Secs)	Records IN	Records OUT	ALL $*10^6$	T_ϕ Rej. $*10^6$	T_1 Acc SUM	T_2 Acc SUM	T_1 Bit 2 $E_{LE} > 66$ GeV	T_2 Bit 7 2T.E4 22TR	Processors ON/OF NSO	MIP	TOF	Ecal
27	27587	22.7.86	6:58	7:15	8.53	8.50	21.3	568	1752	1064	147	31	1155	1033	342	8	ON	ON	ON	ON
27	27588	"	7:20	7:57	7.72	7.51	18.0	2171	6319	3577	564	101	4145	3937	1070	40	"	"	"	"
27	27589	"	10:15	10:28	10.18	10.36	20.5	743	2332	1471	193	39.5	1486	1410	390	9	"	"	"	"
27	27590	"	10:29	11:14	9.46	9.46	19.2	2658	8002	4861	691	133	5252	5040	1445	30	"	"	"	"
27	27591	"	11:14	12:02	7.55	7.47	17.1	2865	8002	4478	747	128	5250	5034	1395	47	"	"	"	"
27	27592	"	12:03	12:39	6.00	5.92	15.5	1667	4384	2439	434	67	2867	2782	764	17	"	"	"	"
27	27593	"	13:58	14:15	10.14	10.37	20.8	844	2977	1883	246	51	1881	1900	486	9	"	"	"	"
27	27594	"	14:16	15:01	9.33	9.55	18.2	2674	8002	4800	696	134	5224	5069	1485	36	"	"	"	"
27	27595	"	15:02	15:50	7.36	7.55	17.1	2832	8002	4632	737	126	5236	5083	1450	40	"	"	"	"
27	27596	"	15:55	16:16	5.72	5.88	15.9	1235	3365	1896	321	51	2210	2141	592	14	"	"	"	"
27	27597	"	16:50	17:32	10.42	10.33	21.2	2477	8002	5062	644	136	5322	4789	1590	46	"	"	"	"
27	27598	"	17:32	18:16	8.30	8.57	20.2	2610	8002	4908	679	137	5200	5048	1424	29	"	"	"	"
27	27599	"	18:21	19:09	6.58	6.71	17.8	2859	8002	4597	743	132	5302	5137	1431	36	"	"	"	"
27	27600	"	19:10	20:01	5.17	5.36	15.1	3031	8002	4220	789	119	5351	5047	1373	45	"	"	"	"
27	27601	"	20:01	20:43	4.10	4.26	13.5	2484	6026	3068	646	87	4064	3858	1022	15	"	"	"	"
27	27602	"	21:24	22:06	9.78	9.89	21.2	2514	8002	5067	654	138	5373	4616	1635	40	"	"	"	"
27	27603	"	22:06	22:53	7.76	7.85	21.1	2776	8003	4753	722	152	5386	4829	1541	27	"	"	"	"
27	27604	"	22.54	23.44	6.12	6.20	18.5	~~2814~~ 2816	~~8002~~ 8002	4567	753	139	5307	4987	1468	38	"	"	"	"
27	27605	23.7.86	0.30	0.42	10.46	10.70	21.3	695	2317	1509	180	39	1541	1337	450	6	"	"	"	"
27	27607	"	1.18	1.42	10.9	11.17	22.1	1428	4803	3030	371	82	3106	2995	903	25	"	"	"	"
27	27608	"	1.44	2.27	9.43	9.66	20.7	2512	8002	4964	653	135	5193	4993	1523	24	"	"	"	"
27	27609	"	2.27	3.13	7.58	7.77	17.7	2738	8002	4661	712	125	5259	5002	1495	23	"	"	"	"
27	27610	"	3.13	4.02	6.06	6.22	15.8	2846	8002	4386	753	113	5243	4926	1445	25	"	"	"	"
27	27611	"	4.03	4.58	4.82	4.96	13.6	3250	8002	4088	845	115	5312	5044	1373	21	"	"	"	"
27	27612	"	12.52	13.40	10.83	10.76	21.7	2455	8002	5202	638	138	5295	4796	1455	23	"	"	"	"
27	27613	"	13.40	14.26	8.36	8.21	19.5	2697	8002	4793	702	137	5296	4967	1473	39	"	"	"	"
27	27614	"	14.27	15.05	6.57	6.46	17.6	2263	5785	3332	589	162	3883	3486	991	21	"	"	"	"
27	27615	"	15.38	16:20	10.64	10.01	21.3	2483	8002	5052	646	138	5257	4888	1507	43	"	"	"	"
27	27616	"	16:20	17:01	8.58	8.00	23.3	2468	8002	5091	642	150	5727	5180	1484	47	"	"	"	"
27	27617	"	17:02	17:21	6.96	6.47	22.1	1128	3421	1795	294	65	2240	2272	580	29	"	"	"	"
27	27618	"	17:24	18:52	10.44	10.29	23.4	1495	4995	3218	389	93	3336	3036	973	14	"	"	"	"
27	27619	"	19:39	20:20	9.41	9.73	27.7	2446	8002	5262	636	176	5071	5294	1506	52	"	"	"	"
27	27620	"	20:21	21:03	7.59	7.87	23.0	2518	8002	5017	655	150	5145	5325	1484	36	"	"	"	"
27	27621	"	21:04	21:50	6.15	6.39	19.4	2761	8002	4647	718	139	5222	5336	1398	30	"	"	"	"

