JADE LOG BOOK XX runs 27658 – 27916

Ein Brunnen-Erzeugnis

JADE LOGBOOK

XX

Run 27658 → 27916

25/7/86 ö" H. Mills on shift continued.

4:00 D. Schmidt on shift.
5:00 ID + VTX soft trip.
6:06 Beams dumped z-chamber gas alarm
6:48 new fill ready
7:45 YSP4 Trigger 2 Input missing 163

8:00 Steffen on shift

8:20 gas check done, OK
11:30 problems with printout of Run Summary (YRRUNSM had to be rebuild)

12:00 Ambrus on shift
12:08 FAMP OFF at constant (17666)
12:47 turned FAMP ON
15:39 reset MUONCRATE 13
16:00 G.Baus & Schwesthith on shift

Beam is very dirty (bad vacuum) the new break optimization

The shift crew has had the run on "optimization for over an hours, (we were taking data several trips / runs of inner detector and/or beampipe chamber

1901 new fill, still bad beams, beam life time ≤ 2 h, frequent Jet + VTX CH. soft trips
2000 run summary for run 27674 is incomplete, Lumi, seconds, deadtime .... all =0
2204 VTX ch. error, +Z power supply voltage error, talked to J. Hagemann, took VTXCH. out of readout
2250 PKR says the vacuum is better and they can give us a better beam.

26.7.86 0.00 B Narroska
gas check ok.
032 -5V power supply for VTX preamplifier broken, modul exchanged, now everything OK. HAG

2 IBM transfer errors after start of run 27682, once more

Frequent "Muon digitiser missing 5 & 8" 5 goes away by itself
8 has to be reset

4⁰⁰ Magnussen
4⁵⁴ z-ch. trip
7⁰⁹ YSP4 TR 2 I/P missing 163

Run	Date	Start	Stop	Run Start I+	Run Start I-	Dead Time %	Time (secs)	Records IN	Records OUT	All +10⁶	To mi +10⁶	T1 Acc Sum	T1 Acc Sum	T1 bit 2 Eff. 76%	T1 bit 17 27. Eff 72%	Processors N50	Processors MIP	Processors TOF	Processors FAM
27658	25.7.96	3:40	4:23	11.56	11.50	20,4	2486	8002	5087	646	132	5228	5043	1400	28	ON	ON	ON	ON
27659	"	4:23	5:15	9,24	8,21	12,6	2689	8002	4713	605	123	5438	4821	1312	27	"	"	"	"
27660	"	5:15	6:06	6.48	6.46	14,4	3024	8002	4223	787	113	5428	4802	12 85	28	"	"	"	"
27661	"	6.48	7:32	11.23	11.31	18,3	2588	8002	4843	674	130	5318	5046	1330	30	"	"	"	"
27662	"	7.32	8.18	8.96	9.01	15,1	2724	7449	4121	709	107	4966	4617	1151	33	"	"	"	"
27663	"	8.57	9.40	11.57	11.33	19.1	2544	8002	5016	662	127	5381	4951	1435	20	"	"	"	"
27664	"	9.40	10.27	8,49	8,31	19,1	2731	8002	4803	711	136	5398	4837	1378	27	"	"	"	"
27665	"	10:26	11:18	6.63	6.53	26.2	2979	7228	4056	775	203	4833	4578	1053	29	"	"	"	"
27666	"	12:04	12:46	10,85	10,29	21,0	2463	8002	5249	641	134	5279	5003	1326	31	"	"	"	OFF
27667	"	12:47	12:47	8,57	7,87	-	-	33	26	-	-	14	0	5	0	"	"	"	ON
27668	"	12:48	13:37	8,53	7,82	20,5	2076	6078	3669	540	110	3976	3891	985	21	"	"	"	"
27669	"	14:29	15:28	10,40	10,73	27,4	2458	8002	5169	639	143	5185	5167	1326	31	"	"	"	OFF
27670	"	15:28	16:11	7,35	7.24	23,8	2550	8002	5044	663	158	5038	5563	1294	28	"	"	"	"
27671	"	16:11	16:21	5.10	5.03	19,8	569	1692	973	145	29	1099	1029	278	5	"	"	"	"
27672	"	17:04	17:51	9.31	9.48	24,4	2454	8002	5063	638	156	5156	5086	1340	41	"	"	"	"
27677	"	17:51	18:24	5.59	5.76	26.8	1439	4586	2857	375	100	2820	3100	722	25	"	"	"	"
27674	"	19.01	20.00	10.04	10.71	? 21,9	?	8003	5083	?	?	4941			44	"	"	"	"
27675	"	20.01	20.42	5.04	5.60	~~27,0~~	2310	6975	4110	601	132	? 526	? 504	1116	41	"	"	"	"
27676	"	21.23	22.13	10.29	10.44	21.3	2560	8002	5067	666	142	5268	5105	1330	32	"	"	"	ON
27677	"	22.14	22.19	6.06	6.19	23,1	305	959	557	79	18	631	578	163	3	"	"	"	"
27678	"	22.20	22.51	5.67	5.71	16.9	1129	3039	1654	293	49	2018	1971	468	16	"	"	"	"
27679	"	23.24	0.07	11.58	11.60	20.1	2471	8002	5064	642	128	5321	5106	1437	23	"	"	"	"
27680	26.7.	0.08	0.30	9.19	9.21	19.1	1033	3405	2134	268	52	2349	2002	595	7	"	"	"	"
27681	"	0.32	1.17	8.07	8.09	17.8	2701	8002	4660	702	125	5377	4900	1406	33	"	"	"	"
27682	"	1.18	1.59	6.46	6.48	18.3	2280	5980	3221	593	108	4021	3669	949	29	"	"	"	"
27683	"	2.33	3.13	11.53	11.47	23.2	2373	8002	5299	616	142	5264	4985	1339	32	"	"	"	"
27684	"	3.13	3.56	9.26	9.22	20.1	2523	8002	4766	656	131	5274	4973	1347	29	"	"	"	"
27685	"	3.56	4:42	7.40	7.37	17.8	2772	8002	4599	721	128	5374	4905	1382	27	"	"	"	"
27686	"	4:43	5:21	5.86	5.85	15.7	2277	6237	3343	592	93	4254	3725	1037	27	"	"	"	"
27687	"	6:03	6:43	11.54	11.39	21.8	2404	8002	5204	625	136	5156	5116	1339	23	"	"	"	"
27688	"	6.43	7:30	9.18	9.06	18.7	2641	8002	4780	687	128	5340	4982	1389	45	"	"	"	"
27689	"	7.31	8.20	7.12	7.03	15.0	2939	8002	4391	765	115	5802	4854	1296	39	"	"	"	"
27690	"	8.20	8.32	5.46	5.58	13.8	662	1749	896	172	24	1212	1051	279	9	"	"	"	"

<L>	Bhabha SLdt nb⁻¹	SLat Exp 44120 44	Output	Run Start TOF EVJ	Run Start ID [mA]	Online Reject SUM M/16 T3 %	Online Reject N50 T4+T6 %	Σ bhabha	M/H	E beam	Field	Remarks
11.83	25.05	44145.51	IBM	1.4	0.2	50	37	440	5	17501	4837	
8.24	18.80	44164.41	"	1.1	0.2	53	42	332	10	17.500	4838	
5.26	14.82	44179.33	"	0.7	0.15	52	49	262	5	17501	"	beams dumped
9.85	23.87	44203.30	"	1.25	0.2	52	39	421	7	17500	4837	
6.09	14.29	44217.59	"	0.9	0.2	51	46	251	7	17.501	4838	beams dumped
10.97	24.14	44241.73	"	1.4	0.2	52	38	424	6	17.500	4,840	beam energy unstable during this run
8.38	20.04	44261.77	"	0.9	.15	51	41	352	3	17.501	4.841	
4.81	11.10	44272.87	"	0.9	.15	52	45	195	5	17.500	"	beams dumped
10,57	20,84	44293,71	"	1,4	0,2	50	36	366	4	"	4843	
-	-	44293,71	"	1,3	0,2	-	35	0	0	"	"	
5,85	11,50	44305,20	"	1,3	0,2	51	41	202	3	"	"	beams dumped
10,12	21,29	44326,49	"	1,4	0,2	51	37	374	9	"	4841	
4.86	10.76	44337.25	"	2,0	0,25	52	38	189	7	"	4841	
3.38	1.76	44339.01	"	2,2	0.2	50	44	31	0	"	4841	Beams dumped
6,05	12.91	44351.82	"	1.5	0.2	49	38	225	2	"	4841	
2.71	3.76	44355.58	"	1.7	0.21	49	39	66	4	"	"	beam lost
?	12.01	44367.59	"	2.1	0.3		38	211	2	"	"	run summary is incomplete
2.53	4.33	44371.92	"	1.6	0.2	51	42	76	5	"	"	beams dumped
8.16	17.31	44389.23	"	1.6	0.2	51	38	304	4	"	"	
4.66	1.31	44390.54	"	1.2	0.2	49	44	23	1	"	"	
3.42	3.30	44393.84	"	1.2	0.2	52	47	58	4	"	"	VTX Ch. taken out
11.49	24.93	44418,77	"	1.5	0.2	51	37	438	10	17501	4841	
9.61	8.77	44427.54	"	1.0	0.2	51	38	154	2	"	"	
7.13	17.25	44444.79	"	0.95	0.2	51	43	303	7	"	"	VTX CH in read-out again
5.14	10 13	44454.92	"			52	48	178	2	"	"	beams dumped
11.90	25.79	44480.71	"	1.5	0.3	50	35	453	6	"	"	
9.30	18.05	44498.76	"	1.25	0.2	50	42	317	11	"	4840	
6.43	16.00	44514.76	"	1.0	0.15	51	44	281	8	17.500	"	
4.68	9.91	44524.67	"	0.7	0.15	52	48	174	4	"	4838	beams dumped
12.01	24.42	44549.09	"	1.5	0.25	49	36	429	7	"	4839	
8.51	20.32	44569.41	"	1.1	0.2	51	41	357	11	"	"	
5.85	14.46	44583.87	"	0.9	0.15	53	46	254	6	17.501	"	
4.71	2.90	44586.77	"	0.6	0.1	54	50	51	0	"	4840	Beams dumped

8⁰⁰ Cartwright on shift + Schneeklöth, 10⁵⁰
8⁰⁵ Gas check done
8³⁰ Histograms had been displayed with all y-axis labels 0,0 for last couple of runs. On advice of Howard, rebuilt YHDISP after beams dumped. Now OK.
9⁰⁰ YMAGNT collapsed – umpteen ERROR 50 messages in console. Rebuilt.
9⁴³ IBM transfer error 52 at start of run 27693. Retry successful. (Again 10²⁵)
9⁵⁰ Notice writing on MOP terminal. RUN ZIMMONI resurrects it, don't know how long it had been off.
11⁰⁰ IBM error 52 during run 27694, 6 events lost
11²⁰ short break, vacuum leak near MARK J
13⁰⁰ new fill ready
13⁰⁶ YPARA 24 PEDCRT 3 CH 492 and 486 15 < 100, VALUE 1
13⁴⁶ started run 27696, stopped after 13 events, FEP error JETC reloaded
14⁴⁰ beam conditions (background, beam lifetime...) are considerably better than in previous fills.

16⁰⁰ Hagemann on shift
16⁰¹ Gas check done, OK
17³⁴ JDAS readout error 33 – missing LAM br 4 cr 1 ; JETC point 607
177777 000003 000000 7 × 177777
0 23 000027 5 007000 177777 177777 6457 177777
xfer JDAS readout error 32 – missing LAM at FEP Ready (JETC4)
run stopped, reload processors, new run started OK.
18²⁷ Standard histograms look normal
19⁰⁷ VTXC + ID soft trips due to background optimisation
19²³ VTXC + ID HV fail due to high TOF rate energy changed to 17.523
2000 Warning on shift
Graphic terminal not working IBM operators cannot help, on their side everything seems OK.
↑ second time this week when I am on shift
21¹⁵ found MOP signalling some processors being off by one count, reload J68K, new run
21³⁰ IBM transfer error 52 subsys 000, Overrun LED on
22⁰⁰ " " " " "
histograms checked, they look all OK
22²⁵ IBM transfer error 52 subsys 000, Overrun LED (PADAC) = On
immediately afterwards JDAS error 33, missing LAM br 4 cr 1, JETC point 704
177777 040204 000207 (177777)*7
0 133 000205 3 177777 177777 4923 177777
23⁵⁹ JDAS readout error 74 – wrong LAM br 5 cr 1 (VH-Q)

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0⁰⁰ Warming on shift
Gas check done OK
0⁰² found MOP flashing again, reload J68K, start new run
0²⁰ IBM transfer error 52 subsys 000 Overrun LED at PADAC interface was on immediately afterwards JDAS readout error 74, DMA Timeout br 4 cr 1 JETC point 505
3³⁰ during the first 3/4 of an hour of this new fill, dead time steadily increased from 25 – 50 %, but I can't see where it is coming from.
$I^+ I^-$ × 10 mA, TOV = 1.3 V, ID < 0.2, VTX ≤ 0.3 ⇒ background seems to be low.
I stopped run 27715 and put in REDUCED TRIGGERS for some time.
3³⁸ another IBM transfer error 52
We phoned Howard for advice, he had no explanation either. We then noticed that MIPROC-16 was rejecting only 1–3 %. So this was the reason for the high dead time. We reloaded MIPROC-16, after that everything seemed OK. PWA
4⁰⁰ Walker on shift.
5⁰⁵ [illegible] – stop run to reload (+ make sure still ongoing).
5¹⁵ VTXC valve failure while HT running down.
6¹⁵ IBM transfer error 52 subsys 000 followed by
~~JDAS~~ error 33 missing LAM br 4 cr 1 : JETC point 601
177777 ⁵⁰³ 3 ⁵⁰⁰ 0 (177777)*7
0 143 000224 5 001000 (177777)*2 177777 177777
Dead time > 32 % again.
7⁰⁰ IBM error 52 ⇒ Run 27723 stopped almost immediately ⇒ no run summary.
7³² " " " subsys 000 again
8⁰⁰ Matsumura on shift
Gas check done ok
12.00 Weber on shift
12.25 trying to start run 27730 computer hang-up; not cured by pressing "return".
Call Olsson, who instructs me how to get it going again. We are now at run 27735
15.28 After repeating the same problem occurs, but this time reloading NORD10 does not help. Call Olsson again; his instructions are followed and – after a while – we are taking data again. – what were instructions
Xxxxxx, Olsson is convinced, something is seriously wrong with JDAS, so he is coming in to fix it.
15.41 P. Wanning called, to direct our attention on the trouble with MP-16 during the past night shift. Since J. Olsson will come in, he should look into that problem as well! (see top of this page)
16⁰⁰ Minke + Sandtke on shift
J. Olsson was here! Menu task rebuilt, Gas check OK.

Run	Date	Start	Stop	At Run Start I+	At Run Start I-	Dead Time (%)	Time (sec)	Records IN	Records OUT	ALL ×10⁶	TØ Rej. ×10⁶	T1 Acc Sum	T2 Acc Sum	T1 B7.2 E_LG76 GeV	T2 B7.11 2T. E4 2 2TR	Processors ON/OFF NSO	MIP	TDF	TAN
27691	26/7/86	8⁵⁷	9⁰²	11.66	11.53	25.8	228	784	515	59	15	494	468	135	2	ON	ON	ON	ON
27692	"	9⁰⁴	9⁴⁴	11.27	11.15	21.9	2389	8002	5136	622	136	5274	5054	1409	25	"	"	"	"
27693	"	9⁴⁴	10¹⁸	9.00	8.90	18.5	2608	8002	4762	679	126	5350	4877	1374	28	"	"	"	"
27694	"	10²⁸	11¹³	7.18	7.11	15.8	2640	7402	4091	687	109	5007	4503	1256	30	"	"	"	"
27695	"	13⁰⁵	13⁴⁶	11.52	11.68	20.7	2434	8002	5216	633	131	5311	4818	1442	30	"	"	"	"
27697	"	13 50	14³⁴	9.62	9.78	19.2	2587	8002	4861	672	129	5325	5025	1392	31	"	"	"	"
27698	"	14³⁴	15²⁴	8.22	8.36	17.8	2718	8002	4668	707	126	5257	5079	1341	29	"	"	"	"
27699	"	15²⁶	15⁵²	6.75	6.89	15.9	1543	4376	2405	402	64	2945	2681	769	18	"	"	"	"
27700	"	17⁰⁸	17³⁴	10.87	11.53	21.2	1535	5049	3240	399	85	3301	3098	886	21	"	"	"	"
27701	"	17⁴²	18²⁴	9.47	10.10	21.3	2516	8002	4961	654	139	5145	5132	1353	24	"	"	"	"
27702	"	18²⁴	19¹²	8.10	8.68	19.0	2680	8002	4667	697	133	5135	5294	1290	39	"	"	"	"
27703	"	19¹²	19³¹	5.24	6.51	15.5	950	2452	1283	247	38	1599	1593	372	5	"	"	"	"
27704	"	20⁰⁶	20⁴⁶	11.39	10.94	23.1	2408	8002	5183	626	145	5160	5034	1337	35	"	"	"	"
27705	"	20⁴⁶	21¹⁶	9.75	9.35	22.5	1379	4511	2828	359	81	2869	2879	779	24	"	"	"	"
27706	"	21¹⁷	22⁰¹	8.74	8.37	18.8	2639	8002	4765	686	129	5255	5095	1389	34	"	"	"	"
27707	"	22⁰²	22⁵⁰	7.48	7.14	16.4	2856	8002	4544	743	122	5354	4949	1259	36	"	"	"	"
27708	"	22⁵⁰	23⁰¹	6.39	6.08	14.9	629	1673	908	164	24	1123	1069	291	6	"	"	"	"
27709	"	23:28	0:02	11.82	12.21	24.2	1991	6741	4459	518	125	4291	4399	1120	16	"	"	"	"
27710	27/7/86	0:03	0:41	10.25	10.61	27.0	2292	8002	5270	596	161	4940	5435	1408	33	"	"	"	"
27711	"	0:42	1:24	8.75	9.09	20.3	2496	8002	4933	649	132	5218	5075	1377	26	"	"	"	"
27712	"	1:24	2:11	7.45	7.77	16.5	2784	8002	4562	724	119	5463	4790	1408	26	"	"	"	"
27713	"	2:11	2:17	6.29	6.59	15.2	321	950	525	84	13	659	531	163	8	"	"	"	"
27714	"	2:52	3:30	12.01	12.01	39.5	2275	8002	4916	592	234	4284	4672	1204	25	"	"	"	"
27715	"	3:31	3:37	10.19	10.20	52.6	355	1198	704	93	49	552	625	172	9	"	"	"	"
27716	"	3:38	3:39	9.91	9.92	35.2	19	113	80	5	2	49	26	19	0	"	"	"	"
27717	"	3:39	4.05	9.84	9.85	23.9	1530	4631	3295	396	94	2265	2376	720	24	"	"	"	"
27718	"	4.06	4.36	6.84	6.85	13.6	1745	4771	3109	454	61	2570	2214	1081	26	"	"	"	"
27719	"	4.40	4.46	7.78	7.80	10.7	356	668	521	59	9	449	363	198	6	"	"	"	"
27720	"	4.46	5.11	7.60	7.62	17.3	1441	4326	2550	344	64	2315	2015	763	17	"	"	"	"
27721	"	5.47	6.26	12.39	11.90	34.0	2294	8002	5477	596	263	4770	5496	1352	46	"	"	"	"
27722	"	6.27	7.06	10.55	10.0	31.3	2504	8002	5444	597	187	4710	5792	1344	32	"	"	"	"
27724	"	7.08	7.50	8.97	8.56	17.9	2504	8002	4996	651	128	5313	4957	1464	23	"	"	"	"
27725	"	7.51	8.37	7.65	7.29	16.6	2752	8002	4622	716	119	5471	4828	1480	23	"	"	"	"
27726	"	8.37	9.11	6.50	6.17	15.3	2008	5631	3122	522	78	3809	3392	1032	17	"	"	"	"

<L> 10³⁰ cm⁻² s⁻¹	Bhabha SL dL nb⁻¹	State EXP. ENERGY	IBM TAPE Output	At Run Start TOF [V]	At Run Start ID [μA]	Online Reset SUM MIPRAT T2 %	Online Reset NORESO T1T2 %	Σ Bhabha	MH	E_Beam	Mag. Field 1+G	Remarks
12.00	2.28	44589.05	IBM	2.2	0.65	48	36	40	2	17.499	4840	Stopped to fix YMAGNT
11.24	22.26	44611.31	"	1.4	0.25	51	37	391	5	17.500	"	
8.39	20.61	44631.92	"	1.1	0.2	50	41	362	6	17.501	"	
6.03	15.20	44647.12	"	0.8	0.15	52	46	267	3	17.500	4841	Beams dumped
13.19	27.84	44674.96	"	1.3	0.2	50	36	489	7	"	4842	
10.29	22.09	44697.05	"	1.0	0.25	52	40	388	7	"	"	
7.97	18.44	44715.49	"	0.9	0.15	51	43	324	7	"	"	
6.17	9.05	44724.54	"	0.8	0.1	51	46	159	4	"	"	beams dumped
12.59	16.85	44741.39	"	1.5	0.3	48	37	296	3	"	4844	run stopped due to J68K-problem
9.71	21.12	44762.51	"	1.5	0.2	49	39	371	6	"	"	
7.00	17.76	44780.27	"	1.2	0.15	50	43	312	2	17.501	"	
2.59	2.39	44782.66	"	0.9	0.1	52	49	42	0	17.5$^{60}_{23}$	"	beams dumped energy change to 17.523
11.04	21.92	44 804.58	"	1.75	0.2	49	36	385	5	17.501	"	
8.91	11.39	44 815.97	"	1.3	0.17	48	39	200	4	"	"	run stopped due to J68K problem
8.08	19.58	44 835.56	"	1.0	0.1	51	42	344	4	"	"	
6.29	15.88	44 851.44	"	0.85	<0.1	51	44	279	3	"	"	
5.13	3.24	44 854.68	"	0.75	<0.1	54	47	57	2	17.500	"	beams dumped
12.96	21.69	44 876.37	"	1.6	0.2	49	35	381	4	"	"	run stopped due to J68K problem
11.19	22.60	44 898.97	"	1.4	0.15	48	35	397	8	17.501	4843	
9.76	22.43	44 921.40	"			50	40	394	10	"	4844	
8.00	18.44	44 939.84	"	0.9	<0.1	52	44	324	7	17.500	4843	
6.85	2.22	44 942.06	"	0.7	"	52	46	39	0	"	4842	beams dumped
10.93	22.66	44 964.72	"	2.0	0.2	26	40	398	9	17.501	4841	
7.39	2.45	44 967.17	"	1.4	0.1	5	43	43	1	"	"	run stopped because of too high ~~background~~ ghost rate
10.91	0.22	44 967.40	"	1.3	<0.1	/	34	4	1	"	"	Reduced Trigger run stopped by accident
11.18	13.78	44931.18	"	"	"	7	35	262	0	17.500	"	- " - - " - new run dead - run stopped.
10.59	16.74	44997.92	"	1.1	<0.1	6	35	234	3	"	"	" "
9.40	2.73	45000.65	"	0.9	"	51	23	49	0	17.501	"	" "
8.35	10.93	45011.58	"	0.85	"	51	42	172	2	"	"	Back to FULLTRIGGER new run energy 17.500
10.85	22.43	45034.01	"	1.6	0.2	48	32	374	7	17.500	4840	
10.16	19.64	45053.65	"	1.4	0.1	47	33	345	2	"	4841	as run 27723.
9.43	22.09	45075.74	"	1.2	<0.1	50	40	358	2	17.501	4843	
8.00	19.47	45095.21	"	0.9	"	52	43	342	3	17.500	"	
6.60	10.36	45105.57	"	0.7	"	51	46	182	2	17.501	"	IBM Transfer Error. Stop & Run