<L> 10^{30} cm^{-2}s^{-1}	Bhabha $\int Ldt$ nb^{-1}	$\int Ldt$ EXP. Energy	IBM Tape Output	At Run Start TOF [V]	At Run Start ID [mA]	ONLINE REJECT Sum M.proc T2 %	ONLINE REJECT N50 T1+T2 %	Σ Bhabha	M/H	E Beam	Mag Field -1*6	Remarks
6.16	4.55	43008.16	IBM	1.1	0.18	50	41	80	4	17501	4840	
5.20	10.59	43018.75	"	1.0	0.18	50	45	186	0	17501	4840	Beams lost
8.52	5.98	43029.73	"	1.35	0.25	46	38	105	1	17500	4841	run stopped due to "no triggers"
7.32	19.92	43044.65	"	1.2	0.22	51	41	350	4	"	4842	
5.55	15.88	43060.53	"	1.0	0.20	50	45	279	6	"	4843	
4.03	6.95	43067.48	"	0.8	0.18	51	46	122	0	"	4844	beams dumped.
8.64	8.48	43075.96	"	1.4	0.25	48	38	145	3	"	4846	IBM link down
7.38	23.11	43098.07	7DAS05	1.3	0.2	50	41	406	7	"	4847	"
6.41	17.99	43117.06	" "	1.1	0.2	50	43	316	4	"	4847	"
4.96	5.86	43122.92	7DAS06	0.8	0.15	51	45	103	3	17.501	4844	beams dumped
10.27	26.58	43149.50	IBM	1.4	0.25	49	38	467	9	17.500	"	
7.20	18.10	43167.60	"	1.2	0.2	50	40	318	10	"	"	
5.11	16.28	43183.88	"	1.0	0.2	52	44	286	2	"	"	
4.05	11.79	43195.67	"	0.8	0.15	52	49	207	5	17.501	4843	
2.88	8.14	43203.81	"	0.65	0.10	53	50	143	3	"	"	beams dumped
9.92	27.50	43231.31	"	1.3	0.2	48	38	483	8	"	4841	
7.24	21.52	43252.83	"	1.0	0.2	51	42	378	2	"	4842	
4.95	15.60	43268.43	"	0.9	0.15	51	44	274	6	"	"	
11.16	7.91	43276.34	"	1.5	0.2	48	36	139	1	"	"	* Note no run 27605 does not exist Beams lost
10.56	16.40	43292.74	"	1.6	0.22	49	38	288	6	17.500	4840	Run stopped – many timeout errors
8.75	22.71	43315.45	"	1.2	0.20	49	39	399	9	17.500	4840	
6.62	19.81	43335.26	"	1.1	0.18	50	43	348	7	17.500	4840	
5.07	13.78	43349.04	"	0.8	0.15	48	47	242	6	17.500	4840	
3.50	11.61	43360.65	"	0.6	0.10	53	50	204	2	17.5	4838	
10.58	24.99	43385.64	"	1.3	0.10	49	36	439	8	17.501	4842	
7.80	19.70	43405.34	"			50	41	346	9	17.500	4842	
5.01	12.81	43418.15	"			50	44	225	4	17.500	4844	Beams dumped
9.75	26.47	43444.62	"	1.4	0.10	49	38	465	9	17.507	4844	
7.32	19.64	43464.26	"	1.2	0.10	50	38	345	5	17.500	"	
6.17	6.49	43470.75	"	1.7	0.10	51	43	174	2	17.507	"	beams lost
10.73	17.99	43488.74	"	2.2	0.2	50	37	376	4	17.500	"	beams lost
8.46	21.07	43509.81	"	2.5	0.25	50	36	370	4	17.501	"	
6.97	17.82	43527.63	"	2.0	0.22	51	39	313	5	17.500	"	
4.76	14.86	43532.49	"	1.45	0.2	53	43	261	2	17.501	"	