RUN	DATE	START	STOP	At Run start I+	At Run start I−	Dead Time %	Time (Sec)	Records IN	Records OUT	ALL ×10⁶	TΦ Rej ×10⁶	T1 Acc Sum	A2 Acc Sum	T1 bit 2 ELO > 66ev	T1 bit 17 ZT. Eq. ≥ 2 TR	Processors ON/OFF NSO	Processors ON/OFF MIO	Processors ON/OFF TOF	Processors ON/OFF FAM
27727	27.7.86	9.13	9.31	5.79	5.48	14.2	1088	2870	1575	283	40	1957	1746	515	19	ON	ON	ON	ON
27728	"	10:59	11:40	10.80	11.23	20.6	2429	8002	5136	632	130	5261	4892	1439	29	"	"	"	"
27729	"	11:40	12:24	9.16	9.57	21.8	2621	8002	4914	682	149	5293	4997	1457	31	"	"	"	"
27735	"	12:50	13:38	7.06	7.42	15.8	2863	8002	4426	745	119	5423	4948	1410	18	"	"	"	OFF
27736	"	13:38	14:30	6.01	6.34	14.3	3079	8002	4191	801	115	5466	5037	1403	31	"	"	"	"
27739	"	15:29	16:09	9.64	10.67	21.0	2405	8002	5161	625	131	5243	5085	1514	34	"	"	"	OFF
27740	"	16:10	16:19	8.16	9.11	20.9	510	1792	1087	132	27	1148	1072	326	4	"	"	"	"
27741	"	16:21	17:17	7.80	8.73	20.4	2512	8002	4756	653	133	5261	5136	1449	26	"	"	"	"
27742	"	17:18	17:59	6.28	7.11	19.3	2428	7384	4184	632	122	4829	4791	1364	29	"	"	"	"
27745	"	22:00	22:42	11.01	11.37	20.9	2471	8002	5360	648	134	5277	4945	1467	33	"	"	"	ON
27744	"	22:42	23:25	9.32	9.66	14.7	2570	8002	4845	669	125	5357	4972	1465	23	"	"	"	"
27745	"	23 26	00 12	7.90	8.22	17.3	2777	8002	4697	722	125	5388	4927	1456	32	"	"	"	"
27746	28.7.86	00 12	00 37	6.69	6.99	15.8	1156	3280	1879	301	57.6	2201	1965	595	16	"	"	"	"
27747	"	01 09	01 46	11.72	11.41	24.1	2213	7571	4978	576	141	6892	6805	1369	33	"	"	"	"
27748	"	5 06	5 48	11.71	11.56	21.9	2451	8002	5195	637	139	5120	5179	1348	30	"	"	"	"
27749	"	5 48	6 32	9.18	9.19	18.3	2644	8002	4893	687	126	5216	5093	1406	27	"	"	"	"
27750	"	6 32	7 20	7.84	7.85	16.1	2814	8002	4542	732	117	5414	4934	1450	29	"	"	"	"
27751	"	8:05	8:47	10.79	11.57	20.4	2500	8002	5030	650	133	5245	5059	1368	32	"	"	"	"
27752	"	8:48	9:32	8.96	9.88	18.2	2632	8002	4706	684	124	5297	4905	1415	32	"	"	"	"
27753	"	9.32	10:31	7.63	8.48	15.9	2835	8002	4499	737	116	5410	4824	1455	31	"	"	"	"
27754	"	10.32	11:21	6.16	6.93	14.9	2972	8002	4371	773	114	5442	4861	1441	31	"	"	"	"
27755	"	11.22	12:14	5.23	5.93	13.4	3107	8002	4139	809	108	5556	4761	1457	19	"	"	"	"
27756	"	13:40	14:20	10.26	11.38	21.3	2421	8002	5119	630	134	5283	4946	1455	30	"	"	"	"
27757	"	14:21	15:04	8.73	9.77	19.9	2571	8002	4886	669	133	5247	5117	1459	52	"	"	"	"
27758	"	15:04	15:50	7.38	8.34	18.7	2717	8002	4668	706	132	5332	5027	1505	26	"	"	"	"
27759	"	15:50	16:38	6.24	7.12	16.8	2884	8002	4398	751	126	5249	5200	1384	31	"	"	"	"
27760	"	16:37	16:42	5.28	6.08	16.4	120	316	189	31	5	208	185	57	1	"	"	"	"
27761	"	17.22	18:03	10.58	10.66	21.9	2458	8002	5115	638	140	5276	4944	1457	36	"	"	"	"
27762	"	18:04	18:46	8.93	8.99	20.1	2527	8002	4787	657	132	5226	4938	1513	29	"	"	"	"
27763	"	18:47	19:06	7.62	7.66	17.9	1147	3429	2011	298	53	2231	2056	627	7	"	"	"	"
27764	"	22:07	22:50	10.23	10.43	19.3	2590	8002	5796	674	130	5408	4902	1477	32	"	"	"	"
27765	"	22:51	23:36	8.65	8.85	17.9	2706	8002	4692	704	126	5359	4973	1528	28	"	"	"	"
27766	"	23:37	0:24	7.34	7.53	16.4	2842	8002	4560	739	121	5387	4945	1456	33	"	"	"	"
27767	29.7.86	0:25	0:53	6.22	6.40	15.1	1491	4061	2134	388	59	2746	2421	712	16	"	"	"	"
27768	"	1:15	2:11	4.81	4.98	13.1	3338	8002	4089	868	114	5395	5162	1322	28	"	"	"	"

<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 [μA]	On line Reject Sum Mask 12 %	On line Reject Not SD Trig 72 %	Σ BHABHA	M/H	E_{beam}	Mag. Field −1 × G	Remarks
5.47	5.64	45111.21	IBM	0.6	<0.1	53	46	99	0	17500	4800	beams dumped
12.24	26.98	45138.20	"	1.5	0.15	49	37	474	4	17501	4844	
9.55	21.24	45159.44	"	1.1	0.1	50	40	373	7	"	4844	
6.53	16.68	45176.12	"	0.75	<0.1	53	45	293	2	"	4846	
4.20	11.44	45187.56	"	0.75	<0.1	54	49	301	2	"	4847	beams dumped
10.80	23.63	45211.13	"	1.4	0.2	51	37	415	6	17.500	4847	see page 5
9.11	4.10	45215.29	"			47	41	72	1	17.500	4847	stopped to rebuild task
8.10	17.42	45232.71	"	1.4	0.15	52	42	306	5	17.501	4847	
5.81	14.00	45246.71	"	1.2	0.13	52	45	246	8	17.501	4848	beams dumped
12.19	25.16	45271.87	"	1.4	0.2	50	34	445	7	17.501	4847	
10.33	28.34	45295.21	"	1.2	0.1	51	41	410	4	17.500	4847	
7.47	19.18	45314.39	"	0.9	<0.1	51	42	337	6	"	"	
6.99	7.12	45321.51	"	0.8	0.025	50	45	125	2	"	"	beams dumped
12.51	25.28	45346.79	"	1.55	0.15	50	35	464	8	"	4848	beams lost
11.24	24.82	45371.61	"	1.4	0.15	49	36	436	5	"	4847	
8.83	20.55	45392.16	"	1.0	0.1	50	40	360	9	17.522	"	
7.59	18.16	45410.32	"	0.8	0.05	52	44	319	5	17.501	4848	beams dumped
10.51	26.29	45436.61	"	1.25	.15	50	38	368	11	17.500	4.849	
8.48	19.53	45456.14	"	1.0	.05	50	42	343	4	"		
6.65	16.80	45472.94	"	0.8	.05	51	45	295	4	"	4850	
5.17	13.95	45486.89	"	0.7	.05	52	47	245	6	"	4853	
4.14	11.78	45498.67	"	0.6	.05	53	50	207	2	"	4853	beams dumped
10.79	23.68	45522.35	"	1.3	.20	50	37	416	4	"	4.837	
9.09	18.99	45541.34	"	1.2	.15	51	40	330	3	17.501	4.838	
7.04	17.93	45559.07	"	1.1	.15	52	43	315	4	"	"	
5.26	12.92	45571.99	"	0.9	.15	52	46	227	5	"	"	
4.13	0.28	45572.27	"	0.7	.1	53	42	5	0	17500	"	beams dumped
10.43	22.15	45594.42	"	1.5	.2	50	37	389	5	17501	4838	
8.21	20.00	45614.86	"	1.2	.2	51	41	358	6	"	"	
6.86	6.66	45621.52	"	1.0	.15	50	43	117	1	17500	4837	beams lost
10.32	25.22	45646.74	"	1.3	0.2	52	36	443	6	"	4834	
8.39	20.95	45667.69	"	0.95	0.15	57	43	368	5	17501	"	
6.82	16.91	45684.60	"	0.85	0.1	52	44	297	4	17501	4834	
4.80	5.75	45690.35	"	0.70	0.1	51	49	101	1	17501	4834	no dump yet → continue with this file
3.22	9.39	45699.74	"	0.65	0.1	54	50	165	1	17500	4834	

16 50 Three soft trips of VTX and ID in last five minutes.
19 20 Short break due troubles with Linac → Magnet 1000 Amps
21 20 magnet back to 2500 A (injection)
23 45 gas check ok.
Greenshaw and Chinn on shift.
12 78 J68K processor crashed on MOP and crashed and control C failed to abort the MOP terminal & this most undesirable state of affairs.
12 90 New wedge of paper inserted into that most user friendly of machines, the Gould Plotter.
01 65 Beams lost, everything tripped but all reset OK.
02 00 Despite message on TV it becomes clear that injection is not taking place. 'Phone PK R, they say a magnet has stopped working and is being repaired.
07 41 Injection starts.
04 23 beams lost while powering up voltages.
05 06 Run 27741 started at last.

8:00 P. Steffen on shift & H. Mills
8:20 gas check done
cannot refill PETRA due to Linac problems
12:20 beams dumped - Alarm from PC - bit NO SCREEN on which to read the error!
Guessed at valve failure - it was - the normal method did not cure it so had to use the "brute-force" (valve for I see).
NORD-50 program, YHDISP, ZDAS, YTENV updated to add new histogram of MIPROC-16 Action bits (for debugging bit errors).
Available under RESULTS sub-sub context
16:00 Matsumura on shift
Gas check done
16:03 BP CH Trip Ventil in Gashaus reset OK
17 00 IBM Error 52 Return ×3
20:00 Kado on shift

29/7/86 0:00 Elsen on shift, gas check done
0:30 TEC/BP chambers soft trip
1:15 Problem with synchrotron. PETRA cannot be filled. Continue with old beams.
4:00 Bartel on shift
4:00 switch off magnet
call K to run down the cooling water temperature switch off magnet cooling

4:30 First steps to run down Nord
Stop JDAS, stop Nord, stop disc and take out disc
6:00 Call from K: They will leave on the power for the counting house.
But! Some switching of power lines will be done and I would not be surprised if we have a power failure.
Switch off Nord following instruction 9.1 leave however CAMAC on.
~~Etc~~ The big mains cable is not removed
6:45 switch off Petra
7:15 Air condition system was on well water all the time not have it as it is.
Heat shield and beam pipe cooling left on. It may continue to run, but K is not certain from where the power for the pumps is derived, if it fails we don't mind. Our system is protected.
7:20 Powerline off. No effect on jack.
I go home

8 00 Magnussen
Gas check done
10 00 Temperature in hardware room 19.1°C Sprinkler turned on!
13 20 — " — 20.4°C
14 00 ID + VAC alarms on
15 15 Temperature in hardware room 20.9°C. Temperature alarm 2 once in a while.
I talked to Rieseberg. He advised to do nothing for the moment.
15 30 Temp. alarm 2 continuously. Called HK3, they will have a look. Temp. rising.
15 35 At 23.2°C switched off FADC crates.
15 44 2 out of 3 pumps were off. Reason: Someone switched off the cooling water and didn't inform HK3. They take the water from the well now. All pumps running again.
15 55 Mr. Rieseberg switch on the FADC's again. $T_{Hardware} = 21°C$

16:00 P. Steffen
16:40 $T_{Hardware} = 20.5°$
16:50 Gas check done
When 10KV-cabling is reconnected, Call K: switch on magnet
J. Olsson: " " Nord
Rieseberg: " " FEP & MOP

Run	Date	Start	Stop	At Run Start: I^+	At Run Start: I^-	Dead Time [%]	Time (secs)	Records In	Records Out	All $\times 10^6$	To Rej $\times 10^6$	T_1 Acc Sum	T_2 Acc Sum	T_1 Bit 2 $E_{LG} > 666$	T_2 Bit 17 2T Ev $\geq$ 2TR	Processors 84/Off: N50	MIP	TOF	FAMP
27769	29.7.86	2:11	2:36	3.50	4.27	11.9	1448	3405	1564	377	45	2370	2084	575	9	ON	ON	ON	ON
27770	"	3:46	3:53	9.10	10.93	22.2	385	1253	813	180	22	812	750	208	6	"	"	"	"
27771	"	8:20	21:00	10.50	11.13	20.9	8002 2387	8002	5227	615	129	5346	4649	1494	42	"	"	"	"
27772	"	21:00	21:29	9.08	9.69	18.2	1713	5442	3331	446	81	3721	3192	1028	19	"	"	"	"
27773	"	21:31	22:03	8.16	8.76	17.9	1876	5842	3645	488	87	4052	3304	1049	21	"	"	"	"
27774	"	22:12	22:52	5.59	6.23	12.6	2386	5847	2933	621	78	4021	3531	983	20	"	"	"	"
27775	"	23:25	0:05	10.96	10.93	20.3	2364	8002	5176	615	125	5387	4680	1491	26	"	"	"	"
27776	30/7/86	0:05	0:58	9.57	9.54	18.4	2681	8002	4792	697	128	5358	4766	1468	28	"	"	"	"
27777	"	0:58	1:46	7.67	6.96	15.8	2852	8002	4349	742	117	5243	4771	1419	38	"	"	"	"
27778	"	1:46	2:02	6.82	6.15	15.2	920	2864	1352	239	36	1728	1542	432	3	"	"	"	"
27779	"	2:40	3:27	9.79	10.11	20.9	2424	8002	5065	681	132	5336	4726	1418	40	"	"	"	"
27780	"	3:27	3:57	8.59	8.90	19.3	1788	5669	3292	465	90	3834	3345	972	16	"	"	"	"
27781	"	3:59	4:42	7.80	8.11	18.3	2593	8002	4783	674	124	5428	4680	1438	31	"	"	"	"
27782	"	4:43	5:20	6.90	7.20	17.8	2210	6606	3746	575	102	4434	3963	1159	17	"	"	"	"
27783	"	6:34	6:53	9.92	9.78	78.4	725	4538	4026	188		3938	876	110	1	"	"	"	"
27786	"	7:10	7:16	8.95	8.84	18.8	331	1033	617	88	16	690	629	177	6	"	"	"	"
27787	"	7:16	8:02	8.80	8.68	16.9	2707	8002	4924	703	118	5451	4601	1485	30	"	"	"	"
27788	"	8:02	8:49	9.65	7.53	15.9	2768	8002	4629	719	115	5564	4551	1477	31	"	"	"	"
27789	"	8:50	9:37	6.61	6.50	14.7	2861	"	4630	744	109	5548	4527	1481	24	"	"	"	"
27790	"	9:37	9:55	5.74	5.65	14.3	1053	2753	1679	271	38	1907	1558	458	9	"	"	"	"
27791	"	10:30	10:37	10.84	10.38	20.4	398	1366	886	104	21	931	728	252	3	"	"	"	OFF
27792	"	10:39	11:16	9.82	10.05	17.2	2105	6755	4240	548	94	4660	3750	1356	27	"	"	"	"
27793	"	12:22	12:33						116										
27794	"	12:26	12:36	10.66	10.88	22.3	574	2053	1370	149	33	1368	1158	379	8	"	"	"	"
27795	"	12:39	13:17	10.18	10.50	21.0	2308	8002	5192	600	125	5310	4804	1484	42	"	"	"	"
27796	"	13:18	13:25	8.83	9.09	20.5	334	1180	759	86	17	766	675	233	5	"	"	"	"
27797	"	14:41	15:20	10.38	10.60	21.9	2274	8002	5212	591	129	5213	4763	1451	25	"	"	"	"
27798	"	15:23	16:03	8.93	9.15	18.7	2403	8002	4965	625	117	5365	4573	1416	28	"	"	"	"
27799	"	16:05	16:49	7.70	7.92	16.1	2618	8002	4823	681	110	5513	4457	1542	18	"	"	"	"
27800	"	16:51	17:17	6.64	6.85	15.7	1582	4619	2687	412	64	3192	2626	831	17	"	"	"	"
27801	"	20:36	21:17	10.53	10.58	18.0	2452	8002	5180	637	114	5457	4473	1463	24	"	"	"	"
27802	"	21:17	22:00	9.14	9.19	17.3	2526	8002	4830	656	113	5431	4505	1463	23	"	"	"	"
27803	"	22:00	22:47	7.92	7.98	14.9	2780	8002	4614	723	108	5555	4477	1475	32	"	"	"	"
27804	"	22:48	23:17	6.87	6.92	14.7	1780	4873	2730	455	66	3340	2828	899	11	"	"	"	"
27805	31.7.86	0:03	0:43	10.32	10.66	21.9	2371	8002	4997	617	135	5390	4621	1372	26	"	"	"	"
27806	"	0:44	1:26	9.01	9.33	21.2	2470	8002	4996	642	136	5307	4786	1440	32	"	"	"	"

$\langle L \rangle$ 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: LD [mA]	Online Reject: Calc Hipmex T2 %	Online Reject: N50 T1+T2 %	Σ Bhabha	HH	Ebeam	Mag Field −1×G	Remarks
2.37	3.24	45702.98	IBM	0.5	0.05	55	56	57	1	17500	4834	beams dumped
10.74	3.30	45706.28	"	1.25	0.20	49	37	58	1	17500	4833	
12.87	26.99	45733.27	"	1.3	0.2	48	36	474	1	17501	4842	
11.15	18.10	45751.37	"	1.0	0.2	52	40	318	3	17501	4842	run stopped to reload J68K (MOP) run stopped since Lyon lost - transmitter failure - energy not correct.
9.60	15.20	45766.57	"	0.85	0.1	51	41	267	3	17500	4844	
4.02	9.29	45775.86	"	0.6	0.1	53	51	163	2	"	4844	Energy ~17512 (after ~4500 events ≃ 17501
12.72	27.44	45803.30	"	1.2	0.2	49	36	482	6	"	"	
8.71	20.38	45823.68	"	0.9	0.1	50	41	358	6	"	"	
5.91	15.20	45838.88	"	0.7	<0.1	51	47	267	4	17501	"	
5.26	6.61	45843.49	"	0.65	<0.1	52	48	81	0	"	"	Beams dumped
10.44	23.23	45866.72	"	1.1	0.1	48	38	408	8	17500	"	
8.99	13.27	45879.99	"	1.0	<0.1	50	43	233	3	17501	"	Stopped to reload TOF & J68K inputs
7.37	16.28	45886.27	"	1.0	<0.1	50	41	286	5	17500	"	
6.17	11.73	45898.00	"	0.85	<0.1	50	45	206	4	"	"	Beams dumped
2.81	1.48	45899.48	"	1.5	0.6	45	12	26	0	"	"	ID current very high < 27784-85 CATHC Problems ?
8.37	2.45	45901.93	"	1.0	1.15 / 0.1	51	42	43	0	"	"	NO TOF Chamber Faults!!
9.80	23.50	45925.33	"	0.9	<0.1	50	10	411	4	17501	"	
9.86	23.86	45949.19	"	0.7	0	50	43	419	8	"	4845	
8.01	20.27	45969.46	"	0.5	0	50	43	356	13	17500	"	
6.79	4.55	45973.90	"	0.5	0	52	40	78	1	17501	4836	beam dumped
14.57	5.81	45978.71	"	1.0	0.15	47	37	102	4	"	"	Stopped to reload J68K-processors.
13.40	24.31	46003.02	"	"	"	49	38	427	5	17500	4848	Beam lost.
				1.2	0.15							junk, no latch bank, no VTX - - -
16.34	7.71	46010.93	"	1.2	0.15	46	34	139	2	"	4857	IBM down, waited & Tape
13.93	26.25	46037.18	DDAS@6	1.1	0.15	48	36	561	9	17501	4857	T1 postp Bit 2 (EC1+EC2)[2] & TOF enabled.
13.22	4.67	46041.85	IBM	0.9	0.15	45	37	82	1	"	4858	beam lost
11.26	27.55	46069.50	"	1.1	0.15	46	36	585	8	17500	4879	
12.55	25.05	46094.45	"	0.9	0.15	47	39	440	7	17500	4850	
10.15	24.93	46119.38	"	0,7	0,15	49	41	438	2	17500	4850	
8.57	12.41	46131.79	"	0.6	0.1	51	43	218	8	17500	4850	beams lost
14.58	31.42	163.21	"	1.0	0.2	48	36	552	6	"	4844	
12.12	27.27	190.48	"	0.7	0.1	48	41	479	6	"	4844	H clear
9.65	23.23	213.71	"	0.6	≈0	50	43	408	4	"	4	
7.80	12.81	46226.52	"	0.55	~0	51	45	225	5	"	"	dumps H ok
10.75	23.34	46249.86	"	1.2	0.2	49	39	410	9	17500	4845	H ok
8.59	18.73	46268.59	"	1.1	0.15	49	39	329	5	17500	4844	H ok

29.7.87

18:00 Starting switch on of Nord (J. Olsson)
FEP&MOP (H.R. Isesberg)
Magnet (K) : problems with water pumps.

18:50 Magnet working.

19:00 Magnet powered to 7500A on request of PKR
Waiting for beams.

19:50 $T_{headwave} = 19.5°$

2:00 Stoplem

YSPY error TOF TDC no hits 1 42
" " " " " 1

22:00 " hole appearing in histogram "TOF HIT MAP" tell to Veronica. Meanwhile hole begins to fill as we decide to just statistics.

22:05 Short break appears - some beam lost and energy goes to 17.513 PKR says they've lost a transmitter they think due to water failure. Have had to retune the frequency - hence "wrong" energy. Safe to run but will give new fill as soon as transmitter is repaired.

22:40 Energy returns to 17.500

30.7.86

0:00 S. Cartwright, U. Schneekloth

0:10 Gas check done

0:17 all chambers tripped

0:32 - " - , VTX CH. valve failure

2:06 VXC valve failure

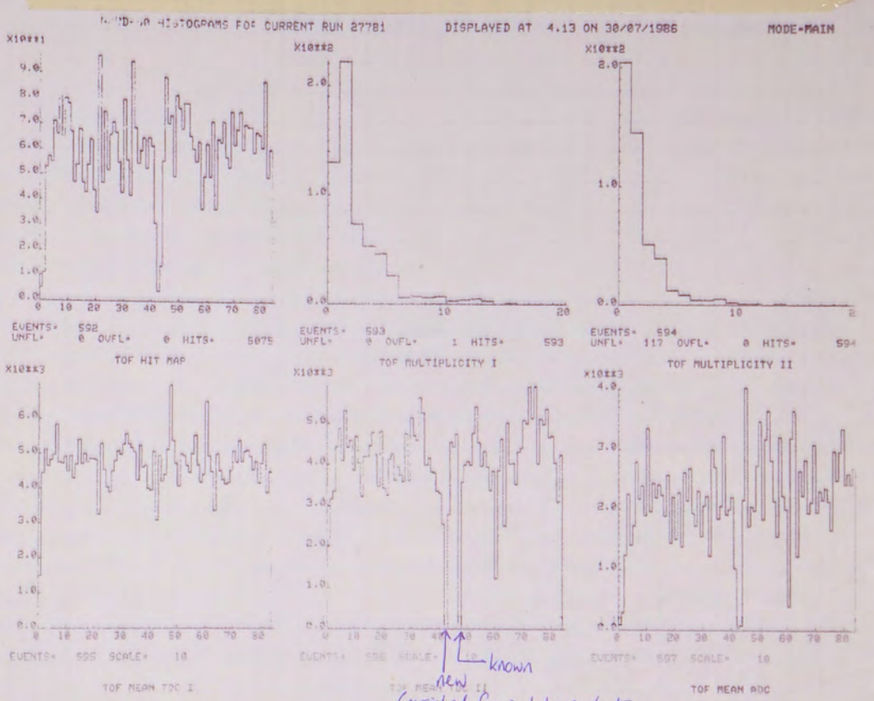
3:40 MOP terminal totally kaputt, will not respond to CTRL C. Jet chamber OK though (histograms sensible). Decide to try JOBK reload after this run, see if it will spring back to life.

3:48 JDAS readout error 33 - Missing LAM of 3 or 4 : ze port 1

3:53 " " " 64 - AC2099 TOF-2 Ø, x missing Stn 16 subaddr 4

Also YSPY: TOF TDC no hits: 1 and several dips in TOF histos.
Stop run, reload TOF niprocs (and JOBK while want it)
Result: MOP terminal resurrected, but TOF histos still look horrible.
Wake up Beate (not easy, clearly a sound sleeper), she says do nothing & she will look at it at a more civilised hour.

4:30 Hole in TDC map, no longer there, but big dips in hit map & ADC still the same. Phoning Beate is clearly a good way of curing TOF holes - it worked for Keith earlier, see above!



5:04 MOP crashed again : exception $02 at address $....1984. RUN ZIMMONI brings it back to life. That's the third MOP crash in 8 hours elapsed time (probably less MOP running time, since earlier it had crashed quite a while before I actually noticed it).

6:40 new fill, run 27783 ID current is very high 1.5 instead of ≈0,2, TOF rate is normal 1.3 kHz
trigger rate > 30
called PKR. The ID current signal is not transmitted to PKR
runs 27784, 27785 no LATCH Bank

7:10 Orbit corrections were successful, ID current back to normal

30.7.86

7⁴⁵ JDAS READOUT ERROR 53 - System cr. watchdog flag PARM5 = 000002 177777
7⁵⁰ — " " " —
7⁵⁵ " "
9⁰⁰ Olsson, Spitzer Gascheck done
9⁰⁰ MOP Zimmoni restarted. Sprinkler on on roof.
10³⁰ More work on System Crate (Krehbiel/Olsson). Since the errors started at ~7³⁰, it is now believed that motor line disturbances, caused by HERA work, influences the system crate. More protection is needed, like "Noise filters".
11⁴⁵ The trigger (EC1+EC2)[2] x 2 TOF T1 postpone bit 2 was found disabled in the electronics hardware (miswo switch) although enabled in the software and in the trigger box. Thus in every event it was written that the trigger was enabled, although in reality it was disabled! Since this trigger has a low rate, it was not noted that it is really absent. Probably since quite some time. It should really be forbidden to touch these switches (Krehbiel, Naroska!). There are facilities to disable them in the operators menu, and then it will be properly disabled in the trigger box and noted in the events themselves. This is the only correct thing to do, even if typing bitpatterns is more laborious than flipping switches! J.O.
Properly Enabled from R 27795 onward!
Cont. on next page!
12⁰⁰ IBM down, write to tape
13¹⁵ IBM up. Only run 27795 on tape.
15⁰⁰ Bug found in CAMAC Readout program: If vertexchamber HV is not on at the first trigger (event 13), then readout continues with the readout pattern from LG pedestal events, i.e. only TOF and Leadglass and Tag is read out. On ColourTV appears "No Latch bank". Runs 27784-85 this morning are of this type. Bug is now corrected, i.e. it is possible to start run with vertexchamber still off, or to have a vertexchamber trip during the pedestal events at run start. J.O.
16⁰⁰-20⁰⁰
16⁰⁰ Stephan & Naroska (watch the trigger-box!!)
Gas check done, MOP not working
reload JETC68K after end of Run 27799 - (Eckhard says that some esacs maybe corrupted although esacs display seems ok) boots ok and MOP once more working.
17¹⁵ beams lost everything trips
17⁴⁵ PKR say there are problems with power supplies so it could be at least another ½ hr.
18⁴⁰ Break "no stest before 21⁰⁰" water leak problems at VIA
Turn down Magnet to 500 amps
19⁵⁵ Injection !!
20⁰⁵ Magnet at 7500 amps

21.33 IBM transf error
23.20 VTX CHAMBER VALVE FAILURE RESET

31.7.86

0⁰⁰ Rieseberg and Ranke on shift. New filling ready - Lumi only 11×10^{30}
LG-test run and JADEGO before start of run # 27805
0³⁰ Gas check done, O_2
PC Error found (#3 on the list) Pedestal maps σ-dev. >40% 3
0⁴³ 54 Pickup? Events during one run. None seen on colour TV → all during gas check
0⁴⁷ PC found error: Ped maps σ-dev >40% : 1
1⁰³ IBM PC crash: Half screen full of ===== No reaction to keyboard - About at the same time a trigger occured at the system crate monitor scope
1²⁸ Restart PC for Run # 27807
2²⁵ IBM transfer error at 000052,0 followed by JDAS Readout error 32 - Missing LAM at FEP Ready
No refilling possible at the moment, no electrons
2³⁵ PC found error: Ped maps σ-dev >40% : 1
3¹⁰ PKR is ready for refilling.
3⁴³ New full ready : JADEGO
4³⁵ Watch Dog error → take a photo
5⁰⁵ IBM error 52
5³⁰ NSO hang up Run stopped
6¹⁵ PKR has problems with DESY. They wait for the experts, so we can't get a new filling before 7⁰⁰
6⁵⁰ Run 27814 stopped, too many LG-Blockerr! LG-Testrun → seem to be o.k.

8:00 W. Bartel & P. Warming on shift
8:00 gas check ok
Synchrotron still down, failure of some essential piece of electronics (Energiestabilisierung) expert has been called in
9.50 Short break at last for 1' run down magnet.

The trigger T1 postp Bit 3 was switched off in the hardware by B. Naroska on 27/10-85, Run 23995, comment in logbook says Bit 4, 11, 15 were taken out of the trigger! J.O.

12:00 Equal gas is loose! run up magnet current
13:10 Aekan flow slightly increased.

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_ϕ REJ. $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{tot} > 66$ GeV	T_2 Bit 17 $2T \cdot E_{tot} \geq 2TR$	PROCESSORS ON/OFF N50	MIP	TOF	FAMP
27807	31.7.86	1:29	2:12	7.88	8.19	19.3	2568	8002	4758	668	129	5373	4799	1432	32	ON	ON	ON	ON
27808	"	2:14	2:59	6.90	7.18	19.4	2692	8002	4697	700	136	5520	4606	1322	29	"	"	"	"
27809	"	3:02	3:12	5.97	6.25	17.1	570	1609	920	148	25	1068	1015	249	10	"	"	"	"
27810	"	3:48	5:28	10.32	10.14	22.2	2382	8002	5431	619	138	5349	4727	1409	27	"	"	"	"
27811		4:32	5:14	8.97	8.57	21.9	2468	8002	5257	642	141	5377	4749	1382	32	"	"	"	"
27812	"	5:16	5:24	7.89	7.25	20.2	448	1479	925	116	24	970	884	279	11	"	"	"	"
27813	"	5:29	6:13	7.60	7.46	19.5	2618	8002	4886	681	137	5364	4892	1380	32	"	"	"	"
27814	"	6:14	6:50	6.72	6.59	17.7	2160	4507	3858	562	268	2964	2674	768	19	"	"	"	"
27815	"	6:54	7:49	5.45	5.75	17.4	2817	8002	4392	732	128	5455	4808	1230	30	"	"	"	"
27816	"	7:53	8:41	4.73	5.05	15.9	2897	8002	4280	753	120	5489	4698	1184	34	"	"	"	"
27817	"	8:45	9:39	4.21	4.53	11.8	3269	7812	3685	850	101	5430	4710	1227	23	"	"	"	"
27818	"	14.05	14:50	8.94	8.68	16.8	2650	8002	5201	689	116	5475	4561	1441	18	"	"	"	"
27819	"	14:50	15:36	7.69	7.45	16.2	2718	8002	4710	707	115	5488	4662	1456	27	"	"	"	"
27820	"	15:36	16:23	6.67	6.44	15.8	2813	8002	4509	732	116	5419	4821	1374	28	"	"	"	"
27821	"	16:23	16:28	5.81	5.59	14.2	225	645	316	59	8	399	394	129	4	"	"	"	"
27822	"	16:51	17:26	5.38	5.16	13.7	2086	5165	2687	543	75	3458	3334	999	24	"	"	"	"
27823	"	18:04	18:08	10.28	10.76	23.5	282	1022	671	73	17	669	578	198	5	"	"	"	"
27824	"	18:40	20:25	10.78	10.82	25.1	2447	8002	5677	636	160	5141	4881	1635	46	"	"	"	"
27825	"	20:27	21:07	8.04	8.18	21.0	2412	8002	5075	628	132	5284	4887	1554	33	"	"	"	"
27826	"	20:03	21:25	7.83	7.86	19.5	3554	3010	1823	248	48	1984	1877	588	15	"	"	"	"
27827	"	21:32	22:17	7.28	7.40	19.1	2680	8002	4813	701	138	5303	5086	1523	18	"	"	"	"
27828	"	22:19	22:25	6.32	6.43	18.8	342	1067	615	89	17	684	632	203	7	"	"	"	"
27829	"	22:31	23:16	6.11	6.22	17.6	2732	8002	4557	710	125	5332	4831	1504	38	"	"	"	"
27830	"	23:21	23:38	5.30	5.41	16.1	1000	2801	1558	260	42	1885	1665	505	6	"	"	"	"
27831	1/8/86	0:27	1:05	10.70	10.66	24.9	2254	8002	5390	586	146	5230	4754	1612	21	"	"	"	"
27832	"	1:05	1:46	9.32	9.39	21.8	2628	8002	5077	631	138	5317	4840	1605	26	"	"	"	"
27833	"	1:46	2:28	8.04	8.06	19.9	2513	8002	4905	653	130	5362	4706	1583	32	"	"	"	"
27834	"	2:29	3:14	7.05	7.02	17.7	2738	8002	4961	712	126	5346	4837	1445	23	"	"	"	"
27835	"	3:15	3:18	6.15	6.12	15.3	183	546	325	47	13	380	298	106	3	"	"	"	"
27836	"	4:08	4:24	10.38	10.47	25.3	957	3217	2640	249	63	2058	1903	599	13	"	"	"	"
27837	"	4:35	5:17	9.40	9.49	20.6	2477	8002	5060	644	133	5196	5009	1542	25	"	"	"	"
27838	"	5:18	6:14	8.16	8.25	18.7	2625	8002	4903	682	127	5284	4933	1517	23	"	"	"	"
27839	"	6:15	6:30	6.68	6.78	19.1	891	2630	2073	232	44	1757	1543	462	3	"	"	"	"
27840	"	6:32	7:12	6.35	6.40	17.1	2414	6863	5856	628	108	4685	4012	1272	18	"	"	"	"

$\langle L \rangle$ $10^{30} cm^{-2} s^{-1}$	BHABHA $\int L dt$ nb^{-1}	$\int L dt$ EXP. ENERGY	IBM/TAPE OUTPUT	AT RUN START TOF [V]	AT RUN START ID [mA]	ONLINE REJECT SUM MIPROC T_2 %	ONLINE REJECT NORD50 T_1+T_2 %	Σ BHABHA	MH	E_{BEAM}	MAG. FIELD -1×6	REMARKS
7.28	17.82	46 286.41	IBM	0.95	0.15	50	42	313	6	17.501	4844	Lumi Hist. (#150) ok
5.81	13.72	46 300.13	"	0.9	0.1	51	42	241	3	17.501	4845	H ok
4.91	2.22	46 302.35	"	0.8	0.05	53	44	39	0	17.500	4846	Beams dumped H ok
10.32	19.81	46 322.16	"	1.2	0.2	49	33	348	4	17.501	4844	H ok
8.09	16.45	46338.61	"	1.2	0.1	50	35	289	4	17.500	4844	H ok
7.12	3.70	46342.30	"	1.1	0.1	49	39	65	0	17.501	4844	hang up (N50)
6.38	15.31	46357.61	"	1.0	0.1	51	40	269	2	17.500	4844	
3.36	2.16	46359.77	"	0.9	0.1	50	15	38	8	17.500	4844	Run stopped due to LE-Problem
3.73	8.31	46368.09	"			52	47	146	4	17.500	4844	H ok
3.00	7.23	46375.31	"	0.75	0.05	52	48	127	2	17.5	4847	
3.67	10.08	46385.39	"	0.5	0	54	54	177	3	17.5		beam lost
12.25	29.06	46 414.45	"	0.814	0.18	49	38	511	12	17.501	4851	
10.41	24.25	46 438.70	"			51	42	426	5	"	4853	
8.22	18.39	46 457.09	"	0.75	0.15	51	45	323	6	"	4854	
79.74?	1.65	46458.74	"	0.7	0.1	52	51	29	1	17500	4856	* Triggering Lumi counter readout for this run.
8.23	11.33	46470.07	"	0.7	0.1	53	49	198	1	"	"	beams dumped
15.32	4.38	46474.45	"	1.6	0.25	48	36	77	1	"	4847	beams lost
10.26	28.35	46502.80	"	1.9	0.35	48	30	488	24	17.501	4845	H ok
12.23	24.71	46527.51	"	1.5	0.35	49	38	434	3	"	4844	
10.51	8.65	46536.16	"	1.3	0.3	50	40	252	2	"	"	
8.65	20.89	46557.05	"	1.25	0.2	52	41	367	6	"	"	
7.66	2.56	46559.61	"	1.15	0.2	46	44	45	2	17500	4841	Run stopped IDAS Read Error
7.31	17.58	46577.20	"	1.1	0.2	50	44	308	1	17.501	4840	H ok
6.84	5.29	46582.48	"	0.9	0.1	50	46	84	1	"	4841	beams dumped H ok
14.38	31.37	46613.86	"	2.0	0.3	47	34	551	4	17.500	4839	H ok
12.75	28.18	46642.04	"	1.5	0.25	49	38	495	6	17.500	4839	H ok
10.88	24.48	46666.52	"	1.2	0.2	49	40	430	10	17504	4839	H ok
8.63	17.65	46684.17	"	1.1	0.15	50	39	310	7	17.501	4839	H ok
7.42	1.37	46685.54	"	1.0	0.1	53	42	24	0	17.501	4838	beam dumped H ok
14.34	7.00	46 692.54	"	1.5	0.2	45	19	123	3	"	"	
11.90	25.45	46 717.99	"	1.3	0.15	48	38	447	4	"	4837	
9.69	20.72	46 737.71	"	1.1	0.1	50	40	364	3	17.500	4838	
8.35	3.64	46 741.35	"	0.9	.05	50	22	64	2	17.501	"	
7.48	6.84	46 748.26	"	.9	.05	51	15	121	1	17.500	4837	beams dumped

14:05 IBM-transfer error #52 disappeared after new trial of IBM-link
missing LAM - FEP ready

14:00 There is no water in the toilet, sprinkler cannot be turned on phone 4443
14:25 IBM-Link error

14:30 Sprinkler on : to next shift don't forget to switch it off again

15:25 MOP, run 21 MMON1 on MOP console brought it back to life.
several IBM-transfer errors #52
15:57 temperature alarms (2) T = 21.5° at the back of the hardware room.

16:00 Matrumura on shift
Gas check done
16:30 Temp 22°C Run Stop FADC Crate off
16:40 Control Technikes repaired Air Condition 21°C no Water
16:50 20.2°C Run started
Tagging syster HV down ? Crate was off. NIM ← Spark on switching crate on again means results for overall how OK lumi and tagging info lumi are meaningless.
20:00 MFR 63 down No Histram on Tagging System Local - HV-ON - Remote OK
20:00 D.Schmitt on shift
20:23 LG Problem.
21:24 JOAS Readout Error 32 - chirming LAM at FEP Ready (Jetek . 8CTCH 6tEL loaded
22:25 " " " " " " " " " " " " " " "
1/8/86 Stephen on Shift & P. Steffen
0.05 Gas check done.
0.15 turn off sprinklers. Hardware Temp ~19.5° (at back)

Std histogram once again there is a "hole" in TOF hit map, and TOF mean ADC. Don't know how long it been there - no histgram produced for ~23hrs. Will see if I can cure it by threatening to talk to Beate!!
(see page 14/15).
JOAS readout error - Missing LAM branch 3 crate 2 : Muon chambers
2.00 It worked - the "holes" have disappeared for the TOF hit map & TOF ADC!!

3.00 Z ch trip.
3.15 IBM transfer error
3.20 Vtech valve failure.
4.20 Continuous missing LAM error for 768K-bank : MOP reloaded: seems to work

08.00 CRHEDECOCK & Warming on shift
08.15 IBM TRANSFER ERROR - followed by JOAS Start ERR 44 DMA TIMEOUT
" " " " " " " " BR 4 CR1 JETC POINT 607.
12.56 IBM transfer error - followed by hang up "NO triggers", PAUSE(CONTINUE) cured it
12.57 "Sendeausfall" - most of the beams lost, remainder of it dumped
13.00 Sprinkler switched on after, ~~to~~ turned on.

16.00 Walker + Krehbiel on shift.
16.?? (Check this + Check this) × 2
18.00 Funny output from YVOLTS, A "should be" which is impossible. 3700 Volt. } See Console Print
Then "Fortran Run-Time errors after Run Stop }
slightly Gobbled output format on line printer.
We are haunted! ? I decided to restart the NORD. Run 27853
(Stop, Master clear, Load)
Attempt to print the bad summary again failed in the same way. Bad data!
A "Run-so-far printout" was fine. So did attempt to look at histograms

22.09 NEW Scaler RECORD - 571 nb^{-1} (and counting!)
23.20 Absolutely swell conditions. Currents of > 2 × 10 mA, ToF Hits 0.9 V and ID not measurable.
~~Buttons~~ Deadtime 20%. We keep our fingers crossed: Is anything wrong?
24.00 FINAL RESULT : 616.66 nb^{-1} TODAY.
0.00 Dieckmann on shift. Gas check done.
What happened to the second of Run #27861?
2.30 Short break Petra has a broken power supply

4.00 Becker
5.00 Defekt in der DESY-Triggerung - Wiederbeginn ?
Magnet → 500 A

RUN	DATE	START	END	at Runstart I^+	at Runstart I^-	dead time [sec]	TIME [sec]	Records in	Records out	AIL [10^6]	TO-Raj [10^6]	T1acc SUM	T2acc SUM	T1bit2 $E_{LG}>6646$	T2bit17 ΣE_H > ZETR	PROCESSORS N50	PROCESSORS MIP	PROCESSORS TOF	CMOS FI FAM	$\langle L \rangle$ [10^{30} cm^{-2}s^{-1}]	Bhabha SLdt [nb^{-1}]	SLdt Exp. Energy	IBM Tape output	of runstart TOF CUT	of runstart ID [MM]	on line recied SUM [MeV]	on line recied N50 Trig [2]	Σ Bhabha	MH	E_{beam}	magfield (F1*G)	Remarks
27841	1/8/86	08 08	08 48	10.71	10.79	22.6	2338	8002	5318	608	137	5262	4693	1536	28	ON	ON	ON	ON	15.04	31.65	46779.91	IBM	1.4	0.15	47	35	556	8	17500	4838	
27842	"	08 48	09 28	9.33	9.41	20.5	2392	8002	5095	622	128	5283	4716	1563	33	"	"	"	"	12.94	28.24	46808.15	"	1.25	0.10	47	37	496	11	-"-	4839	
27843	"	09 28	10:14	8.12	8.20	17.8	2686	8002	5136	699	124	5420	4874	1509	37	"	"	"	"	9.90	22.26	46830.41	"	1.00	0.05	52	37	391	4	-"-	4839	
27844	"	10:14	11:02	7.07	7.15	16.2	2786	8002	4593	725	117	5451	4778	1459	28	"	"	"	"	7.86	19.64	46850.05	"	0.9	"	51	44	345	4	17501	4840	
27845	"	11:02	11:31	6.19	6.26	15.3	1705	4682	2580	446	68	3131	2897	770	10	"	"	"	"	6.69	10.08	46860.13	"	0.75	<0.05	51	47	177	0	"	"	
27846	"	12:30	12:56	10.03	11.23	20.8	1451	4745	3134	377	78	3061	2932	835	16	"	"	"	"	13.34	16.68	46876.81	"	1.5	0.22	47	35	293	3	"	4842	beams lost/dumped
27847	"	13:37	14:15	11.88	11.68	28.2	2261	8002	5504	588	166	4966	5183	1518	37	"	"	"	"	14.67	30.63	46907.44	"	1.65	0.30	46	32	538	7	17500	4834	
27848	"	14:16	14:56	10.30	10.12	24.8	2307	8002	5310	600	148	5170	5049	1539	32	"	"	"	"	13.08	26.93	46934.37	"	1.45	0.25	48	35	473	5	17500	4836	
27849	"	14:56	15:39	8.92	8.75	20.7	2526	8002	5030	657	136	5280	4964	1525	22	"	"	"	"	11.41	24.65	46959.02	"	1.25	0.2	50	38	433	8	17501	4837	
27850	"	15.39	16.16	7.72	7.57	18.1	2267	6996	3901	574	103	4380	4070	1157	21	"	"	"	"	9.33	17.65	46976.67	"	1.05	0.2	50	42	310	6	"	"	stopped by SDAS expert
27851	"	16.20	16.33	6.82	6.68	17.2	759	2197	1274	197	34	1472	1300	400	9	"	"	"	"	8.55	5.99	46982.65	"	0.9	0.2	50	43	105	2	17.500	"	"
27852	"	16.34	17.01	6.54	6.40	17.4	1508	4447	2550	407	70	2992	2730	734	20	"	"	"	"	8.11	11.67	46994.32	"	0.8	0.2	51	44	205	4	17.501	"	Beams dumped
27853	"	17:32	18:11	10.40	11.32	21.5	2339	8002	5303	604	130	8		1489		"	"	"	OFF	15.08	31.99	47026.31	"	1.5	0.25	46	35	562	11	17.500	4836	some numbers cannot be retrieved See log page
27854	"	18:14	18:55	8.83	9.69	18.7	2409	8002	5092	627	117	5500	4352	1558	24	"	"	"		13.48	29.66	47055.97	"	0.8	0.15	47	37	521	8	17.501	4835	
27855	"	18:55	19.40	7.58	8.38	17.2	2646	8002	4827	638	118	5478	4465	1443	32	"	"	"	"	10.92	25.73	47081.70	"	0.65	0.1	48	41	452	3	"	4834	
27856	"	19.41	19.56	6.50	7.26	15.6	909	2656	1568	236	36	1812	1462	458	9	"	"	"	"	7.30	6.38	47088.08	"	0.55	0.1	48	42	112	3	17.500	"	Beams dumped
27857	"	20.32	21.13	10.57	10.53	18.7	2421	8002	5294	629	117	5483	4462	1492	25	"	"	"	"	14.23	31.25	47119.33	"	1,5	0.2	49	35	549	6	"	"	
27858	"	21.14	21.57	8.99	8.74	16.9	2585	8002	4992	672	113	5536	4468	1481	31	"	"	"	"	11.73	26.70	47146.03	"	0.7	0.05	49	39	469	9	17.501	"	
27859	"	21.58	22.44	7.70	7.32	15.6	2760	8002	4751	718	111	5513	4556	1399	30	"	"	"	"	9.97	23.00	47169.03	"	0.65	<0.05	50	42	404	8	"	4832	
27860	"	22.45	22.46	6.66	6.30	16.8	19	78	55	4	0.8	58	33	14	0	"	"	"	"	9.54	0.17	47169.20	"	0.6	"	21	51	3	0	17.500	"	Beams dumped
27861	"	23.20	0:01	10.55	10.54	19.3	2406	8002	0	625	120	5513	4445	1419	25	"	"	"	"	14.18	29.95	47199.15	"	1.0	<0.05	49	35	526	12	17.500	4831	
27862	2/8/86	0:03	0:15	9.06	8.98	17.5	483	1564	970	125	22	1036	885	268	4	"	"	"	"	12.50	4.67	47203.82	"	"	-	47	39	82	2	"	"	Beam Cost
27863	"	1:29	2:11	10.62	10.62	17.5	2494	8002	5197	648	113	5476	4373	1447	40	"	"	"	"	13.85	28.18	47232.00	"	0.8	0.1	47	36	495	3	"	4830	
27864	"	2:11	2:25	9.17	9.08	17.1	804	2514	1562	209	35	1718	1394	440	12	"	"	"	"	12.21	8.60	47240.60	"	0.6	0.05	48	39	151	6	"	"	Beam Cost
27865	"	8:57	9:35	11.40	10.97	21.3	2255	8002	5390	587	125	5441	4437	1412	23	"	"	"	"	15,65	30,97	47271,57	"	1 2	0.1	48	34	544	9	17.501	4843	
27866	"	9:36	10:17	9.97	9.57	19.4	2393	8002	5181	623	120	5396	4661	1397	26	"	"	"	"	14,03	31,37	47302,94	"	1.0	0.1	49	36	551	11	"	"	
27867	"	10:17	11:00	8.69	8.21	18.0	2572	8002	4985	669	120	5483	4678	1364	29	"	"	"	"	11,70	26,47	47329,41	"	0.9	0.1	51	39	465	6	17500	4844	
27868	"	11.00	11:17	7,55	7,19	16.8	985	2918	1764	256	43	1979	1706	496	12	"	"	"	"	10,16	8,20	47337,61	"	0.8	0.2	50	41	144	7	17501	4846	run stopp'd to reload J68K process.
27869	"	11:21	11.22	7,08	6,73	16,9	18	83	57	4	0.7	45	36	11	2	"	"	"	"	7,41	0,11	47337,72	"	0.7	0.1	36	38	2	0	17500	4847	beam dumped
27872	"	12:57	13:41	11.43	11.71	32.2	2536	8002	5898	660	212	5245	4937	1453	29	"	"	"	"	13.44	29.94	47367.66	"	1.5	0.3	49	33	526	6	17.500	4850	runs 27870, 27871 only pedestals
27873	"	13:42	14:22	9.65	9.92	22.4	2349	8002	5310	611	137	5236	4864	1489	26	"	"	"	"	12.80	28.07	47395.73	"	1.3	0.2	48	35	493	13	"	"	
27874	"	14:22	15:04	8.37	8.62	19.6	2532	8002	5081	659	129	5330	4863	1402	27	"	"	"	"	10,57	22.89	47418.62	"	1.1	0.2	50	38	402	8	"	"	
27875	"	15.05	16:14	7.26	7.49	18.3	2297	6946	4790	598	110	4637	4792	1257	26	"	"	"	"	8.77	17.14	47435.76	"	1.1	0.2	50	41	301	7	17.500	4853	beams dumped
27876	"	16:54	17:22	10.49	11.09	24.2	1682	5897	4249	438	106	3867	3572	1086	23	"	"	"	"	14.59	27.52	47457.28	"	1.75	0.25	48	29	378	6	"	"	run stopped due to LG problem
27877	"	17:39	18:19	8.60	9.11	21.3	2382	8002	5187	620	132	5405	4778	1542	24	"	"	"	ON	12.07	24.37	47487.59	"	1.5	0.2	50	36	427	11	"	"	

2/8/86 8⁰⁰ Chris,
gas check done. Big IKR - They say injection will start in a couple of minutes.

8⁰⁵ Injection ; magnet 500 A ⇒ 3500 ⇒ 6500 ⇒ 7500 A.
8²⁶ beams lost (at least - partially).
8⁵⁵ luminosity. Run # 27865 started. During the filling before this run start, 4 lead glass test runs failed to distaurb the sleeping ADC modules (crate 3, ch 510, 492, 486). When data taking commenced however, the spirit of at least ch 510 was awakened, leaving only 2 still asleep.

10⁴⁵ & 11⁰¹ VSM Error: TOF:TDC channel 42 no hits. Probably just a statistical fluctuation - channel now being filled in NSO histograms.

12⁰⁰ Kuhlen

12:55 JDAS readout error 37 (wrong answer at FEP ready (FETCH)
JADEGO run on 110R, okay
runs 27870, 27871 only pedestals

16:00 Kodo on shift

16:10 gas check done → "Kreislauf" 9.4 mA → will try to find expet
17:00 Kuhlen still here → working on LG problems
17:03 Ethan flow increased from 16.8 cm to 17.8 cm in order to push up the "Kreislauf" (advice from Jan Chrin)
17:15 found FAMP being OFF - why ? obviously it was just forgotten to switch FAMP on again after Nord restart on 1.8.86 18:00
17:30 Kuhlen tryed to fix the LG problem ⇒ continuous missing LAM from LG system, stop run (switch FAMP ON) start new run ⇒ ok!
18:12 IBM Transfer Error 52 as usual
18:18 gas system : "Zulauf": 10.5 , "Kreislauf": 9.6 - keep on running with 17.8 cm Ethan
18:40 IBM Transfer Error 52

18:51 LG - Problems :
1. I found a lot of HT wrong in distr. 19. The standard routines did not work for this distributor and destroyed the file with the correct settings. Fortunately we have a backup on floppy disc.

2. We set the distr. 19 by hand, channel for channel. This worked for most of the channels. However, after a short time the channels had their old (wrong) values again.
3. for run 27876 all channels belonging to ADC crate 1 were noisy. Moving out and in the Preamp first produced missing LAM's, and cured the problem after a second try.

19:49 I disconnected the distributors after # 19 from the readout chain. By magic distr # 19 could now be set correctly, except for 7 channels. Ku

20⁰⁰ Hedgehock

Some people will do anything to get Saturday night off — There is a BomB WARNING!! Petra etc off until 7⁰⁰ hours.

MAGNET OFF! Sprinkler off!

Night Shift informed. Schmicht will not come in Jan Olsson will arrive ~ 4⁰⁰ hrs.

21⁰⁰ Gas check done.