22/7/86

07.15 Pickup? Event, then "no events for n secs". Had to stop & restart new run.
07.57 Beams lost → short break
8:00 Warning on shift
gas check done, Helium flow increased 16.65 → 16.75
10^{15} new beams ready (finally)
10^{30} run 27589, data taking stuck, "no triggers" for no obvious reason. PAUSE/CONT did not help. new run started
10^{39} IBM transfer error 052/000/000, IBM link restarted successfully.
12^{00} Becher
16^{26} JDAS err 33 br. 2 cr 3 TOF 1
15^{20} " " 33 " 2 " 3 "
15^{46} " " 53
16^{00} Magnussen
Gas check ok.
16^{05} IBM on again. New fill in a few minutes. Continue to write to tape until then.
17^{27} JDAS Error 33 : Missing LAM branch 3 crate 4 : z-chamber part 1
18^{48} IBM transfer Error 52 /000/000/ ; Relink ok.
19^{00} PETRA can't refill for ≈ ½ hour. No e⁺ available.
20^{12} System crate watchdog flag 8002 177776
20^{30} Ambras
23.7.86
00.02 Clarke
00.02 Several TRANSF.!! errors, no control from terminal. Tried to re-load Nord:- failed.
Called Howard. Disk drive run down then up. Nord re-loaded OK
00.30 Run 27606 started. (27605 does not exist)

* The disk drive did not show error condition.

00.45 Beams lost. All chambers tripped.
00.46 Gas check OK.
1.45 IBAS readout err 44 - DMA Timeout - many b2 c1 latches. - had to stop run.
1.46 Reset µ crate 13
2.10 IBM transfer errors (52)
3.00 Several JDAS Readout errs 53
4:00 Barth on shift (2220)
4:00 No more fill possible. Linac is down. Keep the present beam
5:00 $I^{\pm}$ = 3.5 mA it does not make sense to continue taking background data. Switch off HV, run down magnet to 500 A. Linac is down to 1/10 of its short value

23.7.86
8:00 Smolik on shift
8:10 Gas check OK.
Temperature in hardware room 19.1°C → Sprinkler ON
15:00 6x Timeout while resetting J68K processors.