3.8.86, Sunday
0⁴⁰⁰ Olsson Gascheck ok 7³⁰ Short break 8⁴⁰ Sprinkler on., Magnet on
Cosmic test runs for z-trigger
8⁰⁰ Olsson
10³⁰ Start of Injection
12⁰⁰ Rieseberg
Gas check done : Ethane input is a little high on the Maihak (10.3) and on the flow meter (17.4 Ethane / 14.0 Argon) - as was the intention (see yesterday at 18¹⁸).
But the Kreislauf is still low. The Maihak fluctuates between 9.2 and 9.7.
I think the IR-cell needs some cleaning or is affected by sun shine and heat
I don't change the input gas flows. R
13⁰⁰ Till now they got only small beam in PETRA
Now SHORT BREAK to tighten a vacuum leak in the ring. Magnet → 4500 A

Test Version of (a)N50DAR updated to include new routine to try to find missing cells in fetch data where T2 cell set. If NORD is reloaded the std version is obtained. Since I have not been able to test with real data tho I am not 100% sure its correct, This do not worry if 'SETC missing?' appears on colour TV or run summary. AEM

Run	Date	start	stop	at run start I^+	at run start I^-	Dead Time	Time [sec]	Records IN	Records OUT	All $\times 10^6$	$T\Phi_{xy}$ $\times 10^6$	T1acc SUM	T2acc SUM	T1 bit2 $E_{ch}>6$ GeV	T2 bit4 $2T\cdot E_{ch}\cdot \geq 2T_V$	Processors ON/OFF N50	MIP	TOF	PAT	Remarks
27878	2/8/86	18:20	19:03	7.32	7.69	20.6	2564	8002	5011	667	137	5274	4962	1452	29	ON	ON	ON	ON	
27879	"	19 53	20:00	6.30	6.60	20.4	2630	8002	4912	684	139,5	5305	4923	1426	29	"	"	"	"	
27880	"	20 00	20 31	5.30	5.57	19.1	1747	5354	3047	455	87	3486	3296	907	21	"	"	"	"	
27881-3	3/8-86	9 45		0	0				3x13							"	"	"	"	E-trigger in Readout. Cosmic Run, not for Reduct
27884	"	10 03		"	"			185	70							"	"	"	"	" "
27885	"	10 13		"	"			694	459							"	OFF	"	"	" "
27886	"	15.51	16.25	8.40	8.55	31.7	1068	3960	2727	277	88	2743	2123	582	21	"	ON	"	"	
27887		16.28	17.09	6.69	6.83	23.0	2407	8002	5113	626	144	5456	4622	1288	48	"	"	"	"	
27888	"	17.08	17.18	5.50	5.64	19.7	415	1521	934	123	24	1015	894	228	2	"	"	"	"	dump
27889	"	17.53	18.17	9.59	9.99	29.4	1395	5194	3585	363	106	3487	2925	881	33	"	"	"	"	
27890	"	18.24	18.41	8.21	8.57	22.2	1036	3668	2388	269	59	2518	2047	662	17	"	"	"	"	
27891	"	18.42	19 23 20.00	7.50	7.84	19.7	2177	6810	4422	567	111	4768	3735	1275	30	-	-	-	-	
27892	-	19.24	20.00	6.21	6.55	19.7	2171	6810	4422	567	111	4768	3735	1275	30	-	-	-	-	
27893	"	21:19	21:56	10.10	10.59	27.0	2138	8002	5440	556	150	5438	4213	1395	45	-	-	-	-	
27894	-	21:57	22:07	8.59	9.02	25.6	520	2161	1445	148	38	1493	1011	413	6	-	-	-	-	
27895	-	22:08	22.24	8.19	8.61	25.1	678	2517	1671	176	44	1708	1262	463	10	-	-	-	-	MOP + SETC - problem
27896	-	22:48	23.01	6.90	7.28		Run summary		lost											beams lost
27897	4/8/86	0:14	0.50	11.05	11.19	28.7	2175	8002	5307	565	162	5372	4330	1346	43	"	"	"	"	
27898	"	0.51	1.28	9.61	9.75	24.2	2200	8002	5138	572	139	5350	4389	1426	37	"	"	"	"	
27899	"	1.28	2.06	8.37	8.44	23.7	2268	8002	5112	590	140	5305	4288	1404	36	"	"	"	"	
27900	"	2.07	2.37	7.02	7.23	19.6	1463	4782	2866	375	73	3367	2505	862	25	"	"	"	"	beam dumped
27901	"	3.21	3.55	10.74	10.86	26.9	2611	7673	5242	523	141	5206	3790	1341	83	"	"	"	"	Run stopped - some sort of crate hang
27902	"	3.57	4.33	9.32	9.37	26.0	2167	8002	5299	563	147	5438	4259	1441	43	"	"	"	"	
27903	"	4.33	5.17	8.12	8.15	23.4	2267	8002	5086	590	138	5547	4090	1482	37	"	"	"	"	
27905	"	5.19	5.26	6.52	6.80	21.4	342	1220	775	89	19	830	641	219	6	"	"	"	"	beams dumped
27906	"	5.53	6.32	10.02	10.02	30.2	2283	8002	5570	593	179	5459	4101	1574	37	"	"	"	"	
27907	"	6.33	7"	8.62	9.24	22.2	2297	8002	5174	597	133	5562	4211	1623	38	"	"	"	"	
27908	"	7"	7.54	7.47	7.98	18.9	2435	8002	4785	633	120	5599	4186	1465	44	"	"	"	"	
27909	"	7.55	8.00	6.41	6.86	16.8	288	907	570	75	13	661	456	170	5	"	"	"	"	Beams dumped
27910	"	8.54	9.05	9.81	10.80	24.7	477	1687	1121	145	31	1134	937	309	7	"	"	"	"	
27911	"	9.06	9.34	9.38	10.33	23.5	1647	6000	3943	429	101	4080	3186	1159	28	"	"	"	"	
27912	"	9.38	10.16	8.38	9.29	22.9	2260	8002	5116	588	135	5503	4189	1573	45	"	"	"	"	
27913	"	10.16	10.56	7.23	8.14	21.0	2358	8002	4982	613	129	5573	4136	1534	37	"	"	"	"	
27914	"	10.57	11.26	6.33	7.12	19.0	1722	5598	3349	448	85	3967	2858	1110	27	"	"	"	"	Beams dumped

$\langle L \rangle \cdot 10^{30}\,cm^{-2}\,sec^{-1}$	Bhabha $\int L\,dt$ nb^{-1}	$\int L\,dt$ Exp. Energy	output IBM/Tape	at run start TOF [V]	at run start ID [mA]	online reject Sum TP T2 [%]	online reject N50 T_1+T_2 [%]	Σ Bhabha	Mbha	E_{beam} [MeV]	Mag. Field [-gauss]	Remarks
9.08	20.67	47502.20	IBM	1.3	0.19	50	39	362	8	17500	4853	
6.93	16.28	47518.48	"	1.3	0.19	50	40	286	12	"	4853	
5.58	7.86	47526.34	"	1.25	0.20	48	44	138	5	"	4850	
			"									
			"									
			"									
8.07	6.38	532.72	"	3.5	0.4	49	32	112	4	"	4840	MOP reload
6.92	16.57	549.23	"	1.5	0.3	50	37	290	2	"	"	
5.26	21.6	554.39	"	1.1	0.25	50	40	38	0	"	"	dump
11.62	13.95	568.64	"	2.0	0.5	47	32	245	9	"	"	VTX crate offreads Hd.
11.25	9.79	578.43	"	?	?	48	36	172	9	"	"	No VTX readout
7.24	15.88	594.31	"	0.9	0.2	51	41	274	8	"	4846	VTX ok beams dumped
7.04	19.88	614.18	"	?	?	51	41	279	1	-	-	beam dumped
12.85	24.14	638.32	"	1.8	0.3	45	33	424	5	-	4847	
12.81	6.55	644.87	"	1.2	0.4	45	34	115	1	-	4846	
11.55	7.29	652.16	"	1.2	0.4	43	35	128	1	-	"	MOP + SETC - problem
11.68	6.98	659.14	"									beams lost
11.43	22.77	681.91	"	1.5	0.45	45	35	400	10	17.501	4845	
10.90	20.67	702.58	"	1.2	0.4	45	37	363	5	17.501	4844	
9.29	16.85	719.33	"	0.9	0.4	48	37	296	9	17.501	4845	
7.53	10.13	729.46	"	0.8	0.35	49	41	178	3	17.500	4845	beam dumped
13.75	23.57	753.03	"	1.25	0.4	44	33	414	10	17.500	4844	Run stopped - some sort of crate hang
11.91	22.37	775.40	"	1.1	0.4	46	35	393	4	17.501	"	
9.44	20.21	795.61	"	0.9	0.4	47	38	355	6	17.500	"	
8.09	3.53	799.14	"	0.8	0.3	46	38	62	0	17.501	"	beams dumped
11.67	24.71	823.85	"	1.3	0.4	45	31	434	5	"	"	
24.75	24.36	848.21	"	1.0	0.3	48	36	328	5	"	"	
7.95	15.88	864.09	"	0.8	0.3	49	41	279	3	"	"	
8.91	2.16	47866.25	"	0.6	0.2	54	39	38	0	17.500	4844	Beams dumped
12.34	5.58	47871.83	"	1.2	0.35	48	35	98	2	17.501	4844	
12.02	18.05	47889.88	"	1.1	0.4	45	35	317	5	17.501	4844	With Test program (DIT) N50 DAR
11.31	22.43	47912.31	"	1.0	0.4	46	37	394	6	17.500	4846	"
9.78	20.10	47932.41	"	0,9	0,4	47	39	353	4	17.501	4847	"
7.92	13.55	47945.96	"	0.95	0.4	49	41	238	3	17.500	4847	Beams dumped

15[10] We worked on the problem of LG-dish. # 19, but no results other than that something is wrong (HV seems to leak out somewhere).
There are no sparcs! During the day I (NH) managed to damage dis # 7 so that it can't be read anywhere. J.O. took it out of the VOLTS-TEST-CHAIN.
→ # 7 and # 19 are not in a controlled configuration.

Don't touch distributors.

One voltmeter was destroyed already.

15[25] Injection starts again, Magnet → 7500 A
15[38] New fill is ready. TOF rate 9.5V because vacuum is bad in the whole ring
PKR thinks we have to wait!
15[50] Start Run at TOF rate 3.5V
15[51] LG HV fail: overcurrent.

16.00 Narvaska

Gas check done, Inlauf high 10.5 } adjust Ethane flow to 17.8 again
Kreislauf low 9.6 }

17.20 Every time high voltage is taken off VTX chamber per computer, we get valve failure.

Kreilauf is still going down. 9.5 now. Screen: Muon crate 6 missing
In reality ~5 crates were off!?!

18.05 VTX-CH TRIP
Short Temp. Alarm: Thermom. on wall reads 21°.
IBM-transfer error 52

18.22 Bang → one Camac crate of VTX chamber gone. Call Emrobeep
Vado will come.
Continue without VTX chamber (CH BPCH R → 77735 B)
Run 27890.

18.41 Vado changed power pack with help of Kuhlen who happened to pass by.
Changed read-out back to normal, load processors.
18,50 VTX ok again (HK)
18.55 IBM transfer error 52

19[30] W. Bartl on shift.
20[00] Command 'down' causes VTX-valve failure (pickup from Z-ch.-off??)
22:00 Mop starts beeping with the start of a new run.
Stop and start again does not help.
Remotely controlled by E. Elsen the MOP-System was reloaded. ok
22:30 JETC-problem: Missing lams
call Elsen: one of the FADC modules is broken. He has to come in to replace it.
22:45 1 FADC-module in crate 6 replaced by E. Elsen ok now
22:45 check Lithium ok
23:00 Beams lost unable to get run summary.
YRUNSUM: Server Summary File (D-7) Runnum 04: SYNB OERROR 28
VTX valve failure
Runsummary 27896 lost
23:15 Beam loss caused by power supply failure
Repair is expected to take about 30 min
23:15 MOP flickering. Reload MOP by NORD F15, F10 ok

4/8/86

Stepleus

CELLO NUCU coordinating.

0.30 Bpch soft trip.

1.40 JDAS error 33 missing CAM branch 3 crate 4 : Z ch Pt 1
1.45 Kreislauf ~9.7
2 10 Bpch & ID soft trip. in fact 3 times due to sparks in beam.
2.45 Gas check done.
400 U. Schneekloth
450 Z chamber trip and VTX chamber valve failure, press red button (PCS) didn't help, turned V2, red light (PC S) went off, but 'Störung' still on, press green button (PCS), → o.k.
513 IBM transfer error 52
517 tried to start new run (27904), IBM transfer error 52 and
YPARA 62 error during LG-PED RUN run stopped.
609 YSPY muon digitizers missing 145
617 Z chamber tripped
7 20 IBM transfer error 52
7 39 — " —

4.8.86

8:00 R. Glasser and H. Rieseberg on shift

stop for refilling

Gas check OK

Sprinkler is (still) on

8⁴⁹ NF ready

8⁵³ IBM transfer error 52 followed by ~~read~~ out error 33 JETC point 701

9⁰⁶ J. Olsson loads the (DIT) N50 DAR Test-program do/find the FADC program bug
(There was a JADEGO run at the beginning of this fill) : Typically we have one fault per 5 min !

9³³ Trigger hang up. Have to start a new run

9⁴⁰ IBM transfer error 52, twice

~~The~~ Program of H. Mills (siehe Seite 25) works very well and shows a lot of errors

Temperature in the hard ware room is around the alarm point 21.1°C, but I ignore it!

11²⁵ Stop for refilling

11³⁵ New N50DAR program installed as the default (HEH)

Bad trace in ~~QT~~ drift (corrected!)

12³⁰ Replaced DL300 air filters to get better cooling of FADC units.
scanned information for 4 processors written to IBM which is one reason for increased D.T.
(The other is bad beams: ID current = 0.4 μA!) t.t.

16⁰⁰ Chris,
gas check done. Temp. in hardware room is 22°C
T2 temp of jet chamber is 28.7°C.

16²⁰ Jan Olsson - refills the Gould plotter with ink.

16⁵⁵ beams lost then short break.

18²⁵ Technical problems - restart 20⁰⁰ hs. Magnet amps reduced to 1500.

18⁵⁰ Magnet alarm - magnet trips to 2500 amps. Alarm registered in Vorratsbeh. observed Nissen.
Call magnet group. They say that they are dealing with other emergencies, but will call us soon as possible.
(i.e. ½ hr).

19³⁰ The water level feeding our cooling supply is apparently too low.
Technischer Notdienst will start filling it up in about ½ hr.

20⁰⁰ Bill takes over from Chris.

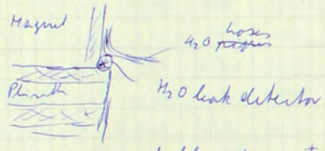
20,30 Petra still "technical problems" Colle say they are having difficulties with some power supplies in DE 84.

22:00 There is water inside the magnet yoke coming from the heat shield cooling. Magnet cannot be switched on. JADE put to rest for the work of tomorrow
~~Main~~ Main valve for heat shield cooling on the edge of the pit closed.
Tomorrow a visual inspection of the interior of Jade has to be done.
Inform PHR

5.8.86

	Compressors	Temperature of Hardware room on 12m wall	Inner Detector T_2	
7⁰⁵	O2	17.9°C	28.0 °C	
10⁰⁰	O2	18.2	28.1	sprinkler off

9⁰⁰ The water leak detector which caused the alarm was installed outside the magnet yoke below some water hoses.



The alarm was probably due to the high humidity or ~~was~~ condensed water on the water hoses. There is no sign of water drops or a pitch of water.
The water below the magnet which we saw last night has its origin in the flow meters of the main magnet cooling circuit. That is a known leak.
The heat shield cooling is on again. No water leak detected.

W. Bartel

32 RUN	DATE	START	STOP	AT RUN START I+	AT RUN START I-	DEAD TIME %	TIME (Secs)	RECORDS IN	RECORDS OUT	ALL ×10⁶	TΦ REJ. ×10⁶	T1 ACC SUM	T2 ACC SUM	T1 Bit2 E_LG > 66GeV	T2 BIT17 2T. E_LG* ≥ 2TR	PROCESSORS on/off NSO	MIP	TOF	FAM
27915	4.8.86	11:59	12:33	9.82	11.7	29.3	2074	8002	5548	540	160	5177	3981	1352	63	ON	ON	ON	ON
27916	"	12:34	12:40	6.35	9.66	29.8	356	1447	1029	92	26	956	622	240	9	"	"	"	"
27917	"	12:54	13:34	7.69	9.92	24.8	2332	7879	5079	544	137	5209	3765	988	40	"	"	"	"
27918	4.8.86	14:40	15:24	11.0	10.66	33.5	2163	8002	5506	542	188	4988	3983	1396	40	"	"	"	"
27919	"	15:22	15:59	9.29	9.93	30.0	2169	8003	5442	564	169	5119	3960	1446	34	"	"	"	"
27920	"	15:59	16:37	8.14	7.85	24.4	2228	8002	5225	579	141	5262	3863	1488	41	"	"	"	"
27921	"	16:37	16:55	7.17	6.89	22.8	1003	3615	2251	260	59	2401	1691	683	11	"	"	"	"
27922-937																			
27938	6.8.86	18:12	18:24	9.70	10.03	24.1	597	2095	1402	156	37.4	1372	1254	344	11	ON	ON	ON	ON
27939	"	18:24	19:08	9.22	9.54	21.8	2484	8002	5475	646	141	4976	4557	1321	27	"	"	"	"
27940	"	19:07	19:56	7.85	8.14	18.0	2868	8002	5608	746	134	4837	4679	1397	25	"	"	"	"
27941	"	19:56	20:52	6.59	6.87	17.1	3082	8002	5516	802	137	4854	4671	1418	36	"	"	"	"
27942	"	~~20:52~~ 20:53	20:54	5.45	5.71	17.9	17	157	110	4	1	90	30	29	1	"	"	"	"
27943	"	21:30	21:35	10.38	10.96	24.9	271	992	992	70	17	551	509	178	4	"	"	"	"
27944	"	21:37	22:27	10.36	10.54	22.0	2601	8002	5886	677	149	4833	4591	1500	37	"	"	"	"
27945	"	22:28	22:40	8.21	7.78	18.3	653	1891	1374	170	31	1115	1099	351	13	"	"	"	"
27946	"	22:45	22:58	7.70	7.29	15.5	3120	8002	5306	811	126	5155	5079	1516	44	"	"	"	"
27947	"	22:58	23:54	6.43	6.06	14.5	860	2114	1383	223	32	1368	1303	388	9	"	"	"	"
27948	7.8.86	0:48	1:40	9.93	10.07	27.5	2829	8002	5547	737	158	4933	4557	1484	32	"	"	"	"
27949	"	1:40	2:08	7.90	7.33	16.8	1657	4396	2847	437	73	2747	2633	824	27	"	"	"	"
27950	"	3:17	4:05	9.86	9.84	19.4	2857	8002	5476	742	144	4831	5863	1378	31	"	"	"	"
27951	"	4:06	4:55	8.38	8.37	17.0	2977	8002	5830	774	131	5081	5199	1783	35	"	"	"	"
27952	"	4:56	5:52	7.16	7.00	14.8	3450	8002	5321	817	120	5187	4960	1487	43	"	"	"	"
27953	"	5:53	5:58	4.37	4.31	10.9	307	611	360	79	8	388	426	105	2	"	"	"	"
27954	"	6:32	7:15	10.35	10.82	24.2	2530	8002	5733	658	159	4914	4832	1507	32	"	"	"	"
27955	"	7:15	8:01	8.86	9.21	20.8	2727	8002	5572	709	147	5046	4905	1478	38	"	"	"	"
27956	"	8:03	8:50	7.46	7.78	19.7	2830	8002	5560	736	145	4770	4586	1350	37	"	"	"	"
27957	"	8:51	9:19	6.31	6.61	15.7	1677	4401	2972	436	68	2648	2644	753	13	"	"	"	"
27958	"	9:56	10:12	9.80	10.42	23.6	918	2913	2200	239	56	1693	1645	529	16	"	"	"	"
27959	"	10:13	10:57	9.18	9.79	22.0	2604	8002	5781	677	149	4630	4561	1477	34	"	"	"	"
27960	"	10:57	11:44	7.86	8.36	20.8	2744	8002	5555	727	151	4752	4616	1494	27	"	"	"	"
27961	"	11:45	11:48	6.57	7.08	15.6	164	508	337	43	7	322	240	93	1	"	"	"	"
27962	"	11:51	12:26	6.43	6.93	17.3	2071	5574	3652	539	93	3287	3311	1031	26	"	"	"	"
27963	"	13:19	13:23	10.10	10.59	28.4	216	740	558	56	16	397	344	113	4	"	"	"	"

<L> 10^{30} cm^{-2}s^{-1}	BHABHA $\int L dt$ nb^{-1}	$\int L dt$ EXP. ENERGY	IBM/TAPE odd/put	AT RUN START TOF [V]	AT RUN START ID [mA]	ON LINE REJECT SUM MIPROC T2 %	ON LINE REJECT NORDSC T1·T2 %	Σ BHABHA	MH	E_{BEAM}	MAG FIELD −1.6	REMARKS
11.01	19.19	47945.96	IBM	1.4	0.4	44	33	337	2	17.501	4836	
11.21	2.79	47948.75	"	1.0	0.4	41	31	49	2	17.500	4838	get chair, missing brass bolt from ~~[illegible]~~ : Fuse blown in pack 26
11.01	15.66	47964.41	"	1.0	0.4	44	38	225	2	17.501	4839	Beams lost
11.96	23.12	47987.53	"	1.25	0.25	41	31	406	9	17.501	4837	IBM Lost ~ 10 times per run Temp: 22
10.98	20.72	48008.25	"	1.0	0.20	41	35	364	5	17.500	"	
9.53	20.15	48028.40	"	0.9	0.2	43	37	354	3	"	4838	
8.33	8.94	48037.34	"	0.7	0.35	43	40	157	2	"	4837	beams lost.
			"									JETC pulser runs New ID gas
13.18	6.83	48044.17	"	1.5	0.15	47	34	170	6	17.500	4844	No BP-chamber
12.00	24.25	48068.42	"	1.5	0.20	45	34	426	8	"	"	
10.01	25.45	48093.87	"	0.8	0.20	46	32	447	9	"	"	
8.12	20.67	48114.54	"	0.75	0.20	46	34	363	12	"	"	
7.62	0.17	48114.71	"	0.75	0.20	~29 %	36	3	1	"	"	
15.42	≈30*	48117.71	"	1.5	0.4	36	0	0	0	"	"	* estimated RT task YIAMA "broken": Stopped Runs to reboot task.
12.53	28.47	48146.18	"	1.5	0.4	45	29	500	6	"	"	
10.66	6.32	48152.50	"	0.9	0.25	44	30	111	0	"	"	Run stopped due to missing data of FEP Ready (Setch).
9.34	23.12	48175.62	"	0.8	0.2	49	35	406	10	"	"	
7.58	5.98	48181.60	"	0.6	0.2	51	36	105	6	"	"	beams dumped.
10.07	24.88	48206.48	"	1.2	0.5	45	33	437	5	"	"	
8.62	12.75	48219.23	"	0.7	0.4	45	37	224	3	17.501	4844	beams lost
9.60	22.94	48242.17	"	1.5	0.4	48	33	403	11	17.500	"	
8.58	22.37	48264.54	"	1.0	0.4	49	35	393	5	17.501	"	
8.45	21.98	48286.52	"	0.8	0.3	48	35	386	7	"	"	
4.30	1.42	48287.94	"	0.5	0.1	55	43	25	1	"	"	beam dumped
12.55	26.70	48314.64	"	1.5	0.6	45	30	469	9	17.500	"	
10.64	26.13	48340.77	"	1.2	0.6	47	32	459	9	"	"	
8.91	20.38	48361.15	"	1.0	0.4	46	34	358	6	"	"	
7.71	11.27	48372.42	"	0.8	0.3	46	35	198	1	"	4844	beams dumped
12.26	9.22	48381.64	"	1.25	0.3	42	27	162	6	17.501	"	no triggers, pause/cont won't help
11.1	25.56	48407.20		1.20	0.4	43	30	449	7	"	"	
9.44	23.17	48430.37	"	0.90	0.4	44	33	407	6	17.500	4847	energy changed to 17.522 after ~ 100 events
8.99	1.08	48431.45	"	0.80	0.4	41	37	19	1	17.501	4847	JETC missing LAM
7.65	13.55	48445.00	"	0.80	0.4	44	37	258	6	17.500	"	Beams dumped
12.75	2.51	48447.51	"	~~0.80~~ 1.4	0.4	38	28	44	1	17.501	4850	JETC miss 24th (Broken fuse)

5.8.86

9²⁰ Gas check done U. Pelmeschloth

14²⁰ Gas check done - Zulauf 10.5 mA 1 Walther

14³⁰ New tagging HT is installed.

15²⁵ We (M.K., K. Hasidi-Lauskas, N.H.) repaired 1 of the broken distributors and found the error in the second. Will hopefully be repaired until tomorrow (if the chips can be found here at DESY).

16⁰⁰ Gas check done: Zulauf / Kreislauf = 10.6 / 9.8 imbalance persists. Rbg

22⁰⁰ Gas check done. T_{wall} = 18.4 °C. Compressors o.k. Counting house and Rucksack o.k.

6.8.86 0⁰⁰ Gas check done. T_{wall} = 18.4 °C. Compressors o.k. Counting house and Rucksack o.k. Rbg

4¹⁰ Gas o.k., $T_{Hardware}$ = 17.0 °C. Compressors o.k., Counting house and Rucksack o.k. N. Magnussen

10⁰⁰ Gas check done, T_{wall} = 18.5 °C

11³⁰ New gas fill of ID is ready R

13³⁰ LG distributors repaired and tested HK + NH YROLTI restored J.O.

16⁰⁰ Greenshaw, Hanseth and Chun sharing shift.
Threatened with beam at 18⁰⁰ hrs by PHR, still one or two problems with synchrotron though. MKK say that magnet will be ready at ~ 18⁰⁰

17⁵⁰ Magnet up to 7500 Amps.

18²⁵ JETC processors rebooted. BPCH processors loaded

18³⁰ HV wrong message due to one faulty tagging channel, J Nye will investigate at next refill. (maybe)

20.15 VC/ID Trip

20:30 JDAS Readout error 33 - Missing LAM board 4 crate 1 : JETC point 7/5

20:32 "

21³⁰ Start run 27943. Almost immediately - error on ~~jdas~~ system console :- Error 50 in 34611 at 107223. RT description 34611 corresponds to task YRARA. Run stopped - a YRARA task rebuilt according to instructions in appendix A7 of manual

21³² " " 27944. Soon afterwards LG HV "over" current. LEAD GLASS BARREL 8. Inform Norbert Magnussen who instructs us to switch the volts off - and then on again. Seems to be behaving itself now.

22⁴⁰ Run 27945 stopped due to missing LAM at FEP Ready (JETCH). Reload the JETC68K processors.

7.8.86 0:00 Kado on shift

0:10 gas check done

1:40 LG problem: crate 2 ch. 811 ped. value = 1 all the time, LG test run does not help.

3:46 missing LAM br. 2 cr. 3 TOF 1 counter

4:00 Splitter

8⁰⁰ Test + Eben

gas check done

11⁴⁸ missing LAM at FEP Ready, Reload of JETC processors.

13²⁵ Missing LAM due to broken fuse in BR300 - VME - Interface; replaced meanw.

14¹⁰ Trigrate reported to 18% instead 38%, no obvious Buck Around

14⁴⁰ reload H-16 → reported rate back to normal

15³⁰ Missing LAM board 3 crate 4: Z-ch. part 1

16⁰⁰ Kuhlbil, Magnussen repairs LG-electronics. PWA on leave for JADE-Meeting

17.33 Tagging HV MFR 63 ch. 0 wrong. Reset via Detector-Ctl as printed does not work
Short Error MSGE Missing JETC Coll 302 (?)

17.42 JETC current increases @ 4mA but not TOF

18.00 Gas check done. P. Warming now also on shift

19.30 D Missing JETC Coll 370 ~~Eff~~ 1*

21.40 JDAS Error 32 Missing LAM at FEP Ready (1 JETCH)

Action: JETC68K-LOAD

To HEM: YRUN3M could not find a summary for run (current-1), but it was listed in directory. Index 25 forget it!

23.17 Run Hangup. White Lamp On. Pause Continue didn't help. Run stopped. No error message on JDAS console.
Afterwards: PETRA ~~one~~ beams slowly oozing out. TOF rate > 10 Volts. Soft trips. Re-stabilizing at e+-current 5.8 mA. Colla decides to continue with these beams for some time.

23:50 YSPY found trigger I input missing ch # 16 TOF Input to Latch No 16. Probably Wackelkontakt. After disconnecting and reconnecting of input. Hole disappeared.

8.8.86 0:00 Kuhlen on shift

1:53 Z-chamber trip and VTX-chamber valve failure

3:30 YSPY: Trigger 3 I/P missing: ST 25 GP 4
no obvious hole in Trigger 3 I/P histogram

4:00 Nye returns triumphantly to the JADE counting house, wishing he was still in bed.

4:20 JDAS readout error 64 A20149 TOF-2 Q,X missing Stn = 3 subaddr = 4

Someone didn't care of them!

Run	Date	Start	Stop	At Run Start I+	At Run Start I−	Dead Time	Time (hrs)	Records In	Records Out	Au ×10⁶	To Rej. ×10⁶	T_1 Acc Sum	T_2 Acc Sum	T_1 Bit 2 Elg > 6 GeV	T_2 Bit 17 2T. Ev. ≥ 2 Tr.	Processors on/off NSD	MIP	TOF	Tr
27964	7.8.-86	13^{31}	14^{11}	9.61	10.09	29.1	2430	8002	5288	631	183	3348	4118	1227	39	on	on	on	H
27965	"	14^{16}	14^{40}	8.03	8.53	28.0	1417	4749	2855	368	103	2314	2299	709	11	"	"	"	"
27966	"	14^{43}	15^{33}	7.31	7.73	18.3	2986	8002	5315	776	142	4509	4938	1278	25	"	"	"	"
27967	"	15:33	16^{03}	6.26	6.59	16.7	1778	4566	2972	462	77	2566	2895	712	17	"	"	"	"
27968	"	17.33	18.20	8.73	9.36	18.7	2778	8002	5799	723	135	4825	4689	1443	27	on	on	on	on
27969	"	18.21	19.10	7.99	7.97	17.8	2880	8002	5408	749	133	4738	4713	1441	28	"	"	"	"
27970	"	19.23	19.50	5.95	6.48	15.6	1510	3957	2611	393	61	2456	2199	724	7	"	"	"	"
27971	"	20.35	21.20	9.37	10.89	20.4	2710	8002	5270	705	144	4991	5128	1524	32	"	"	"	"
27972	"	21:21	21:42	7.95	9.35	18.7	1253	3586	2405	326	61	2242	2232	713	13	"	"	"	"
27973	"	21:44	22:17	7.28	8.62	17.3	1899	5327	3551	494	86	3357	~~3257~~ 3240	~~1072~~ 1072	21	"	"	"	"
27974	"	22:23	22:54	5.86	6.94	15.1	1742	4528	2900	453	69	2926	2674	943	18	"	"	"	"
27975	"	23.38	23:47	10.10	10.03	24.2	428	1355	992	111	27	824	793	220	5	"	"	"	"
27976	"	23.53	0:02	9.53	9.45	25.3	393	1374	884	102	26	853	746	206	2	"	"	"	"
27977	8.8.86	0:31	1:14	8.36	8.27	21.9	2495	8002	4851	649	142	5132	4815	1307	36	"	"	"	"
27978	"	1:14	1:58	7.22	7.10	19.7	2604	8002	4751	677	133	5206	4771	1315	34	"	"	"	"
27979	"	1:57	2:11	6.30	6.19	20.7	729	2035	1147	189	39	1318	1303	297	4	"	"	"	"
27980	"	3:20	4:01	10.79	10.98	27.6	2310	8002	5300	601	166	4924	4778	1273	40	"	"	"	"
27981	"	4:01	4:42	9.33	9.34	25.0	2417	8002	5124	629	157	5042	4981	1318	41	"	"	"	"
27982	"	4:42	5:24	8.08	7.92	22.0	2477	8002	4867	645	142	5138	4942	1312	43	"	"	"	"
27983	"	5:24	6:06	6.99	6.87	20.0	2322	7063	4059	604	121	4542	4390	1080	24	"	"	"	"
27984	"	6:43	7:22	10.52	10.45	22.9	2356	8002	5278	613	140	5264	4791	1478	40	"	"	"	"
27985	"	7:23	8:09	9.09	9.08	18.9	2503	8002	4929	651	123	5371	4833	1431	36	"	"	"	"
27986	"	8:09	8:54	7.70	7.58	17.4	2677	8002	4699	696	121	5364	4839	1334	37	"	"	"	"
27987	"	8:57	9:33	6.55	6.44	18.3	2200	6472	3869	523	105	4200	3721	1083	30	"	"	"	"
27988							-	No events			-								
27989	"	11:28	12^{09}	7.78	8.26	26.0	2392	8002	5284	622	162	4695	4629	1197	37	"	"	"	"
27990	"	12^{11}	12^{54}	6.72	7.15	21.3	2511	7992	4778	653	189	5014	4951	1312	37	"	"	"	"
27991	"	13^{29}	14^{08}	8.76	9.01	24.5	2353	8002	5169	612	150	5187	5072	1301	29	"	"	"	"
27992	"	14^{08}	14^{50}	7.57	7.80	22.8	2498	8002	4771	650	148	5063	5244	1194	29	"	"	"	"
27993	"	14^{51}	15^{22}	6.64	6.85	23.9	1851	~~5704~~ 8002	3180	482	115	3560	3937	828	34	"	"	"	"
27994	"	15^{29}	15^{36}	5.98	6.18	22.5	1583	4868	5039	412	93	2967	3091	728	12	"	"	"	"
27995	"	16^{47}	17^{25}	10.01	9.95	29.9	2272	8002	5428	581	176	4687	4821	1129	25	"	"	"	"
27996	"	17^{27}	18^{06}	8.30	8.42			8003	5176			4867		1170	24	"	"	"	"
27997	"	18^{08}	18^{23}	7.01	7.21	25.0	834	2753	1743	217	54	1665	1652	389	11	"	"	"	"

$\langle L \rangle$ 10^{30} cm^{-2}s^{-1}	Bhabha ∫Ldt nb^{-1}	∫Ldt Ext. Energy	IBM Tape output	At Run Start TOF [V]	At Run Start ID [μA]	On Line Reject Sum Monitor TC %	On Line Reject Hadron Trig %	Σ Bhabha	HV	Ebeam	Mag Field −1×6	Remarks
10.74	21.92	48469.43	IBM	1.3	0.4	19	37	385	8	17.5	4.850	
9.58	11.86	48481.33	"	1.0	0.4	9	43	210	1	"	"	stopped to record H-71
6.62	16.40	48497.79	"	0.9	0.4	44	37	288	4	"	"	
3.81	6.32	48504.11	"	0.8	0.4	45	38	111	0	"	"	Beams dumped.
11.30	27.78	48531.89	"	1.0	0.33	45	30	488	4	17.501	4.847	
9.31	22.66	48554.55	"	0.8	0.35	43	35	398	14	"	4846	
7.82	10.30	48564.85	"	0.68	0.25	45	37	181	3	17.500	4844	beams dumped
10.71	24.77	48589.62	"	1.3	0.4	47	36	435	5	17.501	"	
10.23	10.93	48600.55	"	1.0	0.4	46	34	192	0	"	"	Run stopped JETC68K trouble
9.28	14.80	48615.35	"	0.9	0.4	45	35	260	3	17500	4845	" " ~~JETC bus~~ Readout hangup
7.46	11.27	48626.62	"	1.0	0.22	46	37	198	10	17501	4844	Beams dumped
12.20	4.33	48630.95	"	1.3	0.4	44	29	76	1	17.500	4843	run stopped due to broken Rates
10.58	3.47	48634.42	"	1.25	0.5	43	38	61	0	"	"	" " " " "
8.47	19.07	48653.49	"	1.1	0.4	46	41	335	4	"	4842	
7.08	16.00	48669.49	"	1.0	0.3	48	42	281	8	17.501	4841	
5.86	3.47	48672.96	"	0.8	0.2	50	45	61	0	"	"	Beams dumped
11.40	21.75	48694.71	"	1.4	0.4	44	36	582	4	17.500	4841	
10.43	20.32	48715.03	"	1.4	0.4	46	37	357	5	"	"	
8.63	18.90	48733.93	"	1.2	0.4	48	40	332	4	"	4840	
7.10	13.26	48747.19	"	1.1	0.2	48	44	233	3	"	"	beams dumped.
11.84	27.38	48774.57	"	1.5	0.3	49	35	481	5	"	"	
10.23	24.03	48798.60	"	1.0	0.1	50	39	422	5	"	"	
8.73	19.81	48818.41	"	0.8	0.1	50	42	348	5	"	"	
7.12	13.72	48832.13	"	0.8	0.1	50	43	241	9	"	"	beams dumped
												Tof error during Pedestal run Run stopped
7.89	16.40	48848.53	"			45	38	288	7	"	4844	
6.80	14.91	48863.44	"	1.3	0.35	49	41	262	7	"	"	Beams dumped
9.34	20.89	48884.33	"	1.45	0.6	50	37	367	4	"	4847	
6.09	15.26	48899.59	"	1.55	0.5	50	42	268	4	"	"	
3.83	7.17	48906.76	"	1.6	0.45	51	46	126	0	17.501	"	Stped to dump beams, but DESY u/s, so continue...
4.94	8.82	48915.58	"	1.4	0.4	51	41	165	4	"	"	Beams finally dumped.
9.58	20.44	48936.02	"	1.4	0.4	45	35	359	5	"	4846	
	17.19	48953.21	"	1.6	0.5		38	302	3	"	"	
7.27	5.29	48958.50	"	1.3	0.4	48	40	93	0	17.500	"	Beams lost.

9.8.86

6:42 Tagging mainframe 63 channel 0 shouldn't produce VOLTS errors anymore – the tube/cable is broken and cannot be repaired so I set the volts to zero in the HDRD file – hence still bad channel but no more error messages. Simple, but ? ✓ Nye.

8:00 Cartwright + Remcke on shift

8:01 Gas check o.k.

11:32 "Wackelkontakt" at TOF-TDC 2 B.Narocka fixed it 477 16?

14:13 Missing LAM for 3 or 4 ??? for part 1

15:11 " " " " " "

15:25 Message from CCCO – PKR say they can't get particles from DESY, so we continue with this (rotten) fill.

15:30 Mainframe 63 refuses to accept that we want to carry on running, so doesn't bother to switch itself on. Local on/off does the trick.

15:35 Mum expert (Jan Chin) departs after successfully killing a spike in the μ histogram.

16:00 Becker
Gas check done

17:25 TOAS error 33 Missing LAM for 4 or 1

18:07 Run Summary Run # 27996: LUMI, INT.LUMI, SECONDS, DEADTIME ... = 0 ?
– Summary of current run o.k. (#27997)

20:00 Diekmann

9.8.86

0:00 Bethke on shift. Gas check done.

0:35 IBM transfer error. Re-Link successfully. Followed by two times Error 44 – DMA timeout (768K).

1:20 New fill ready. High TOF-Rate: 3.0 (ID: 0.4). Deadtime ~40-50%. Complain at PKR. TOF → 1.4 !

1:25 Again: IBM transfer error; after reboot 768K missing LAM error. Maybe these errors are connected with the fact that we also write FADC raw data at the time...
If these problems occur too frequently, just reload 68K processor (JADECAD), then writing of raw data is stopped.

1:42 all chambers tripped. beams got much "cleaner" (partial beam losses)

3:30 problems with Gould-plotter. Often "paperjam" and 'INTLK' blinking. Open/clear paperjam close mostly helps, but very difficult to take complete set of standard-histos.

3:45 Glasser on shift

8:00 Magoussen on shift
Gas check o.k.
Temperature of I.D. did (slowly) increase the last days, but does not cool down over night. T_2 is now at 27.1 °C. In case it approaches 29°C, we again have to stop data taking and ramp down magnet. (Last time we needed ~12 hours to cool down!) In case this happens call expert on duty or S. Bethke (only at decent times, please). S.B.

8:50 VTXCH valve failure caused by 'DOWN' command at the end of the fill.

9:45 IBM Transfer Error followed by Missing LAM JETC point 701

10:00 Error 64: AC2099 TOF-2, Q, X missing stn = 44 subadd. = 5

11:25 JETC68K restarted. Was off without apparent reason. ScanROPattern 11030000 specified.

11:38 IBM Transfer Error followed by Missing LAM at FEP Ready (JETCH)

12:00 H. Mills on shift
End of fill. FEPs reloaded.

12:55 Lots missing LAMs in JETCH. had to stop run. Reloaded FEPs (forgot Scan Ro Pattern changed)

13:40 end run 28021 – reloaded FEPs

16:00 Nye & Olsson on shift Gascheck done.

16:05 TOF hit map with hole at counter 16, YSPY ⇒ TBG output missing in T1 Output.
Touch TOF16 cable, → hits are coming. But TDC II on 47 also gone. Krehbiel found that this is dead and has TDC 7 connected up to the opposite counter ("standard procedure"). Where is this written?!

17:53 Magnet trips – waterflow alarm (Durchfluss wasser gek. kabel) – stop run – phoned Techn. Notdienst
1 pump failed – water loss somewhere. Magnet people think they understand the problem and we turn magnet on again. Magnet trips. So much for that idea....
The problem was with the Cu-circuit, which cools the cables & power supply.
MKK-people mechanically adjusted one of the flow meters in the pit. May be that was it.

20:19 Vtx & Jet chamber trip

20:16 Half of beams lost – VTX, jet AND z-chambers trip! And again, immediately afterwards. ~~but without loss~~
– beams eventually dumped.

23:50 Gas check done

10.8.86

0:00 U. Schneekloth

0:11 all chambers tripped, VTX Ch. valve failure. beams partly lost

0:28 BMOP: several FEPs wrong, stop run, reload JETC68

0:33 muon crate B missing, reset in hardware room doesn't help. reset crate works

2:08 no events, pause – continue doesn't help, stopped run and started new run 28038

2:09 "YSPY: cannot open constants file"

Run	Date	Start	Stop	Run Start I^+	Run Start I^-	Dead Time	Time (sec)	Rec. IN	Rec. OUT	ALL $\times 10^6$	$T\Phi$ Rej. $\times 10^6$	T_1 Acc SUM	T_2 Acc SUM	T_1 Bit 2	T_2 Bit 17	Processors N50	Processors MIP	Processors TOF	Fa
27998	8.8.86	20:08	20:50	9.43	9.97	31.9	2208	8002	5755	574	183	4871	4820	1141	37	ON	ON	ON	0
27999	"	20:49	21:15	8.01	8.46	25.5	1455	5069	3354	378	96	3119	3102	719	18	"	"	"	
28000	"	22:16	22:56	9.48	9.93	29.8	2236	8002	5592	581	173	4837	5020	1113	26	"	"	"	
28001	"	22:55	23:34	8.21	8.63	27.9	2261	8002	5387	588	163	4924	4824	1125	22	"	"	"	
28002	"	23:33	0:14	7.11	7.51	27.3	2297	8002	5296	597	163	4823	4959	1118	19	"	"	"	
28003	9.8.86	0:14	0:49	6.18	6.55	25.4	2071	6812	4359	538	137	4770	4210	920	24	"	"	"	
28004	"	→	40	exits	←														
28005	"	1:20	1:55	10.39	11.06	27.0	1473	5796	3576	279	103	3184	7880	766	15	"	"	"	
28006	"	2:21	3:03	10.71	10.76	26.6	2357	8002	5502	612	163	4993	4502	1295	28	"	"	"	
28007	"	3:03	3:46	9.10	8.80	27.0	2479	8002	5145	644	141	4997	4638	1262	37	"	"	"	
28008	"	3:45	4:03	7.78	7.49	19,8	954	3023	1872	248	49	1896	1726	456	16	"	"	"	
28009	"	4:02	4,49	7,32	7.04	18.0	2695	8002	4845	598	125	5177	4542	1284	37	"	"	"	
28010	"	4,48	5.04	6,31	6.04	17.5	829	2403	1448	215	37	1531	1330	363	17	"	"	"	
28011	"	5:37	5:44	10.93	11.26	13.2	21	92	58	5	0,75	49	30	5	0	"	"	"	
28012	"	6:17	7:04	10.02	9.70	20.6	2490	8002	5222	647	133	5119	4406	1265	24	"	"	"	
28013	"	7:03	7:48	8.42	8.13	18.2	2618	8002	4939	691	124	5127	4583	1248	29	"	"	"	
28014	"	7:49	8:36	7.20	6.94	13.3	2882	8002	4757	723	125	5065	4647	1252	28	"	"	"	
28015	"	8:36	8:48	6.17	5.93	15.8	726	1986	1153	188	29	1277	1157	314	10	"	"	"	
28016	"	9:25	10:04	10.58	10.62	24.7	2290	8002	5395	595	146	5018	4364	1334	34	"	"	"	
28017	"	10:05	10:45	9.04	9.08	22.0	2425	8002	5214	630	138	5111	4345	1273	28	"	"	"	
28018	"	10:46	11:30	7.71	7.35	19.0	2631	8002	4845	684	129	4987	4669	1353	23	"	"	"	
28019	"	11:33	12:00	6.48	6.52	18.6	1543	4632	2774	401	74	2921	2658	710	20	"	"	"	
28020	"	12:31	12:58	10.31	10.97	25.0	1571	5423	3706	408	102	3296	2949	896	17	"	"	"	
28021	"	13:00	13:44	9.12	9.74	19.6	2533	8002	5066	658	129	5232	4955	1393	30	"	"	"	
28022	"	13:45	14:29	7.64	9.21	20.5	2573	8002	5036	669	137	4980	4562	1322	28	"	"	"	
28023	"	14:30	15:14	6.47	7.00	18.6	2654	8002	4784	690	129	5055	4629	1266	30	"	"	"	
28024	"	15:14	15:25	5.50	5.94	17.4	596	1767	1047	154	27	1110	979	254	5	"	"	"	
28025	"	15:58	16:39	10.62	10.82	24.0	2311	8002	5512	601	144	4974	4382	1363	37	"	"	"	
28026	"	16:40	17:22	9.03	9.22	21.1	2508	8002	5160	653	138	5285	4499	1330	29	"	"	"	
28027	"	17:22	17:57	7.68	7.82	19.7	2092	6434	4076	531	105	4140	3593	1070	29	"	"	"	
28028	"	19:22	20:02	9.94	10.72	24.2	2362	8002	5713	615	149	4963	4439	1301	27	"	"	"	
28029	"	20:03	20:24	8.37	9.09	19.2	671	2142	1389	175	34	1371	1177	345	5	"	"	"	
28030	"	21:10	21:50	7.40	11.04	26.3	2278	8002	5489	592	156	4796	4607	1198	32	"	"	"	
28031	"	21:50	22:30	8.43	9.48	24.1	2361	8002	5236	614	148	5028	4520	1173	18	"	"	"	
28032	"	22:30	22:45	7.17	8.13	22.4	867	2873	1861	226	50	1810	1588	447	11	"	"	"	
28033	"	22:46	23:28	6.74	7.66	20.4	2538	8002	4937	660	135	5089	4614	1126	24	"	"	"	

$\langle L \rangle$ $10^{30}\,cm^{-2}s^{-1}$	Bhabha Stat	Stat EXP. EVERBY	IBM TAPE	Run Start TOF [V]	Run Start ID [μA]	ONLINE REJ. SUM HIPRec	ONLINE REJ. N50	Σ Bhabha	MH	E_{Beam}	Magn. Field	Remarks
9.45	22.26	48980.76	IBM	2.0	0.4	49	31	391	6	17.500	4844	
8.98	11.21	48991.97	"	1.6	0.3	49	36	197	1	"	"	Beams lost
10.04	19.93	49011.90	"	1.7	0.3	50	33	350	2	"	"	
8.87	17.99	49029.89	"	1.7	0.3	48	35	316	8	"	"	
7.34	15.49	49045.38	"	1.7	0.3	48	37	272	10	"	"	
6.22	11.33	49056.71	"	1.6	0.3	49	39	199	2	"	"	dumped!
			"	3.0	0.4							watchdog error during LGs Rad ram. stopped.
10.69	13.95	49070.66	"	3.0	0.4	45	34	245	5	"	"	dumped after partial beam loss
11.01	25.05	49095.71	"	1.4	0.2	47	34	440	7	"	"	
9.62	21.07	49116.78	"	1.2	0.2	47	38	370	5	17.501	4841	
7.73	6.83	49123.61	"	0.9	0.1	48	41	120	0	17.500	4840	
6.82	16.45	49140.46	"	0.9	0.1	49	42	296	8	17.501	4840	run stopped in error
5.94	4.90	49145.36	"	0.75	0.1	47	43	86	2	17.500	4840	
5.88	0.17	49145.53	"	?	?	13	45	3	0	17.500	4840	Beams dumped
10.48	22.09	49167.62	"	1.0	0.1	47	37	388	7	17.500	4840	Most of ban lost - not dumped
8.75	20.61	49188.23	"	0.8	0.1	47	40	362	1	17.500	4840	
6.62	17.71	49205.94	"	0.75	0.05	48	43	311	7	A.503	4840	
5.82	3.99	49209.93	"	0.65	0.05	50	45	70	2	A.500	4841	beams dumped
11.93	28.01	49237.94	"	1.2	0.15	44	35	492	11	"	4842	
10.19	22.83	49260.77	"	1.0	0.15	46	37	401	13	17.501	4844	
8.26	20.78	49281.55	"	0.9	0.15	47	41	365	5	A.500	"	
6.78	9.17	49290.72	"	0.75	0.1	47	43	161	0	"	"	
11.50	16.68	49307.40	"	1.3	0.25	43	34	293	7	"	4837	Missing LAMs - 56 ch
10.28	24.48	49331.88	"			48	38	430	4	"	"	
8.42	20.27	49352.15	"	0.85	0.2	47	40	356	4	"	"	
6.55	17.69	49369.74	"	0.75	0.2	46	43	309	6	"	"	
5.57	2.96	49372.70	"	0.65	0.15	47	44	52	1	"	"	
11.81	26.07	49398.77	"	1.2	0.25	44	33	458	7	"	"	
8.80	20.61	49419.38	"	1.0	0.20	46	38	362	8	"	"	
8.10	16.11	49435.49	"	0.8	0.2	48	39	283	4	"	4835	beams dumped
11.11	26.13	49461.62	"	0.9	0.2	45	35	459	9	"	4844	
10.25	7.00	49468.62	"	0.9	0.2	46	37	123	1	"	"	beams dumped after major beam loss
10.75	22.37	49490.99	"	1.3	0.2	45	34	393	5	"	4847	
9.29	20.95	49511.94	"	1.3	0.25	47	37	368	9	"	"	
8.07	7.52	49519.46	"	1.1	0.2	46	38	132	0	17501	"	Trigger hung-up (3)
7.22	16.05	49535.51	"	1.0	0.15	48	41	282	6	17500	"	Beams dumped.