16:00 Kado on shift

16:15 gas check done
17:20 beams lost – probably a power glitch (lights went off for less than a second) – computer was not affected
17:25 Olsson and Rehbiel try hard to destroy the system crate
18:55 no success – system crate still working – Olsson and Rehbiel leave the experiment
19:05 it's cold in the JADE hall ⇒ big door closed and sprinkler switched off
19:40 IBM Transfer error 52 (oct) → To Jan Olsson : overrun LED on PADAC Interface was ON !
20:00 Warning on shift
20:30 background higher than in previous fills, I ask PEGR for optimisation; background improved
21:52 IBM transfer error 52 at pedestal setting
22:40 new fill ready, background high, ask for optimisation, had some success
22:45 YSPY found trigger 2 input missing 163, this channel has low statistics (≈ 50% efficiency since 917186 due to a dead PM)
22:50 TOF meter off scale, soft trip
23.22 IBM transfer error 52 again during pedestal events, Overrun LED on Padac was ON!
23.43 " " " during normal data taking, " " " "
0:00 Ambras on shift + U. Schneekloth
0:05 gas check done
3:00 no triggers → started new run → OK
3:35 run 27629: no run-summary (ERROR 31 IN JDA13 AT 62222; PERMIT VIOLATION) → TASK YRUNSM
REBUILD YRUNSM ⇒ OK!
4:36 JDAS READOUT ERROR 33 – Missing LAM branch 4 crate 1 : J68K Bank
IBM TRANSFER ERROR
7:54 JDAS READOUT ERROR 52 – controlword 000200
8:00 Chrin & Steffen on shift
gas check done.
15:20 VTX-chamber Valve failure occurred 16:00 Krehbiel, Olson
16:20 2280 Processor of LG crate 5 found defect, exchanged J.O.

Hangs at hardware-software interface. door closed.