42 RUN	DATE	START	STOP	H Run Start IT	H Run Start I⁻	Dead Time %	Time (secs)	Records In	Records Out	All *10⁶	TOF Rej *10⁶	T1 Acc Sum	T2 Acc Sum	T1 bit2 E_Lab > 6GeV	T2 bit12 27.Eq ≥ 2 tr	Processors ON/OFF NSO	MIP	TOF	FADC
28034	10.8.86	0⁰⁰	0³³	11.23	10.97	22.2	1613	5053	3214	420	93	3107	2955	739	24	ON	ON	ON	ON
28035	"	034	050	5.88	6.28	15.4	904	2436	1343	235	36	1644	1422	358	5	"	"	"	"
28036	"	1¹⁵	1⁵⁷	10.77	11.19	23.2	2368	8002	5416	616	142	5128	4983	1290	30	"	"	"	"
28037	"	157	209	8.55	8.65	19.3	702	2267	1451	183	35	1485	1365	371	9	"	"	"	"
28038	"	209	254	8.10	8.19	18.6	2584	8002	4956	672	125	5369	4664	1416	23	"	"	"	"
28039	"	0254	0342	6.89	6.97	16.2	2826	8002	4772	733	119	5400	4773	1283	22	"	"	"	"
28040	"	0342	0350	5.80	5.87	15.3	832	2388	1325	217	140	1617	1353	371	9	"	"	"	"
28041	"	0438	0528	11.47	11.35	23.8	2341	8002	5371	609	145	5186	4799	1337	27	"	"	"	"
28042	"	0540	0626	8.37	8.26	19.1	2604	8002	5618	677	129	5261	4823	1359	31	"	"	"	"
28043	"	0626	0712	7.09	6.98	17.9	2571	7533	4499	669	120	4978	4607	1208	43	"	"	"	"
28044	"	0743	826	10.26	10.90	21.5	2438	8002	5231	634	136	5229	4808	1351	41	"	"	"	"
28045	"	9 24	906	8.66 10.23	9.30 10.93	18.6	2580	8002	4859	666	124	5315	4842	1372	31	"	"	"	"
28046	"	9 08	956	7.80	7.86	16.8	2783	8002	4730	711	110	5326	4714	1336	38	"	"	"	"
28047	"	9 58	10 19	6.08	6.61	18.1	1248	3491	2078	325	59	2148	2078	503	8	"	"	"	"
28048	"	10 47	11 13	10.32	10.64	25.7	1221	4204	2911	318	82	2498	2352	660	20	"	"	"	"
28049	"	11 55	12 09	9.70	9.25	23.9	633	2733	1452	164	39	1274	1162	318	9	"	"	"	"
28050	"	12 [illegible]	12 52	9.19	9.23	21.9	2458	8002	5203	639	140	5007	4489	1278	34	"	"	"	"
28051	"	12 52	13 36	7.52	7.96	19.7	2582	8002	4993	671	132	4986	4671	1210	263	"	"	"	"
28052	"	13 36	13 45	6.52	6.55	18.1	1139	1482	881	129	23	944	818	234	4	"	"	"	"
28053	"	13 48	14 03	5.89	5.92	17.5	875	2548	1502	227	39	1683	1560	391	7	"	"	"	"
28054					J			U			N			K					
28055	"	14 40	15 21	9.84	10.27	22.2	2477	8002	5153	646	142	5170	4805	1347	34	"	"	"	"
28056	"	15:22	16:06	6.85	8.26	18.6	2638	8002	4914	685	127	5304	4777	1251	35	"	"	"	"
28057	"	16:06	16:52	5.73	6.01	17.3	2711	8002	4685	705	122	5258	4782	1280	32	"	"	"	"
28058	"	16:52	17:19	5.71	5.98	16.4	1538	4328	2944	400	65	2886	2565	675	16	"	"	"	"
28059	"	17:53	18:35	9.69	9.87	20.2	2532	8002	5089	658	133	5183	4811	1311	24	"	"	"	"
28060	"	18:36	19:20	7.98	8.14	18.6	2669	8002	4753	694	129	5233	4857	1269	43	"	"	"	"
28061	"	1921	20⁰⁵	6.58	6.51	16.8	2786	8002	4566	725	122	5172	4802	1271	29	"	"	"	"
28062	"	20⁰⁵	20¹²	5.42	5.76	16.8	267	780	458	69.6	11.7	497	460	97	7	"	"	"	"
28063	"	21⁵¹	22⁴³	8.90	10.58	19.8	2514	8002	5186	654	129	5237	4746	1268	49	"	"	"	"
28064	"	22⁴³	23³⁰	7.11	8.55	17.4	2755	8002	4740	717	125	5157	4862	1188	32	"	"	"	"
28065	"	23³⁰	23⁴⁰	5.36	6.55	17.4	548	1551	923	143	27	1046	919	236	6	"	"	"	"
28066	11.8.86	0:20	1:01	9.77	10.61	21.9	2375	8002	5266	678	135	5257	4603	1316	26	on	on	on	off
28067	"	1:01	1:43	8.12	8.89	19.9	2499	8002	4991	650	129	5284	4617	1307	29	"	"	"	"
28068	"	1:44	1:47					527	327										

<L> 10³⁰ cm⁻² s⁻¹	Bhabha ∫Ldt nb⁻¹	∫Ldt Exp. Energy	IBM/Tape output	H Run Start TOF [V]	H Run Start ID [μA]	Online Rejet Sum Proc. T1 or T2 %	Online Rejet Nonl. NSO T1 or T2 %	Σ Bhabha	M/H	Ebeam	Mag Field	Remarks
8.57	13.89	49549.40	IBM	1.4	0.2	47	39	244	3	17.500	4.847	
5.64	5.07	49554.47	"	0.6	0.1	49	46	89	4	"	4.847	beams dumped
10.43	23.74	49578.21	"	1.4	0.2	48	34	417	5	"	"	
9.88	6.38	49584.59	"	1.1	0.1	50	38	112	2	17.501	4846	
8.35	2.91	49608.50	"	1.0	0.1	50	39	420	"	"	"	
6.58	18.44	49626.94	"	0.8	0.1	50	41	324	3	17.500	4845	
5.96	3.49	49630.93	"	0.7	0.05	49	46	70	3	17.501	4844	Beams dumped.
11.65	27.50	49658.43	"	1.55	0.15	48	34	483	9	17.501	4837	
8.67	23.00	49681.43	"	1.15	0.1	48	38	404	8	17.500	4837	
6.67	17.42	49698.85	"	1.0	0.1	50	42	306	6	--"	4838	
10.23	23.74	49722.59	"	1.25	0.2	48	36	417	9	17.501	4837	
9.25	22.54	49745.13	"	1.25	0.2	49	40	396	3	17.500	4837	
2.69	21.41	49766.54	"	0.8	0.1	48	42	378	5	17.501	4839	
6.15	2.00	49773.54	"	0.7	0.1	48	44	123	4	17.500	4840	beams dumped
10.92	12.47	49786.01	"	1.25	0.2	42	33	219	4	17.500	4841	beams lost
11,16	6,43	49792,44	"	1,1	0,2	42	35	113	4	17.500	4843	Run stopped to do LG test run.
9,88	23,57	49816,01	"	1,0	0,2	46	37	344	7	17.500	4844	
8,01	19,07	49835,08	"	0,9	0,2	47	40	335	4	17.500	4844	
6,94	3,30	49838,38	"	0,8	0,2	547	44	88	1	17.500	4844	Run stopped to reload FADC processors
6,34	5,59	49843,97	"	0,85	0,2	50	43	98	1	17.500	4844	
				E	G							
10,41	25,76	49869,13	"	1,2	0,25	47	37	442	18	17.500	4844	stopped after 5 phase events to run LG test run
8,76	20,38	49889,51	"	1,0	0,2	49	40	368	6	17.500	4845	
7.02	17.15	49906.65	"	0.8	0.2	48	43	301	3	"	"	
5.65	7.28	49915.93	"	0.7	0.2	49	45	163	3	"	"	beams dumped
9.99	23.80	49939.78	"	1.1	0.3	42	38	418	5	"	"	
7.51	17.99	49957.72	"	0.9	0.3	49	42	316	6	"	"	
6.12	15.14	49972.86	"	0.8	0.2	50	44	266	5	"	"	
5.21	1.68	49974.34	"	0.6	0.15	47	44	26	1	"	"	Beams dumped
10.12	25.68	50000.02	"	1.2	0.2	47	36	451	11	"	4843	
7.01	18.27	50018.29	"	0.9	0.2	50	42	321	4	"	4840	
6.02	3.36	50021.65	"	0.75	0.1	52	42	59	0	"	"	Beams dumped
29.89	27.56	50049.21	IBM	2.2	0.2	46	35	484	8	17.503	4840	
9.52	22.14	50071.35	"	0.9	0.1	47	39	389	6	17.500	4840	
7.83	1.08	50072.43	"									beams dumped

03[20] Hedgcock arrives in body alg!
04[00] VERTEX CH – valve failure!
8[00] Ramcke on shift
8[04] Gas check o.k.
9[20] TOF ADC 42 no hits
11[03] All chambers tripped – part of beam lost –
11[13] Beam lost
12[00] Hill On Shift,
12[08] Run 28049 stopped – LG last run performed.
12[25] JOAS readout error 33. Missing LAM br 3 Cr 2 : Muon chambers.
12[53] IBM transfer error 52 linked again ok
JOAS readout error 33 missing LAM br 4 Cr 1 JETC point 701
13[00] IBM transfer error 52 – linked again ok
18[41] Noticed MOP terminal blank. Seems to have stopped at 10,43 (??)
Run stopped ad processors reloaded.
14[08] VTX valve failure ok switching off volts.
15[07] IBM transfer error 52 – relinked OK
15[17] Nye stands in while Hill gets his nocturne fix. Occasional clouds of grey smoke can be seen drifting by the window.
15[35] IBM transfer error 52. – relinked OK
16[00] Lyster
Gas ok
16[20] JOAS READOUT ERROR 74 wrong LAM br 5 cr 1 BPC
20[00] Greenshaw on shift.
20[19] As the HV is running up ~ 70% of both beams lost. PkR try resetting again.
20[51] PkR announce a "short break". Suspected klystron problem
21[51] Shot running again. Notice that X-ray not functioning, it "cannot open contents file" and hasn't been able to since 2[09] this morning! Check all histograms by hand. All looks to be OK. Will reload computer next time beam dumped to see if that helps. Otherwise Howard says leave it till tomorrow.
22[10] 4 fan off trips.
22[22] IBM transfer error, IBM relinked successfully. JOAS readout error 32 (Missing LAM at FEP ready) occurs immediately after relink.
22[43] Beware, the Gould Plotter is choking on its paper again!
23[42] Nord reloaded (see entry at 21[51] above) did not solve the problem

11/8/86

0:00 Felst and Hellenbrand on shift
gas check o.k.
0:48 Run 28066 standard histograms checked, o.k.
2:00 short break after RUN 28068, water leak in power supply, estimated repair time at least 1 hour
3:40 RESTART CA 7.00, magnet to 500 amps
4[30] discussion with Sarah, Vogt and Kowar about that power supply will only be ready by 10[00] ~~tomorrow~~ on monday. Switch magnet off and go home.

8:00 Bartel & Nye on shift
8:00 gas check ok
10:30 JETC processors reloaded for new run 28069. (EE)
CAMAC clock reset to time signal. It was 4½ minutes fast (HEP)
YSPY task rebuilt. System disc backed up.
13:30 real injection starts ~~shot~~ set magnet to 7500 A.
14:20 TOF TDC I counter 42 – no hits
14:24 "IBM BUSY" permanently on – IBM crashed – stop run and write to tape
14:45 "NO TRIGGER" – 100% dead time – Trigger box OK, so STOP RUN (pause doesn't help)
15:10 IBM back, but continue writing to tape until end of run.
15:55 Cello phone to say "no positrons" – keep beams for time being

16:00 Ekin & Naroska
16:05 Gas check done
18:30 BPCH – Bitmaps deviation > 50%. Reset again, for next run. Try to reach VTX ch. expert. (Did you use the Euro-beep ?? I don't get a call ??) 2 IBM transfer errors
21.45 Soft (worse less) trip of JETC and VTX ch. Had to be restarted in Nachsee ch. (?!)

12/8/86 H Mills on shift
Gas check OK
Run 28083 lost due to IBM transfer error in pedestal period @ run start – accursed – – – –
Several IBM transfer errors 52 subcr Ø – on at least one occasion an event was lost.
2[30] The MOP dies (RIP).
~~4[00]~~ Walker on shift
4[12] YSPY – Trigger 2 input missing : 163
5[25] MOP dead again – reloaded. On CONTINUE gets JOAS error 32 – Missing LAM at FEP Ready (JETCH)
7[40] " " " – unable to reload at MOP terminal. Stopped run and reloaded at NORD terminal.

46 RUN	DATE	TIME RUN START	TIME RUN STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (SECS)	RECORDS IN	RECORDS OUT	ALL $*10^6$	T0 RST. $*10^6$	T1 ACC. SUM	T2 ACC. SUM	T1 BIT 2 $E_{LK}>6$ GeV	T_2 BIT 17 27. EV. ≥ 2 TR	PROCESSOR STATUS N50	PROCESSOR STATUS MIP	PROCESSOR STATUS 70F	PROCESSOR STATUS FAH
28069	11.8.86	14:00	16:24	2.85 ~~3.02~~	9.48 ~~8.61~~	19.7	1377	4311	2701	359	71	2718	2368	652	16	ON	ON	ON	ON
28070	"	14:33	14:44	~~3.61~~ 6.60	~~7.00~~ 8.15	16.3	573	1751	1095	149	24	1094	952	261	6	"	"	"	"
28071	"	14:52	15:41	~~3.15~~	~~6.60~~	16.3	2872	8002	4860	747	122	5085	4587	1148	25	"	"	"	"
28072	"	15:42	16:32	5.65	7.09	14.9	3029	8002	4618	788	117	5075	4745	1114	32	"	"	"	"
28073	"	16:33	17:12	4.84	6.20	31.4	2334	4662	2566	607	191	3032	2696	634	11	"	"	"	"
28074	"	17:52	18:37	8.89	8.82	18.8	2684	8002	5171	685	129	5123	4499	1278	32	"	"	"	"
28075	"	18:38	19:24	7.66	7.60	17.9	2747	8002	4795	714	128	5125	4570	1155	37	"	"	"	"
28076	"	19.24	20.00	6.62	6.57	16.6	2150	6096	3625	559	92	3827	3488	851	22	"	"	"	"
28077	"	20.53	21.13	11.15	10.48	25.7	2379	8002	5510	618	159	4931	4473	1261	27	"	"	"	"
28078	"	21.13	21.58	9.66	9.04	21.2	2406	8002	5194	626	132	5036	4464	1303	34	"	"	"	"
28079	"	21.58	22.43	7.60	7.08	18.4	2698	8002	4971	701	128	5054	4585	1256	27	"	"	"	"
28080	"	22.44	23.10	6.60	6.11	17.0	1526	4365	2588	396	67	2847	2463	658	12	"	"	"	"
28081	12.8.86	0.00	~~0.47~~	9.65	9.95	22.3	2469	8002	5360	640	~~448~~	5027	4495	1234	26	"	"	"	"
28082	"	0.42	1.25	8.34	8.64	19.7	2570	8002	5058	667	131	5022	4636	1250	34	"	"	"	"
28084	"	1.25	2.13	7.21	7.49	17.8	2762	8002	4936	718	128	5067	4712	1229	23	"	"	"	"
28085	"	2.13	2.36	6.23	6.50	17.1	1383	4063	2437	354	61	2463	2306	594	17	"	"	"	"
28086	"	3.09	3.50	10.27	10.95	22.7	2445	8002	5265	635	144	4962	4490	1195	21	"	"	"	"
28087	"	3.50	4.32	8.92	9.46	21.4	2479	8002	5038	644	137	5083	4449	1280	29	"	"	"	"
28088	"	4.33	5.17	7.73	8.26	18.9	2662	8002	4820	692	131	5113	4592	1184	45	"	"	"	"
28089	"	5.18	6.09	6.73	7.21	15.7	2882	8002	4508	749	117	5352	4744	1248	25	"	"	"	"
28090	"	6.41	7.22	9.99	11.00	20.9	2445	8002	5096	496	131	5252	4694	1378	30	"	"	"	"
28091	"	7.22	7.40	8.65	9.52	18.7	1048	3371	2046	272	50	2233	1965	558	16	"	"	"	"
28092	"	7.44	8.28	8.04	8.87	18.5	2637	8002	4864	686	127	5365	4587	1321	28	"	"	"	"
28093	"	8.32	9.04	6.84	7.63	16.7	1884	5628	3274	490	82	3765	3268	920	22	"	"	"	"
28094	"	9.08	9.29	6.09	6.83	14.6	1240	3466	1933	323	47	2325	1987	522	12	"	"	"	"
28095	"	10.02	10.43	10.62	10.54	22.7	2417	8002	5145	629	142	5157	4743	1285	24	"	"	"	"
28096	"	10.45	11.27	9.25	9.19	20.0	2533	8002	4972	659	132	5306	4721	1388	33	"	"	"	"
28097	"	11.28	12.13	8.02	7.97	17.4	2634	8002	4771	701	122	5278	4734	1345	29	"	"	"	"
28098	"	12.13	13.01	6.94	6.89	15.4	2840	8002	4512	789	114	5413	4633	1310	41	"	"	"	"
28099	"	13:05	13:30	5.95	5.91	14.7	1466	3990	2259	381	560	2709	2340	632	14	"	"	"	"
28100	"	14:23	15:06	9.86	9.68	19.1	2550	8002	5081	663	126	5284	4697	1316	27	"	"	"	"
28101	"	15:07	15:53	8.56	8.41	17.7	2627	8002	4809	683	121	5327	4681	1401	42	"	"	"	"
28102	"	15:54	16:41	7.36	7.22	16.3	2842	8002	4752	739	121	5350	4740	1360	31	"	"	"	"
28103	"	16:41	17:15	6.35	6.23	14.4	1956	5259	2962	509	73	3617	2963	906	22	"	"	"	"

$\langle L \rangle$ 10^{30} cm^{-2} s^{-1}	RHADRA $\int L dt$ nb^{-1}	$\int L dt$ EXP. ENERGY 50072.43	OUTPUT TO	AT RUN START TUF (V)	AT RUN START ID (μA)	ONLINE REJECT. SUM MIP T2(%)	ONLINE REJECT. N50 $T_1 \cdot T_2$ (%)	Σ RHADRA	M.H.	Γ_B	B FIELD -1*C	COMMENTS
10.35	19.69	50087.12	IBM JOB505			45	40	258	6	17.500	4841	IBM crashed - run stopped
9.83	4.84	50091.96	TAPE JOB506	0.6	0.2	43	40	85	1	"	"	"NO TRIGGERS"
8.03	21.52	50113.48	"	0.6	0.2	48	42	378	5	"	"	
6.46	19.53	50133.01	IBM	0.5	0.2	49	45	343	5	17.501	"	
4.13	9.91	50142.92	"	0.5	0.2	50	48	174	3	17500	4844	beams dumped
10.35	24.93	50167.85	"	0.8	0.25	48	38	438	9	"	"	
8.48	22.37	50190.22	"	0.6	0.20	47	42	393	9	17.501	4844	
7.07	14.35	204,57	"	0.55	0.20	47	43	252	4	17500	4846	dump
12.25	25.85	230,42	"	1.2	0.35	45	34	454	5	"	"	
10.52	24.65	255,07	"	0.8	0.25	46	38	433	8	"	"	
8.05	21.69	276,76	"	0.7	0.20	47	40	381	6	"	"	
6.80	10.65	50287,41	"	0.65	0.20	50	43	187	2	"	"	dump
10.52	23.45	50310.86	"	1.1	0.20	47	36	412	9	"	"	
9.43	23.00	50333.86	"	0.8	0.20	47	39	404	11	"	"	
7.56	20.55	50354.41	"	0.6	0.15	49	41	361	10	"	4840	28083 lost due to IBM interrupt in Pad row
6.65	8.31	50362.72	"			46	43	146	3	"	"	beams dumped
10.01	22.60	50385.32	"	1.25	0.2	46	37	347	6	17.501	4837	
9.03	24.71	50410.03	"	0.9	0.2	47	40	434	7	"	"	
7.56	18.10	50428.13	"	0.7	0.15	48	42	378	7	17.500	"	
6.69	18.79	50446.92	"	0.6	0.1	50	45	330	10	17.501	4836	Beams dumped.
10.66	25.68	50472.60	"	1.3	0.2	47	38	451	5	"	4837	
9.68	9.85	50482.45	"	1.0	0.2	48	41	173	0	17.500	"	run hang-up → run stopped.
9.18	24.71	50507.16	"	0.9	0.2	48	40	434	3	17.500	4838	
8.08	14.32	50522.08	"			48	43	262	3	17.501	4837	stopped. TASK YHOISP rebuilded
7.20	786	50529.94	"	0.6	0.1	48	46	138	1	17.501	4837	beams dumped
10.32	23.85	50553.79	"	1.2	0.3	46	37	419	4	17.500	4836	
9.82	24.65	50578.44	"	1.0	0.3	48	39	433	9	17.501	4837	
8.69	22.37	50600.81	"	0.75	0.2	50	42	393	10	17.501	4838	
7.43	19.64	50620.45	"	0.60	0.2	49	45	335	2	17.500	4837	
6.24	8.65	50629.10	"	0.60	0.1	50	45	152	2	17.501	4837	dump
10.60	24.14	50653.24	"	1.1	0.2	48	38	424	2	17.501	4837	~~2PCH and 3FEC coll big~~
9.28	25.39	50678.63	"	0.7	0.2	48	41	446	8	17.500	4837	
7.79	21.63	50700.26	"	0.6	0.2	49	42	380	3	17.501	"	
6.53	12.41	50712.67	"	0.54	0.15	50	45	218	4	-"-	4838	beams dumped.

7[55] Problem with histogram display - only one histogram drawn on CELL 24 and then apparently continuous loop drawing "7"s (or sometimes "2"s) over whole screen.
A problem for the new shift !!

8[00] Eckerlin + Ramcke on shift

8[10] Gas check ok

8[20] Due to problem with histograms display JDAS reloaded - it doesn't help - of course

8[50] Task: JHDISP rebuilded - now histograms o.k.

9[43] JADEGO after heat measurement last run 28034

15[08] BP-CH and Jetch soft trgs

16[00] Krehbiel & Hedgecock on shift

16[10] Gas check OK

19.43 IBM Error 52

20.15 Miss JETC CELL 307

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0[00] Cartwright on shift

0[14] Yellow HT disco lamp seems to have packed in. Find & install new lamp — OK. Wonders of modern technology.

0[25] Gas check done — to find that last shift considerately did it for me, at 23[20], but then inconsiderately forgot to tell me so!

0[53] Gould ate run summary. Remonstrated with it & reprinted with PRINT_OLD_RUNSM. Submitted two REFORM jobs now that new day's contingent is available (no time left from yesterday)
Yesterday was another off-the-scale humid day — 584 nb^{-1}.

1[27] IBM tansfer error — missing LAM at FEP ready after reinit

1[45] As I was walking past the Gould it spontaneously did a form feed — simultaneously the run hung up and the JDAS terminal went out of LINE mode. PAUSE/CONTINUE didn't work but the Nord had not crashed (lights still flashing, etc). White light was on in trigger disco lamps. Did EVENT RESET on trigger box & started new run w/o output — OK, so started new production run. But something is still wrong because the JDAS terminal is starting new lines when it shouldn't, e.g. TRA NSFER TO IBM.
I suspect there must have been a big static discharge — probably Tektronix - me - Gould.
If the funny-line-feeds problem persists I will reload the Nord in case something has been corrupted.

2[10] Run hung up again. This time I did reload the Nord.

2[45] CELLO are keeping these fills for 3 hours. This is far too long. Made pointed suggestion that they consider filling sooner.

8[05] Went down to mikasaik (no reason, just inspection of alarm log for z-ch) — found 3 pens on vtx chart recorder dead, & they have been that way a long time (almost the whole of the current paper stack). Obviously the running is so smooth no-one ever goes down there these days!

8[30] Noticed FAMP OFF — stopped run & switched it back ON.
Beampipe chamber trip

4[00] Greenshaw on shift

4[17] JDAS Readout Error 37 Missing LAM br. 2 cr. 3 TOF1 counters.

4[30] I at last discover a use for the Nimbus terminal; it's the perfect place on which to stand the JHPE office machine!

8[00] Frost + Hill on shift

9[00] JET chamber FIRE monitor program (the stopped working), before run 28125 reloaded which not working look for experts (Matsumura).

9[30] gas check o.k.

9[55] Nord expert brings MOP back to the land of the living — did JADEGO ok run end! (i.e. F15, F10. E-E)

15[38] Short break. Magnet ⇒ 500A

16.00 Matsumura on shift

Gas check done OK 18 30 Magnet 7500A

19.05 JADEGO new load

19.20 JDAS Read Out Error 64 AC2099 TOF-2 Q, X Missing stu 14 subaddr 1

20:00 HEINZELMANN on shift

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0:00 Kuhlen on shift
gas check okay

2:10 VTX valve failure. Reset in the gashouse

4:00 Chinn on shift

. As 2[45] on 13/8 (top of page) - Cello keeping fills for too long. Requested a new fill after 2hrs 35minutes - otherwise they would have left it go on.

6.27 IBM tansfer error occurs. Reset link O.Kay.

6:33 Missing lam - br 2 crate 6, deadglass ADC's.

7:34 HV Wrong: MFE=56, Channel=20, HV=2.489, should be 2.500.