Run	Date	Start	Stop	at run start I^+	at run start I^-	DEAD TIME (%)	TIME (sec)	Records IN	Records OUT	ALL $\times 10^6$	TØReq $\times 10^6$	T_1 Acc SUM	T_2 Acc SUM	T_1 Bit 2 Eff. $\times$ Pre	T_2 Bit 2	Processors ON/OFF NSO	MIP	TOF	TAG
27622	23/7/86	21:50	22:05	4.98	5.19	20.0	858	2423	1313	223	45	1588	1593	383	11	ON	ON	ON	ON
27623	"	22:35	23:21	11.37	11.39	28.0	2269	8002	5338	590	165	5136	4981	1537	31	"	"	"	"
27624	"	23:21	0:02	9,01	9,03	23,5	2445	8002	4974	636	149	5250	4964	1507	37	"	"	"	"
27625	24/7/86	0:03	0:50	7,33	7,34	21,1	2989	7726	4765	647	137	4908	4869	1371	36	"	"	"	"
27626	"	1 26	2 08	11.13	11.01	30.7	2366	8002	5337	615	189	5015	5187	1503	37	"	"	"	"
27627	"	2:08	2:48	8.82	8.71	29,7	2337	8002	5172	608	180	4986	5180	1433	36	"	"	"	"
27628	"	2:49	2:54	7,27	7,16	31,6	319	1038	678	83	26	619	727	211	3	"	"	"	"
27629	"	3:00	3,33	6,85	6,74	26,3	1920	6235	3902	499	131	3826	4270	1056	31	"	"	"	"
27630	"	4:20	5:03	10,88	11,14	25,6	2386	8002	5264	620	159	5190	4999	1546	27	"	"	"	"
27631	"	5:04	5:46	~~8,55~~ 6,93	~~8,76~~ 7,14	~~20,8~~	2501	8002	4865	650	135	5265	4892	1486	30	"	"	"	"
27632	"	5:46	6:31	6,91	7,10	18,8	2688	8002	4544	699	131	5311	5062	1413	33	"	"	"	"
27633	"	7 40	8:27	10.72	11.15	21.7	2425	8002	5168	631	137	5193	5029	1401	40	"	"	"	"
27634	"	8:27	9:16	8.29	8.65	19.7	2679	8002	4813	697	137	5329	5085	1479	35	"	"	"	"
27635	"	9:17	10.05	6.53	6.84	18.5	2835	8002	4444	738	137	5243	5250	1362	33	"	"	"	"
27636	"	10:36	11:17	11.31	11.42	21.4	2408	8002	5108	627	134	5312	4816	1495	34	"	"	"	"
27637	"	11:17	12:03	9.06	9.16	19.6	2569	8002	4807	669	131	5290	5000	1465	40	"	"	"	"
27638	"	12:03	12:52	7.04	7.13	18.3	2854	8002	4439	743	121	5424	4874	1323	36	"	"	"	"
27639	"	13:25	14:06	11.01	11.24	20.2	2452	8002	5140	638	129	5343	4793	1441	31	"	"	"	"
27640	"	14:07	14:52	8.82	9.04	17.3	2672	8002	4796	696	120	5412	4811	1446	27	"	"	"	"
27641	"	14:52	15:02	6.98	7.17	17.0	532	1668	909	138	24	1092	951	282	2	"	"	"	"
27642	"	15:32	15:51	10.89	11.21	20.1	1086	3405	2152	283	57	2251	2113	576	17	"	"	"	"
27643	"					junk													
27644	"	16:27	17:15	8.24	8.51	16.9	2779	8002	4647	723	122	5419	4913	1453	25	"	"	"	"
27645	"	17:19	17:46	6.23	6.47	15.3	1583	4387	2451	412	66	3033	2573	766	14	"	"	"	"
27647	"	18.38	19:13	10.62	10.91	19.0	2005	6638	6446	522	99	4366	3969	7748	25	"	"	"	OFF
27648	"	19.19	20:05	8.48	8.74	17.2	2656	8002	4918	691	119	5343	4832	1439	31	"	"	"	"
27649	"	20.05	20:54	6.75	6.98	15.0	2909	8002	4479	757	774	5437	4871	1343	27	"	"	"	"
27650	"	20.54	21:02	5.34	5.55	14.0	427	1769	625	111	16	799	676	224	5	"	"	"	"
27651	"	21.40	22:28	10.28	11.03	20.9	2519	8002	5076	656	137	5296	4965	1456	29	"	"	"	"
27652	"	22:28	23:13	8.25	8.38	16.6	2664	8002	4643	693	115	5407	4738	1311	26	"	"	"	"
27653	"	23:13	23:58	6.62	6.73	15.0	2670	7230	3884	695	104	4910	4497	1186	31	"	"	"	"
27654	25.7.	0:26	1:07	11.43	11.41	20.6	2415	8002	5215	621	129	5277	4925	1390	29	"	"	"	"
27655	"	1:07	1:52	9.12	9.18	17.9	2609	8002	4804	678	121	5395	4835	1424	34	"	"	"	OFF
27656	"	1:52	2:40	7.29	7.33	15.2	2991	8002	4549	752	114	5474	4829	1362	29	"	"	"	ON
27657		2.40	3.01	5.76	5.76	14.0	1525	3987	2049										