RUN	DATE	START	STOP	AT RUN START I+	AT RUN START I−	DEAD TIME %	TIME (SECS)	RECORDS IN	RECORDS OUT	ALL *10^6	TØ key *10^6	T1 ACC SUM	T2 ACC SUM	T1 Bit 2 E_LG>6GeV	T1 Bit 7 2T.EQ. ≥2TR	PROCESSORS ON/OFF N50	N10	TØF	FAMP
28104	12.8.86	17 53	18 30	9.71	10.03	20.1	2452	8002	5050	637	128	5262	4557	1301	31	ON	ON	ON	ON
28105	"	18.36	19.19	8.42	8.59	17.8	2599	8002	4813	676	120	5355	4654	1296	19	"	"	"	"
28106	"	19.25	20:11	7.16	7.34	16.6	2713	8002	4651	706	117	5462	4445	1386	39	"	"	"	"
28107	"	20.11	20 30	6·22	6.39	14·5	1066	3980	1730	277	40	2039	1693	529	5	"	"	"	"
28108	"	2101	2142	9.97	10.15	21.9	2401	8002	5126	627	137	5140	4592	1536	27	"	"	"	"
28109	"	2142	22 25	8 70	8 88	18·5	2544	8002	4843	661	123	5336	4584	1376	20	"	"	"	"
28110	"	22.25	23 11	7·57	7·74	17·2	2675	8002	4704	696	119	5403	4519	1405	17	"	"	"	"
28111	"	23 11	23:45	6.58	6.74	15.8	1992	5649	3218	518	82	3778	3351	955	15	"	"	"	"
28112	13/8/86	0 12	0 53	10.60	10.58	23.5	2441	8002	5185	634	149	5156	4709	1335	32	"	"	"	"
28113	"	0 54	1 35	9.23	9.19	19.9	2477	8002	4867	644	128	5243	4720	1385	17	"	"	"	"
28114	"	1 36	140	8.04	8.01	17.8	562	1760	1065	146	26	1188	957	802	9	"	"	"	"
28115	"	1 49	209	7.69	7.66	17.1	1177	3624	2129	306	53	2438	2060	618	18	"	"	"	"
28116	"	2 14	252	7·12	7·09	16·2	2216	6512	3688	576	93	4337	3737	1065	27	"	"	"	"
28117	"	3 28	3 29	10.48	10.70	26.1	37	168	102	97	25	93	71	17	1	"	"	"	OFF
28118	"	3 30	4 10	10·37	10·54	22·5	2797	8002	5070	624	141	5228	4687	1345	24	"	"	"	ON
28119	"	4 10	4 52	9·04	9·29	20.1	2457	8002	4895	639	128	5352	4675	1375	36	"	"	"	"
28120	"	4 52	5 37	7·88	8·13	18·0	2623	8002	4682	683	123	5302	4752	1438	22	"	"	"	"
28121	"	5 37	6 14	6·84	7·07	16·0	2213	6723	3591	576	92·3	4260	3753	1083	24	"	"	"	"
28122	"	6 46	7 21	10·23	10·72	21·1	2471	8002	5114	642	136	5144	4771	1369	27	"	"	"	"
28123	"	7 21	8 15	8·81	8·90	16·9	2627	8002	4782	683	115	5305	4680	1424	33	"	"	"	"
28124	"	8 17	9 04	7·60	7·69	15·1	2793	8002	4697	726	110	5526	4415	1480	30	"	"	"	"
28125	"	9 05	9 55	6·55	6·63	14·0	2461	8002	4372	770	107	5510	4585	1419	27	"	"	"	"
28126	"	9 57	10 00	5·66	5·74	15·2	70	251	141										
28127	"	11 19	11 36	9.50	10.16	17.1	991	2984	1877	257	44	1972	1728	460	13	"	"	"	"
28128	"	11 39	12 32	8·93	9·57	14·8	2984	8002	4516	775	115	5381	4911	1285	24	"	"	"	"
28129	"	12 35	13 23	7·14	7·58	14·2	2864	8002	4599	745	105	5531	4538	1400	26	"	"	"	"
28130	"	13 23	18 40	6.11	6.52	13.3	960	2590	1399	249	33	1789	1514	461	12	"	"	"	"
28131	"	18 53	19 02	10.56	11.02	22.8	523	1907	1240	136	31	1243	1045	315	9	"	"	"	"
28132	"	19 09	19 51	10.01	10.47	18.2	2523	8002	5004	657	119	5311	4636	1327	28	"	"	"	"
28133	"	19.52	20:36	8.67	9.10	16.1	2658	8002	4846	691	111	5405	4668	1423	29	"	"	"	"
28134	"	20:37	20:46	7.47	7.88	16.1	537	1548	979	140	23	1101	875	287	5	"	"	"	0
28135	"	20:48	21:35	7.22	7.62	15.7	2798	8992	4669	728	114	5481	4623	1473	35	"	"	"	"
28136	"	21:35	22:00	6.23	6.62	15.6	1485	4293	2524	386	60	2969	2359	718	21	"	"	"	"
28137	"	22:36	22:46	11.12	10.76	20.8	632	2056	1341	164	34	1355	1208	362	10	"	"	"	"

⟨L⟩ 10^30 cm^-2 s^-1	BHABHA ∫Ldt nb^-1	∫Ldt. EXP ENERGY.	IBM/TAPE output	AT RUN START TOF [V]	AT RUN START I D [MA]	ONLINE REJECT SUM MIRROR TL %	ONLINE REJECT MED50 TrTL %	Σ BHABHA	M/H	E_BEAM	MAG FIELD -1*G	REMARKS.
10.82	25.22	50737.89	IBM	1.0	0.25	46	38	443	7	17501	-4838	
9.82	22.03	50759.92	"	?	?	48	47	387	5	17500	4837	
7.48	20.61	50780.53	"	0.65	0.12	48	43	362	7	17501	"	
6.53	8.03	50788.56	"	0.58	0.07	50	43	131	1	17501	4837	Beams dumped.
10.67	25.33	50813.89	"	1.1	0.25	44	37	445	8	17500	4838	
9.44	23.63	50837.52	"	0.9	0.2	47	41	415	4	17501	-"-	
8.19	22.49	50860.01	-"-	0.7	0.2	48	42	395	4	-"-	4837	
6.78	11.79	50871.80	"	0.6	0.15	49	44	207	2	"	"	Beams dumped
10.01	24.77	50896.57	"	1.2	0.2	46	37	435	6	"	"	
9.87	23.92	50920.49	"	1.0	0.25	47	40	420	5	17503	"	
8.92	4.84	50925.33	"	0.75	0.2	47	41	85	2	17500	4837	Hung up, see p48 for full story.
8.35	8.20	50933.53	"	0.7	0.15	48	43	144	2	"	"	Hung up again
7.38	14.12	50947.65	"	0.65	0.15	47	45	248	1	"	"	Beams dumped
9.75	0.57	50948.22	"	1.2	0.2	25	45	10	0	17501	4836	Stopped because FAMP OFF
10.75	24.76	50972.98	"	1.2	0.2	46	38	435	6	17500	4837	
9.50	21.75	50994.77	"	1.05	0.2	48	40	382	7	"	"	
8.40	21.75	51016.48	"	0.9	0.2	48	43	382	9	"	"	
6.95	15.77	51031.85	"	0.95	0.1	50	44	270	5	"	"	Beams dumped
10.01	22.43	51054.28	"	1.4	0.3	46	37	394	7	"	"	
9.34	23.29	51077.57	"	0.85	0.2	47	41	409	5	"	"	
8.23	22.03	51099.60	"	0.6	0.1	49	42	387	6	17.501	4836	
6.53	19.02	51118.62	"	0.5	0.0	50	47	334	12	"		MOP reloaded, didn't help,
5.81	0.29	51118.90	"	0.45	0.0	39	47	5	0	"		MOP now ok
10.46	9.05	51127.85	"	1.0	0.1	47	39	158	2	17.500	4838	
6.32	17.42	51145.37	"			52	45	306	4	"	"	
7.74	20.38	51165.75	"			50	44	358	7	"		
7.03	5.52	51171.27	"	0.5	0.05	52	47	97	1	"	"	beams dumped
12.80	6.43	51177.70	"	1.2	0.2	44	37	113	2	17500	4840	
12.00	27.10	51204.80	"	1.1	0.15	47	38	476	5	17501	4841	
10.60	26.79	51230.59	"	0.7	0.1	48	40	453	10	17500	4841	
9.53	5.35	51235.94		0.6	<0.1	50	40	94	1	17501	4843	
8.46	23.34	51259.28		0.6	<0.1	50	43	410	7	17.500	4843	
7.31	10.86	51270.14		0.6	<0.1	50	42	186	2	17.503	4844	beams dumped
11.26	7.29	51277.43		1.2	0.3	49	36	128	3	17.501		

7:46
Run 28149 was Terminated whilst reading out pedestals because of Jdas error 53
– system crate watchdog flag (MAINS = 000000 177777 (oct)

7:58 Above error occurs again during run 28150;

8:00 Naroska & Haidt on shift
Gascheck ok.
Repair on Linac, no refill before 9h.
JDAS Readout error 74 LAM branch 5 crate 1 : BP chamber 815
9:42 JADEGO, MOP was off since 4:12, Reload from MOP terminal not possible R
13:00 Switch off magnet, heat exchanger will be cleaned.
14:50 Wake ready again, switch on magnet.
Runs runs after reloading JETC 68K from Nord terminal.

16:00 Murphy & Nye on shift.
Gas check done
18:15 Try to start run ~~28160~~ 28160. Get "Stack error
Fatal error com prog aborted" on console. ← this simultaneous with a siege-up of the Gould
Print: error 14
error 29
etc.
Restart NORD. Get same, plus print: error 29 in 34441
etc.
Rebuild JDAS, OK J.O. Call J. Olsson

18:37 Start run 28160. OK.
18:55 Repeated "readout error 33 – Missing LAM branch 4 crate 1 J68K bank.
Consult H. Wills.
Reload Mipross and all seems OK.
FAMP was off for runs 28160, 28161.
21:10 Turn FAMP on during injection.
21:03 Run 28163 Readout error 33 Missing LAM branch 4 crate 1 : JETC point 501.

15.8.86
0:00 Rieseberg on shift
Gas check done
Heat measurement of DL300 (44,13°C) and JADEGO

0:15 New fill ready, only 9mA / beam
1:23 J68K - Error. Crate 23 cannot be reloaded because Fan has disintegrated! It takes 35 min to change
2:21 Stop for refilling. Reset VTXC value error
2:37 Temperatures in the DL300 crates: Crate 23 is the hotest: 47°C. Reload FEPs (JADEGO)
2:58 New fill ready

4:00 Schmidt on shift.
4:02 Trigger 2 input missing 163 (Ward 17.3/17.4) low rate already in preceding run
6:14 new fill ready.
6:28 FADC loaded at run end 28174
7:30 Trigger 2 input channel 163 still very low, but no message from YSPY. Shake cables

8:00 Bethke on shift, gascheck done.
8:45 Petra commutingat the time, have to keep fill for ~30min.
9:04 Readout error 64 AG 2099 a,x missing N=15, A=1
11:00 MOP inactive. Does not react on any command. Pause run and reset all processors.
" " again. Continue ⇒ JDAS error 32: Missing LAM BPC ready (BPCH)
12:00 Walker on shift.
12:57 After new fill ready and start run → 3 LG channels "sleeping", though testrun has been made before fill was ready. Stop run 28183, LG testrun, continue with run 28184
13:14 Continuous missing LAMs from JETC. Pause and reload J68K's.
13:50 ~~=~~ ech trip.
13:54 IBM hangs. FSB didn't know what to write to be spared. Write to tape instead.
14:52 ID + VTXC trip just before PETRA ramp "Energie-Änderung" + switch off HT"
14:54 Short break.
15:30 Break "bis ca. 16.30 Uhr". Magnets ⇒ 1000 A.
15:55 Believe it? Yes, you like! INJECTION!
16:00 Murphy + Olsson. Gascheck done
17:11 TC input 163 missing (YSPY) Krehbiel / Rieseberg investigate: Channel 163 is low since weeks
Error not yet found

16.8.86
0:00 Matsumura on shift
Gas check done
0:42 Missing Lam branch 2 crate 3

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME %	TIME [sec]	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	$T\bar{\theta}$ REJ. $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT 2 $E_{LG} > 6$GeV	T_2 BIT 17 $2T \cdot E_4 \geq 2$TeV	PROCESSORS ON/OFF NSO	HIP	TOF	ETC
28138	13/8/86	22:47	23:28	10.69	10.31	2.3	2489	8002 ~~6697~~	5158 ~~4334~~	~~5366~~ 5147	131	5306	4685	1471	22	ON	ON	ON	ON
28139	"	23:29	0:15	9.32	8.91	16.8	2724	8002	4741	708	119	5333	4768	1437	27	"	"	"	"
28140	14/8/86	0:15	1:03	7.88	7.31	15.4	2856	8002	4576	743	114	5405	4752	1395	20	"	"	"	"
28141	"	1:05	1:55	6.86	6.32	15.0	3009	8002	4881	782	117	5456	4669	1395	26	"	"	"	"
28142	"	1:56	2:05	5.98	5.47	14.1	554	1524	810	144	20	1027	845	263	3	"	"	"	"
28143	"	3:04	3:48	9.35	8.74	18.0	2578	8002	5230	670	120	5344	4607	1562	32	"	"	"	"
28144	"	3:48	4:33	8.03	8.41	15.8	2666	8002	4786	693	109	5545	4505	1489	27	"	"	"	"
28145	"	4:33	5:22	6.93	7.29	13.9	2896	8002	4487	753	104	5560	4578	1451	24	"	"	"	"
28146	"	5:22	5:45	5.97	6.31	13.2	1333	3605	1986	346	45	2504	2008	637	14	"	"	"	"
28147	"	6:17	7:00	9.37	10.04	17.9	2529	8002	5063	658	117	5460	4339	1500	26	"	"	"	"
28148	"	7:00	7:46	8.08	8.71	16.1	2665	8002	4781	693	111	5531	4459	1491	35	"	"	"	"
28149	"																		
28150	"	7:48	8:44	6.80	7.36	14.3	2909	8002	4489	756	108	5593	4544	1461	27	"	"	"	"
28151	"	8:45	9:40	4.65	5.03	12.0	3294	8002	3937	857	103	5591	4706	1248	26	"	"	"	"
28152	"	9:42	9:51	4.03	4.38	11.1	544	1290	627	141	15	893	739	218	3	"	"	"	"
28155 ?	"	15.00	15:49	8.04	7.55	14.4	2924	8002	4725	760	109	5422	4737	1306	23	"	"	"	"
~~28156~~ ?	"	15.50	16:41	6.91	643	13.8	3030	8002	4548	789	109	5441	4799	1368	31	"	"	"	"
28158	"	16:43	16:46	5:93	5:49	14.4	136	397	225										
28159	"	17:29	18:12	10.55	10.01	19.5	2570	8002	5099	669	131	5271	4762	1419	29	"	"	"	"
28160	"	18:38	18:55	8:29	7:55	18:5	907	2789	1677	236	44	1803	1649	437	15	"	"	"	OFF
28161	"	19:10	19:50	7.46	6.76	17.5	2042	5892	3446	532	93	3809	3515	987	28	"	"	"	OFF
28162	"	20:36	20:50	10.50	9.86	20.5	835	2646	1773	217	45	1714 ~~5380~~ 5554	1556	465	15	"	"	"	ON
28163	"	20:51	21:36	9.94	9.27	20.0	2648	8002	5058	688	138		4663	1326	28	"	"	"	"
28164	"	21:36	22:23	8.52	7.82	16.5	2768	8002	4778	720	119	5384	4740	1400	39	"	"	"	"
28165	"	22:23	23:13	7.31	6.65	15.1	2987	8002	4526	777	117	5396	4893	1329	32	"	"	"	"
28166	"	23:14	23:15	6.27	5.65	14.1	91	274	150	24~~0~~	3	173	144	41	2	"	"	"	"
28167	15.8.86	0:17	1:02	9.21	8.32	19.1	2673	8002	5108	695	133	5177	4944	1246	30	"	"	"	"
28168	"	1:03	1:24	7.91	7.35	19.6	1182	3424	2066	307	60	2283	2058	580	17	"	"	"	"
28169	"	2:01	2:21	6.63	6.11	15.0	1146	3138	1742	298	45	2081	1919	506	9	"	"	"	"
28170	"	3:00	3:44	10,05	8.82	18.5	2586	8002	5113	675	125	5371	4725	1459	31	"	"	"	"
28171	"	3:44	4:28	8.63	8.41	17.1	2681	8002	4869	700	120	5430	4736	1454	21	"	"	"	"
28172	"	4:30	5:18	7.44	7.22	15.8	2835	8002	4655	738	117	5389	4701	1385	29	"	"	"	"
28173	"	5:18	5:34	6.43	6.24	14.6	963	2583	1411	250	37	1742	1532	435	4	"	"	"	"
28174	"	6:14	6,28	9,71	10:03	20.5	759	2463	1621	157	40	1584	1438	380	12	"	"	"	"

$\langle L \rangle$ $30 \cdot 10^{-2}$ 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 μP T_2 %	ON LINE REJECT ORED TO T_1 T_2 %	Σ BHABHA	MH	E_{BEAM}	MAG FIELD −1×G	REMARKS
10.60	26.59	51304.02	IBM	1.0	0.1	49	37	467	4	17.503	4842	
8.83	23.57	51327.59	"	0.8	0.1	49	42	414	9	17.501	4845	
7.34	21.35	51348.94	"	0.6	0.1	49	42	414	9	17.501	4845	
6.15	16.74	51365.68	"	**0.5**	0.05	50	44	375	1	17.500	4841	
5.38	3.53	51369.21	"	0.5	<0.05	48	49	62	1	17.501	"	beams dumped
11.94	30.17	51399.38	"	0.8	0.05	48	36	530	5	17.500	4840	
10.05	25.96	51425.34	"	0.6	<0.05	50	41	456	7	"	4841	
8.08	22.66	51448.00	"	0.55	<0.05	51	45	398	5	17.501	"	
6.18	8.14	51456.14	"	0.45	<0.05	50	46	143	2	17.500	"	beams dumped
11.75	29.83	51485.97	"	0.8	0.05	49	38	524	8	"	4840	
10.21	26.02	51511.99	"	0.65	<0.05	50	41	457	1	17.501	4841	
	—		"	0.55	<0.05							Pedestals only; Run terminated due to Jdas readout error 53;
7.67	22.94	51534.93	"	0.55	<0.05	52	45	403	3	17.501	4840	
4.20	14.06	51548.99	"	0.35	~0	53	52	247	2	"	"	
3.84	1.54	51550.53	"	0.35	0	52	53	27	1	17.500	4843	beams lost
8.49	23.51	51574.04	"	0.65	0.10	50	42	413	4	17.501	4841	28153/54 only pedestals!
6.96	21.12	51595.16	"	0.50	0.03	51	44	371	5	17.500	"	28156 only pedestals stopped manually
5.74	1.20	51596.36	"					21	0	17.500	"	
11.12	26.54	51622.90	"			49	37	466	6	17.503	4844	
8.73	6.89	51629.79	"	0.80	0.15	48	~~42~~ ~~46~~ ~~24~~ 121	~~3~~		17.500	4844	
7.51	14.52	51644.31	"	0.73	0.2	47	~~43~~	255	1	17.501	4846	beams dumped
11.81	9.22	51653.53	"	1.05	0.2	47	34	142	3	"	"	
10.23	24.76	51678.29	"	0.95	0.2	49	38	435	8	17.500	"	
8.68	23.68	51701.97	"	0.75	0.15	50	41	416	9	"	"	
7.09	20.04	51722.01	"	0.60	0.15	52	45	352	7	"	"	
6.26	0.40	51722.41	"	0.55	0.1	43	49	7	0	"	"	beams dumped
9.12	22.66	51745.07	"	0.90	0.15	50	38	398	7	17.501	4844	
7.50	9.11	51754.18	"	0.95	0.15	50	41	160	3	17.500	4844	stopped by DL300 power failure in crate #23
6.08	7.00	51761.18	"	0.65	0.10	50	46	123	5	17.501	4844	beams dumped
10.89	28.58	51789.76	"	1.05	0.2	50	37	502	6	"	4841	
9.07	22.89	51812.65	"	0.85	0.1	51	40	402	11	"	4840	
7.33	19.59	51832.24	"	0.75	0.1	50	43	344	4	"	4841	
6.06	6.26	51838.50	"	0.6	0.05	50	47	110	1	"	"	beams dumped
11.16	7.86	51846.36	"	1.05	0.15	46	36	134	0	17.500	"	JCTC RADC loaded

56 RUN	DATE	START	STOP	AT RUN START I⁺	AT RUN START I⁻	DEAD TIME %	TIME [sec]	RECORDS IN	RECORDS OUT	ALL ×10⁶	T∅ REJ. ×10⁶	T₁ ACC SUM	T₂ ACC SUM	T₁ BIT 2 E_LG>6GeV	T₂ BIT 17 2T·E_T ≥ 2TR	PROCESSORS ON/OFF NSO	MIP	TOF	FAN
28175	15.8.86	6:30	7:14	8.12	8.46	17.8	2631	8002	5014	686	122	5411	4786	1407	36	ON	ON	ON	ON
28176	"	7:15	8:00	7.88	8.14	16.2	2674	8002	4777	695	112	5430	4588	1451	29	"	"	"	"
28177	"	8:01	8:48	6.73	6.99	15.1	2828	8002	4662	735	111	5395	4727	1389	30	"	"	"	"
28178	"	8:48	9:08	5.77	6.00	14.4	1149	3203	1780	299	431	2729	1820	507	10	"	"	"	"
28179	"	9:59	10:01	8.99	9.56	19.9	39	164	118	10	2	96	76	29	0	"	"	"	"
28180	"	10:02	10:43	8.90	9.47	18.3	2466	8002	5179	524	177	5407	4643	1434	23	"	"	"	"
28181	"	10.44	11.28	7.62	8.10	18.3	2565	8002	5002	667	121	5492	4558	1524	38	"	"	"	"
28182	"	11.28	11.50	6.48	6.93	17.5	1185	3536	2123	386	53	2395	2019	591	5	"	"	"	"
28183	"	12:56	12:59	10.23	10.44	22.7	141	527	374	36	8	339	282	83	2	"	"	"	"
28184	"	13.00	13.41	10.07	10.29	22.7	2583	8002	5324	619	140	5344	4786	1488	32	"	"	"	"
28185	"	13.42	13.53	8.45	8.72	19.3	606	2044	1325	157	30	1358	1167	402	7	"	"	"	"
28186	"	14.18	14.53	7.40	7.66	17.2	2026	6316	3992	527	90	4321	3630	1170	26	"	"	"	"
28187	"	16 51	17 31	10.75	10.37	21.7	2357	8002	5378	621	135	5265	4898	1446	33	"	"	"	"
28188	"	17.31	1813	9.15	8.82	19.2	2460	8002	5166	640	123	5382	4791	1502	33	"	"	"	"
28189	"	1813	1832	7.32	7.03	17.8	1062	3448	2129	276	49	2353	1981	692	9	"	"	"	"
28190	"	1856	1931	6.69	6.41	16.9	2045	6092	3569	535	90	4110	3612	1059	32	"	"	"	"
28191	"	8010	2052	10.77	10.77	21.3	2439	8002	5224	635	135	5314	4793	1449	23	"	"	"	"
28192	"	2052	2133	9.22	9.24	19.8	2396	8002	5257	623	123	5436	4403	1566	30	"	"	"	"
28193	"	2133	2217	7.80	7.82	17.9	2605	8002	4961	677	121	5433	4607	1527	29	"	"	"	"
28194	"	2217	2303	6.58	6.62	16.1	2766	8002	4708	719	116	5469	4645	1438	26	"	"	"	"
28195	16.8.86	0:14	0:52	10.81	10.84	23.2	2279	8002	5449	592	138	5272	4828	1433	39	"	"	"	"
28196	"	0:52	1:20	9.30	9.31	20.7	1657	5514	3643	431	89	3686	3242	1069	16	"	"	"	"
28197	"	1:24	2:06	8.25	8.26	18.9	2488	8002	5037	647	122	5413	4702	1510	27	"	"	"	"
28198	"	2:07	2:26	7.06	7.07	17.1	1133	3485	2143	295	51	2375	2058	655	10	"	"	"	"
28199	"	3:09	8:55	10.72	10.57	21.0	2376	7415	4595	618	130	4826	4813	1124	27	"	"	"	"
28200	"	4:43	5:20	10.47	10.35	25.2	2189	8002	5548	569	143	5325	4685	1461	35	"	"	"	"
28201	"	5:20	5:59	8.98	9.18	21.2	2325	8002	5235	605	128	5358	4615	1532	30	"	"	"	"
28202	"	6:00	6:42	7.71	7.88	19.7	2488	8002	5122	647	128	5513	4759	1524	24	"	"	"	"
28203	"	6:42	7:09	6.58	6.74	18.7	1557	5032	3139	416	78	3392	2984	872	31	"	"	"	"
28204	"	8.52	9:30	10.12	9.81	23.1	2292	8002	5524	596	137	5404	4592	1413	23	"	"	"	"
28205	"	9:31	10:13	8.61	8.15	19.7	2472	8002	5161	642	126	5521	4608	1526	31	"	"	"	"
28206	"	10:13	10.57	7.37	6.82	19.1	2577	8002	4947	670	127	5435	4811	1471	30	"	"	"	"
28207	"	10:58	11:23	6.35	5.88	17.7	1474	4547	2706	383	68	3108	2694	857	14	"	"	"	"
28208	"	11.57	12:34	10.14	9.71	26.7	~~8002~~ 2184	8002	5694	568	152	5322	4594	1543	35	"	"	"	"

⟨L⟩ $10^{30}cm^{-2}s^{-1}$	BHABHA ∫Ldt nb^{-1}	∫Ldt EXP. ENERGY	IBM/TAPE OUTPUT	AT RUN START TOF [V]	AT RUN START ID [μA]	ONLINE REJECT SUM MIPROC T_2 %	ONLINE REJECT NORDSO $T_1 \cdot T_2$ %	Σ BHABHA	MH	E_{BEAM}	MAG. FIELD −186	REMARKS
10.34	26,13	51872.48	IBM	1.0	0.1	51	38	459	8	17.500	4841	
9.87	24.48	51896.97	"	0.75	0.05	49	42	430	10	"	"	
8.06	22.03	51919.00	"	0.60	0	50	43	387	1	"	"	
6.96	6.83	51925.83	"	0.60	0	47	46	120	0	"	"	dumped!
12.31	0.57	51926.40	"	1.0	0.1	37	32	10	0	"	"	stopped due to dead LG-channels (→Test run)
11.58	26.14	51952.54	"	0.9	0.1	49	37	459	5	"	"	
10.06	27.10	51979.64	"	0.8	0.05	50	39	476	5	"	4840	
8.64	10.30	51989.94	"	0.75	≈0	49	41	181	1	"	"	Beams dumped.
15.48	2.16	51992.10	"	1.5	0.2	44	31	38	1	"	"	stopped due to dead LG channels
13.36	29.37	52021.47	"	1.5	0.2	50	35	516	11	"	"	
11.80	6.83	52028.30	"	1.1	0.1	48	37	120	2	17.501	4841	Stopped due to IBM hang-up. Beams dumped.
9.83	18.16	52044.46	52057	1.0	0.05	50	39	319	3	17.500	4842	" " " PETRA "ENERGIE-RENDEZVOUS"
12.81	29.21	52073.67	IBM	1.5	0.2	50	34	513	10	17500	4843	
11.81	26.07	52099.74	"	1.25	0.18	50	36	458	5	"	4844	
10.48	10.08	52109.82	"	1.0	0.13	50	39	177	0	"	"	Stopped to investigate TE trigger problem.
8.20	16.84	52126.66	"	?	?	50	43	278	4	17501	"	Beams dumped
10.96	26.64	52153.30	"	1.8	0.25	49	36	468	5	17500	4845	
12.37	29.77	52183.07	"	1.1	0.20	48	35	523	12	"	4844	
10.06	26.13	52209.20	"	0.85	0.12	50	39	459	9	"	"	
7.99	21.06	52230.26	"	0.7	0.05	51	43	370	1	"	4843	
12.77	25.79	52256.05	"	1.8	0.2	49	33	453	3	17500	4842	
11.99	19.02	52275.07	"	1.3	0.1	49	35	334	13	17501	4841	stopped due to IBM Error
10.51	26.47	52301.54	"	1.1	0.05	50	33	465	6	17500	"	
8.70	8.03	52309.57	"	0.9	<0.05	51	40	141	3	17501	"	Beams dumped
7.39	15.20	52324.77	"	1.9	0.2	52	39	267	3	"	"	beams lost
14.06	27.95	52352.72	"	1.7	0.2	48	32	491	10	"	"	
12.44	27.35	52380.07	"	1.4	0.1	48	36	481	8	"	"	
10.18	25.05	52405.12	"	1.1	0.1	52	37	440	7	"	"	
8.36	11.39	52416.51	"	0.9	0.1	50	39	200	5	"	"	beams dumped
12.90	28.07	52444.58	"	1.6	0.2	49	32	493	6	"	4840	
10.98	26.70	52471.28	"	1.2	0.1	51	36	469	5	"	"	
9.05	21.41	52492.69	"	1.0	0.05	51	39	376	5	"	4841	
7.97	11.67	52504.36	"	"	"	51	42	205	5	"	4842	beams dumped
14.78	31.60	52535.96	"	2.1	0.25	49	30	555	2	17501	4844	

16.8.86.