<L> 10^{30} cm^{-2}s^{-1}	Bhabha SLdt (nb^{-1})	SLdt Exp. Energy (nb^{-1})	IBM/TAPE Output	At run start TOF (V)	At run start ID (μA)	Online Reject SUM MIDOC T2 (%)	Online Reject VDED SO TET$_2$ (%)	Σ_{BHABHA}	MH	E_{Beam}	MAG Field -1×G	REMARKS
3.83	3.30	43 535.79	IBM	1.2	0.2	53	47	58	1	17.500	4844	Beams dumped
10.21	25.22	43 561.01	"	275	0.4	49	35	443	6	17.501	"	
8.22	21.12	43 582.13	"	1.7	0.22	50	39	371	5	17.500	"	
6.01	15.03	43 597.06	"	1.5	0.2	52	38	264	8	17.501	"	Beams dumped
9.15	21.69	43 618.75	"	1.9	0.3	49	35/51	381	9	17.500	"	
6.78	16,62	43635,37	"	2,5	0,35	50	37	292	7	17,501	4842	
5.57	2,33	43637,70	"	2,3	0,3	51	37	41	1	"	4843	no triggers → restart
~~3.83~~ 3.88	8,31	43646,01	"	2,3	0,3	53	37	146	1	17,500	"	Beams dumped
9.86	26,93	43672,94	"	2,0	0,3	49	35	473	4	"	4841	
7.92	20,44	43693,38	"	1,4	0,2	49	40	359	3	"	4840	
5.67	15,23	43709,21	"	1,3	0,1	52	45	278	6	17,501	4841	Beams dumped
10.20	25.34	43 734.55	"	2.0	0.2	49	37	445	11	"	"	
6.67	19.43	43754.48	"	1.4	0.2	52	41	350	7	"	4840	
4.39	13.95	43768.43	"	1.2	0.2	53	46	245	4	17.501	4841	Beams dumped
11.00	27.50	43795.93	"	1.5	0.2	49	37	483	11	17.501	4840	
8.23	21.05	43816.98	"	1.0	0.2	51	41	370	4	17.500	"	
5.54	16.00	43832.98	"	0.8	0.15	52	46	281	4	17.501	"	Beams dumped
10.59	25.97	43 858.95	"	1.3	0.2	50	37	425	8	"	"	
8.25	22.26	43 881.21	"	1.0	0.15	51	41	391	6	17.500	4841	
1.46	3.42	43 884.63	"	0.6	.10	49	45	60	—	"	"	Beams lost
10.18	11.73	43 896.36	"	1.2	0.2	50	38	206	6	17.501	"	Run stopped, bangap. LG Processor Problem
				1.0	0.2							
7.10	21.58	43 917.94	"	0.9	0.15	52	43	377	8	17.500	4844	
5.15	8.65	43926.59	"	0.7	0.10	53	46	152	4	17.500	4844	
12.02	20.72	43947.37	Tape JDAS05	1.2	0.2	48	39	365	4	17.500	"	Run 27646 junk because of IBM Problems
9.32	23.17	43970.48	IBM	0.84	0.2	50	40	407	8	17.501	4844	
6.77	~~19.83~~ 16.85	~~43987.31~~	"	0.7	0.15	52	45	296	3	"	"	
5.54	2.39	43987.33 43989.72	"	0.6	0.1	52	48	42	1	"	"	Beams dumped
11.09	27.55	44017.27	"	1.5	0.2	51	38	484	13	17.500	4844	
8.24	17.14	44084.67	"	0.9	0.15	50	43	301	3	"	4844	
5.84	13.09	44047.76	"	0.75	0.15	53	45	230	4	17.501	4843	
12.48	27.15	44076.91	"	1.4	0.2	50	36	477	10	17.500	4837	
9.29	22.49	44097.50	"	1.0	0.2	51	41	395	10	"	"	
6.52	17.42	44114.92	"	0.9	0.15	52	44	306	7	"	"	
4.87	5.52	44120.44	"	0.6	0.1	54	49	97	4	"	"	

16:30 Gas check done
22:35 Reset pi-create C
25/7/86 0° H.Mills on shift

Gas check performed
FAMP turned on from run 27656 – 20 mins later IBM transfer error
2°° Propose new hall. All agree. Mark-> apparently drinking champagne - wonder what they have discovered this time.
They suggest I send any nice girls we have here over there – she's on shift tomorrow night!
My suggestion that they send the booze here not agreed to. grrrr

Run list full —— new book

23/7/86 18:35: Serious IBM problems. Holzhausen is busy, but cannot make predictions.
Write on Tape.

19.15 Laurikainen loads his FAMP debug module, ~~the~~ Tape-Run stopped.
IBM still a problem, but could be cured by reloading the module on IBM side
(Suberror 13...). Holzhausen did it.