4[00] Nye on shift

7[15] Valve failure during "DOWN" for vtx chamber gas supply.

8[00] Diedesam on shift. Gas check done.

12[00] Swolik on shift

13[05] IBM transfer error new link OK

14[13] —"— —"—

15[28] —"— —"—

16[20] Murphy & Haidt on shift

18[00] Short break announced

restart NORD! same problem

21[15] Start run 28217 Run stops after a few events, System Console says "error 24 in 34611 at 446672; ring written." YPARA destroyed, COMMON/RUNPA/ overwritten. Rebuild YPARA, restart NRO (to reset commons) ⇒ OK JO

17.8.86 Krehbiel on shift.

0[00] "

0[50] Occasionally JETC cells missing - ~~Alarmierung~~ Different numbers 120 348 328 / 119 342

1.06 Just I knew of nothing better, JETC68K reload.

3[35] YSPY says "Leadglass Problem Av. Blocks/Event >20 in last 1000 events. There are noisy blocks a lot in hitmap, Barrel 1. But ~~trotzdem~~ I decide the problem is just below the "call-the-expert"-threshold I stopped the run. Somehow the printing of run-summary is blocked. to see if it helped). if new pedestals are taking.

LUN 5 occupied, but no printout. Switching LP off-on unblocked the works.

4[00] Walther on shift. Gas check done.

8:00 Zorn & Kuhn on shift

8:15 JDAS Readout error 33 - Missing LAM br. 3 Cr. 2 - Muon Ch.: restarted run (Crate 5 Muon Ch)

8:30 JDAS Readout error 33 Missing LAM br 4 Cr 1 Jetc point 403

9:10 JETC68K reload before Run 28234 (because of one noisy crate)

10:12 Muon Crate 7 reset.

10:40 IBM Error (OCT) 000052 SUBERR (OCT) 000000 ... 000000 : IBM link was tried again ⇒ was OK - Occured on previous run.

10:48 Muon Crate 14 reset.

11:00 YSPY Error (4) - Trigger 2 Input Missing 163

11:25 Same IBM Transfer error as at 10:40 - restarted

11:30 Muon Crate 7 reset.

12[15] Vtx map plots confirm tonite's observation (see entry at 3[35]): I could not get hold of Magnussen by phone.

12[35] IBM transfer error: continue, ok.

14[17] " "

ca 14[00] MOP (display!) spinn

14[32] JDAS Readout error 33 - Missing Lam branch/crate 4/1 Jetc point 506

14[35] MOP CRU reset: seems to work after this. 4 1

17.8.86. 16[00] Chin on shift gas check done.

18:27 Last night a noisy region in the LG hit map was discovered. Now it is gone to normal. It seemed to belong to one ADC module, which caused the noise. The hits were low energy and did not effect the T1 input. Fu

20.00 Kado on shift

20:05 IBM Transfer error 52

18 Aug 86. 0001 hrs. P. Murphy on shift. Gas check OK.

0040 Sudden loss of ~1.5 mA from e⁻ beam; no trips.

0100 Change paper in vertex chamber monitor chart recorder.

0204 According to the NORD run 28257 started before run 28256 ended; is this a record? (No; see run 28223) ↖ TV; printed record is OK.

0300 IBM error 54, then IBM error 53.
Stop run 28258. No run summary.
Micros have switched themselves OFF.
Try to start run, get same errors. Micros switch OFF again.
Phone IBM. They "have a problem".

Load tape F11207.

0400 W. Bartl on shift

0445 IBM back

0745 VTX-Valve failure

8[00] Nye & Greenlaw on shift
Gas check done

8[50] Notice that MOP console is blank. Typing <CNTL-C> followed by "RUN ZIMMONI" gives error code: "Exception 6at at user address: $0003BCC4. Aborted." Will try again at end of run. "JATSRD" also doesn't work.

8[55] Beams lost (entirely) - everything trips.

9[00] J68K reloaded from NORD. MOP now works.

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. $\times 10^6$	T_4 Acc Sum	T_2 Acc Sum	T_4 B:12 $E_{LG}>66GV$	T_2 B:17 2T:E4 ≥2TR	Processors ON/OFF NSO	MIP	TOF	FAMI
28209	16.8.86	12.38	13:13	10.09	9.67	23.2	2294	8002	5342	597	138	5304	4594	1481	30	ON	ON	ON	ON
28210	"	13:13	13:55	8.65	8.25	19.5	2468	8002	5067	642	125	5422	4500	1457	30	"	"	"	"
28211	"	13:55	14:20	7.39	7.02	18.2	1498	4564	2826	390	71	3089	2598	876	14	"	"	"	"
28212	"	14:49	15.26	11.71	11.25	28.0	2195	8002	5773	571	160	5168	4891	1414	24	"	"	"	"
28213	"	15 28	16 07	9.94	9.53	23.5	2317	8002	5358	602	141	5308	4616	1518	38	"	"	"	"
28214	"	16 07	16 50	8.48	8.09	19.1	2530	8002	5031	658	125	5419	4677	1466	34	"	"	"	"
28215	"	16 50	17 32	7.19	6.83	16.7	2419	6177	3654	551	92	4222	3634	1089	30	"	"	"	"
28216		20:17	21:00	10.51	9.87	19.3	2541	8002	5102	661	128	5285	4805	1386	19	"	"	"	"
28217	} JUNK. NORD problems (very short runs)																		
28218																			
28219																			
28220	"	21:29	22:11	8.12	7.56	18.3	2542	8002	5056	661	121	5432	4659	1460	36	ON	ON	ON	OFF
28221	"	22:12	22:31	6.90	6.41	17.5	1116	3431	2087	290	51	2264	2089	535	11	ON	ON	ON	OFF
28222	"	23:03	23:41	11.29	10.79	23.1	2260	8002	5326	588	136	5365	4549	1377	33	ON	ON	ON	ON
28223	17.08.86	23.40	0.22	9.51	8.55	19.5	2447	8002	5093	637	124	5356	4590	1426	33	"	"	"	"
28224	"	0.22	1.06	8.10	7.64	18.1	2594	8002	4944	674	122	5443	4677	1326	27	"	"	"	"
28225	17.08.86	1.10	1:42	6.87	6.44	17.0	1911	5613	3335	497	85	3843	3292	963	19	"	"	"	"
28226	"	3.07	3:39	10.62	10.38	23.3	1830	6343	4304	476	111	4171	3778	1095	22	"	"	"	"
28227	"	3.42	4.24	9.25	8.98	19.3	2049	8002	5154	636	123	5347	4636	1377	49	"	"	"	"
28228	"	4.25	5:09	7.91	7.63	16.8	2656	8002	4870	690	115	5462	4673	1373	36	"	"	"	"
28229	"	5.10	5.53	6.73	6.46	15.7	2547	7212	4357	602	104	4576	4313	1163	24	"	"	"	"
28230	"	6.34	6.54	10.93	10.67	22.4	1276	4996	2994	313	70	2790	2470	740	19	"	"	"	"
28231	"	6.59	7.40	9.84	9.49	20.5	2441	8002	5178	634	129	5387	4557	1371	30	"	"	"	"
28232	"	7.41	8:15	8.42	8.09	28.4	2023	5570	3516	526	133	3797	3180	979	22	"	"	"	"
28233	"	~~8:22~~ 8:22	9.08	7.25	6.94	16.6	2751	8002	4919	715	119	5445	4664	1366	34	"	"	"	"
28234	"	9:11	9:30	6.14	5.86	15.1	1114	3158	1788	289	43	2144	1839	474	9	"	"	"	"
28235	"	10.00	10:05	10,9	10,4	26.2	246	938	653	64	16	612	490	167	2	"	"	"	"
28236	"	10.09	10:47	10.54	10.07	21.3	2330	8002	5379	606	128	5422	4485	1512	28	"	"	"	"
28237	"	10:48	11:29	9.99	8.55	19.1	2456	8002	5892	638	122	5387	4576	1412	32	"	"	"	"
28238	"	11:31	12:15	7.61	7.20	16.9	2649	8002	4956	689	116	5450	4679	1421	29	"	"	"	"
28239	"	12:16	12:39	6.47	6.09	17.0	1387	3973	2315	361	61	2715	2338	622	8	"	"	"	"
28240	"	13:10	13:47	11,09	11.09	24.1	2219	8002	5561	577	139	5315	4572	1466	33	"	"	"	"
28241	"	13:47	14:26	9.49	9.47	22.0	2319	8002	5345	603	133	5505	4387	1338	28	"	"	"	"
28242	"	14:27	15:14	8,06	8.04	18.4	2553	8002	5085	664	122	5401	4555	1442	34	"	"	"	"
28243	"	15:14	15:50	6,71	6,69	21,6	2117	5821	3529	550	118	3905	3375	958	17	"	"	"	"

$\langle L \rangle$ $10^{30}cm^{-2}s^{-1}$	Bhabha $\int Ldt$ (nb^{-1})	$\int Ldt$ Exp. Energy	IBM/TAPE OUTPUT	At Run Start TOF CV]	At Run Start ID [μA]	online Reset Num. Proc. T_0	online Reset Nord 50 T_1+T_2 %	Σ Bhabha	MM	E_{Beam}	Mag. Field −1×G.	Remarks
12.84	27.50	52563.46	IBM	1.3	0.2	48	35	483	3	17.500	4844	
10.93	24.54	52588.00	"	1.0	0.1	49	38	432	6	1 "	"	
9.12	13.55	52601.55	"	0.8	0.1	50	40	238	3	"	"	Beams dumped
13.86	28.24	52629.79	"	1.9	0.25	48	29	496	15	"	"	
12.70	28.01	52657.80	"	1.4	0.2	48	34	492	11	"	"	
10.38	25.39	52683.19	"	1.1	0.1	49	38	446	4	"	"	
7.93	16.22	52699.41	"	0.8	0.1	51	42	285	3	"	"	Beams dumped
10.31	26.53	52725.94	"	1.4	0.17	49	37	466	11	17.501	4841	
9.95	26.02	52751.96	"	1.0	0.08	50	38	457	8	"	"	
8.68	8.77	52760.73	"	0.9	0.02	49	40	154	1	"	4840	Beams dumped
13.16	26.87	52787.60	"	1.65	0.13	48	35	472	6	"	4839	
11.5	27.04	52804.64	"	1.15	0.05	48	38	575	11	17500	4839	
9.50	22.55	52827.19	"	0.9	0.03	50	39	396	10	17501	4838	12 JETC cell Missing
7.76	14.86	52842.05	"	0.8	0.02	51	42	261	5	17503	"	Beams dumped
12.82	22.32	52864.37	"	1.6	0.1	48	33	392	10	17501	"	Run stopped because of LG problem.
11.70	27.61	52891.98	"	1.0	0.03	48	37	485	9	17.500	"	
9.97	23.45	52915.43	"	0.8	<0.01	50	40	412	5	"	"	
8.32	18.33	52933.76	"	0.7	<0.01	50	41	322	5	"	4837	Beams dumped.
13.43	14.17	52947.93	"	1.6	<01	49	32	249	3	"	"	Stopped due to "NOPROCESS" message.
11.99	28.18	52976.11	"	1.2	<0.01	48	36	495	8	17.501	"	
9.71	19.13	52995.24	"	0.8	<0.01	50	38	336	5	17.501	4837	
8.36	22.09	53017.33	"	0.7	"	50	40	388	5	17.500	4.838	
6.30	6.89	53024.22	"	0.67	~0	49	45	121	2	17.500	4.839	Beams dumped
14.14	3.64	53027.86	"	1.4	0.1	44	32	64	3	17.520	4.840	IBM Error : restarted
14.12	31.94	53059.80	"	1.3	0.1	48	34	561	7	17.510	4.841	IBM Error read.
12.01	27.55	53087.35	"	0.9	0.1	47	37	484	5	17.520	4.840	
9.51	25.28	53112.63	"	0.77	0.05	50	39	444	10	"	4.842	
7.99	9.97	53122.60	"			51	43	175	3	17.503	4.844	Beams dumped
14.47	31.48	53154.08	"	1.6	0.2	47	32	553	5	17.500	"	
12.94	29.45	53179.53	"	1.0	0.15	49	34	447	8	"	"	
10.54	26.81	53206.34	"	0.8	0.12	49	38	471	4	"	"	
7.79	17.37	53223.71	"	0.7	0.1	49	41	301	5	17503	"	Beams dumped.

11^{37} IBM transfer error 52 (oct) subsr 0 err. cnt. 0. Relink successfl.

11^{50} TOF TDC no hits : 0 42 - pulling cable out & putting back in again cures problem.
12^{20} TOF TDC no hits : 1 - pushing connectors → OK.
12^{49} HV run down and beams dumped as there is a smoke alarm in NE hall (in ring near to NE hall to be on precise). I can't smell anything unusual in the JADE hall!
17^{32} Nothing serious seems to have been damaged. We have beam again.
17^{50} IBM down. Operators say it may take 15 min to 30 min to repair. We start run 28279, writing to tape (JDAS 85)
16^{00} Spitzer
16^{10} Gas ok
19^{00} Several members are not set in the run summary for run 28279! (I was playing with displaying events)
20^{00} Skeard
20^{15} Soft trig, ID. and VERTC.
21^{03} JDAS readout error 74 - wrong LAM bank 5 code 1 : Bp. chamber
21^{15} Reload J68K in fill pause, Many FEPS were blinking. (J.E.O.)
22^{27} JDAS readout error 32 - Missing LAM at FEP ready (JFETCH)
22^{34} Run 28284 stopped; LG - ADC module had "gone to sleep" (Cr 3, dr 486, 492). LG testrun fixed it.
22^{52} JDAS readout error 32 - Missing LAM at FEP ready (JFETCH) ← Just after recovery from IBM transfer
23^{35} Run hang-up (no events). PAUSE/CONT did not work. Stopped run - No run summary (well error. try to print that later). New run 28287 died at birth - JDAS error 53(?). System console says error during LG PED-run. Ran short LG-testrun, then started run 28288, all OK.
23^{57} YSPY err 4: Tof TDC no hits: 0 42 . TOF hit map looks reasonable.

0^{00} 19.8.86 Becker

Gas check: numerical values: B18: 4.5 / B22: 2.2

0^{40} HV alarm TOF : LeCroy HV supply err. ME 54
switch on/off ... no success - call B. Narvaskaz

2.45 Finally managed to get TOF-HV going: we had to exchange the complete mainframe. The old one seems to be kaputt. B.N.
Notice that many previous runs have a hole in TOF hit map around counters 1/2 and 43/44. Please watch this!
(I replaced the two cables

Howard

4^{00} test
only TOT TDC map shows 2 dead counters
5^{30} from histograms: 1) Trigger 1 Imput shows dip } ← counter 45 fixed (bad discriminator)
2) " 2 " " " 48 is legally dead
3) 2 TOF mean TDC show no counts
5^{45} Trigger 2 input missing now also noticed by Yspy - Note no extra - leave it to expert (Krüger)

8^{00} Bethke on shift. Gas check done. P22 low: 2.3
Both ~~wires~~ cells 72 wire 2 almost (since long time ...?)
9:32 Phone call from Bürger: IBM will be switched off for ~4 hours, starting today ~ 13^{30}
after a completed fill. Prepare the tapes ...
9:43 Two IBM transfer errors within 3 minutes. Ok after relink.
11:38 during run 28299: "no events", but no extra message on main console (no error).
Pause/continue does not help. Stop run, new run works...
1200 Zorn on shift.
1320 Beam pipe counter? trip. - reset HV. → preceded
1330 IBM ~~is~~ turned off and we went on tape. The run was continued.
16^{00} FETCH missing LAMs. Mop inactive. Start Reload HC68K - system.
16^{00} U. Schneekloth
IBM is still down, write to Tape
1730 gas check done, Valve failure
1800 new fill, start run 28310 YPARA 21 MUON CRATE 14 GIVES NO Q RESPONCE, after reset O.K.
1811 MP-16 and TOF micros were off, stop run and start run 28311
20^{00} Nye on shift.
21^{45} JDAS readout error 33 Missing LAM br 3 cr 4 : 2-ch. Part 1
21^{54} Run 28314 - energy rises to 17.516 GeV in middle of run!
21^{58} Back to 17.501!

Diekmann on shift
1.00 Gas check done
4.00 Naroska on shift.
Check hole in TDC II mean TDC-valve → discover that two cables are interchanged (probably since a long time).
Change them back at run 28321 (TDC I 19 ⟷ 61)
4.10 VTX chamber valve failure after beam dump.
5.00 Submit REFORM jobs

RUN	DATE	START	STOP	AT RUN START I+	AT RUN START I−	DEAD TIME %	TIME (sec)	RECORDS IN	RECORDS OUT	ALL ×10⁶	To Rej. ×10⁶	T_1 Acc SUM	T_2 Acc SUM	T_1 b.f.2 E_{tot} >6GeV	T_2 b.f.1,17	Processors on/off NSO	MIP	TOF	FA
28244	17.8.86	16:34	17:15	10.27	10.09	21.1	2397	8002	5343	623	131	5367	4631	1473	35	ON	ON	ON	ON
28245	"	17:16	17:58	8.64	8.47	19.1	2537	8002	5130	660	126	5393	4686	1472	25	"	"	"	"
28246	"	17:58	18:43	7.30	7.14	17.9	2667	8002	4889	693	124	5349	4786	1332	21	"	"	"	"
28247	"	18:43	18:56	6.17	6.03	16.2	737	2214	1319	191	31	1474	1281	356	4	"	"	"	"
28248	"	19:33	20:15	10.62	10.02	20.1	2513	8002	5274	654	132	5273	4803	1350	30	"	"	"	"
28249	"	20:16	20:57	9.08	8.54	18.5	2454	8002	5080	638	118	5422	4573	1393	27	"	"	"	"
28250	"	20:58	21:41	7.76	7.26	17.6	2569	8002	4985	669	118	5492	4487	1421	27	"	"	"	"
28251	"	21:41	22:12	6.63	6.16	16.2	1847	5422	3782	479	78	3694	3203	896	27	"	"	"	"
28252	"	22:47	23:20	11.07	11.04	21.8	2375	8002	5500	602	137	5422	4579	1466	28	"	"	"	"
28253	"	23:20	0:02	9.40	9.37	18.9	2472	8002	5203	643	122	5439	4554	1452	35	"	"	"	"
28254	18.8.86	00:02	00:48	8.00	7.96	16.0	2705	8002	4723	704	113	5576	4541	1387	22	"	"	"	"
28255	"	00:48	01:55	6.02	4.62	13.5	368	1062	535	96	13	735	577	180	3	"	"	"	"
28256	"	01:26	02:05	11.25	11.32	24.2	2247	8002	5548	584	142	5317	4717	1455	31	"	"	"	"
28257	"	02:04	02:46	9.54	9.57	20.1	2423	8002	5276	630	126	5437	4576	1431	36	"	"	"	"
28258	"	02:45	03:03																
28259	28260	JUNK																	
28261		03:26	4:14	7.03	7.12	15.4	2808	8002	4774	730	112	5442	4814	1289	34	"	"	"	"
28262	"	4:15	4:20	5.81	5.84	14.8	231	655	392	60	9	437	398	102	0	"	"	"	"
28263	"	4:59	5:39	11.09	10.80	20.9	2381	8002	5346	619	130	5379	4713	1337	24	"	"	"	"
28264	"	5:39	5:55	9.48	9.12	18.4	918	2951	1856	234	44	1950	1754	498	13	"	"	"	"
28265	"	5:55	6:38	8.92	8.61	17.5	2520	8002	4974	655	114	5543	4589	1435	18	"	"	"	"
28266	"	6:39	7:25	7.61	7.32	15.9	2713	8002	4803	705	112	5478	4693	1353	34	"	"	"	"
28267	"	7:25	7:47	6.45	6.18	15.6	1259	3408	2075	327	51	2455	2112	588	14	"	"	"	"
28268	"	8:27	8:58	10.90	10.36	20.5	1822	5893	3809	474	97	3386	3646	946	32	"	"	"	"
28269	"	10:29	11:04	10.96	10.69	21.1	2352	8002	5787	612	124	5747	6711	1624	96	"	"	"	"
28270	"	11:09	11:52	9.42	9.15	18.8	2538	8002	5084	660	124	5460	4687	1358	28	"	"	"	"
28271	"	11:53	12:41	8.02	7.75	16.1	2845	8002	4503	740	119	5405	4472	1141	27	"	"	"	"
28272	"	12:41	12:50	6.97	6.73	15.8	483	1308	736	126	19.8	851	870	174	5	"	"	"	"
28273	"	13:32	13:46	11.15	10.83	22.4	628	2270	1541	164	36.7	1481	1308	397	8	"	"	"	"
28274	"	13:52	14:32	10.37	10.03	21.2	2371	8002	5288	617	131	5288	4728	1387	36	"	"	"	"
28275	"	14:37	15:12	8.20	8.41	18.3	2059	6535	4218	536	98	4468	3807	1104	20	"	"	"	"
28276	"	16:10	16:47	11.47	11.17	25.1	2233	8002	5512	581	145	5272	4813	1177	37	"	"	"	"
28277	"	16:48	17:28	9.76	9.47	21.2	2586	8002	5173	620	131	5265	4728	1369	25	"	"	"	"
28278	"	17:29	18:11	8.31	8.03	18.3	2544	8002	5020	661	120	5405	4635	1384	32	"	"	"	"

$\langle L \rangle$ 10^{30} cm^{-2} s^{-1}	BHABHA / Lint μb^{-1}	J Lint EXP. ENERGY	IBM / TAPE OUTPUT	AT RUN START TOT [V]	AT RUN START ID (μA)	ONLINE REJECT SUM MIPROC T_2 %	ONLINE REJECT NORDSO $T_1 T_2$ %	Σ BHABHA	MH	E_{BEAM}	MAG Field −1×G	REMARKS
13.69	32.96	53256.67	IBM	1.3	0.2	49	34	579	5	17.501	4843	
11.66	27.68	53284.35	"	1.0	0.15	50	37	486	8	17.503	"	
9.15	21.81	53306.16	"	0.8	0.15	50	40	383	0	"	"	
8.10	4.50	53310.66	"	0.8	0.1	49	42	79	2	17.501	"	beams dumped
11.08	27.70	53337.76	"	1.4	0.2	49	36	476	8	17.500	4847	
11.51	28.12	53365.88	"	1.3	0.2	48	38	494	4	"	4840	
9.57	25.85	53391.73	"	1.0	0.15	49	39	454	8	17.507	"	
7.90	15.43	53407.16	"	0.8	0.1	51	42	271	7	17.500	"	beams dumped
14.09	30.00	53437.16	"	1.3	0.15	48	32	527	7	17.507	4838	
11.95	29.78	53466.94	"	1.1	0.1	49	36	523	6	17.503	"	
9.50	23.52	53490.46	"	0.9	<0.1	51	42	413	4	"	4837	
6.20	2.45	53492.91	"	0.6	0	49	51	43	0	"	"	beams dumped
13.98	30.46	53523.37	"	1.65	0.10	48	32	535	9	17.500	4837	
12.83	28.68	53552.00	"	1.2	0.03	49	35	503	10	"	4835	
			"	0.85	0.02							No run summary Trying to get IBM link to work
8.35	23.00	53575.00	FI1.207	0.73	0.01	51	41	404	8	"	4834	
7.16	1.65	53576.65	"	0.65	0	53	42	29	1	"	4834	beams dumped
12.68	26.64	603.29	IBM	1.5	0.1	50	34	468	11	17.501	4835	
11.29	8.88	612.17	"	1.0	<0.1	48	38	156	2	"	"	
11.04	27.55	639.72	"	1.0	<0.1	51	39	484	4	"	4836	
9.38	24.65	664.37	"	0.8	<0.1	51	41	433	11	"	"	
7.99	9.17	673.54	"	0.7	<0.1	51	44	261	2	"	"	beams dumped
11.67	19.01	53692.55	"	1.3	0.1	50	36	334	4	17.500	4837	beams lost
13.56	30.40	53722.95	"	1.4	0.1	49	34	534	3	"	4844	
11.47	25.57	53748.52	"	1.2	0.1	51	37	449	7	"	"	
6.93	17.48	53816.00	"	1.0	0.1	52	45	307	7	"	"	
2.95	1.20	53817.20	"	0.9	0.05	53	45	81	0	"	"	beams dumped (smoke alarm near NE hall)
14.48	8.91	53825.51	"	1.5	0.15	46	33	146	4	"	4849	Run stopped due to IBM crash
12.98	29.21	53854.72	JDAS05	1.4	0.15	48	35	513	5	"	4850	Written to tape JDAS05.
10.87	20.84	53875.56	JDAS06	1.0	0.1	49	36	336	8	"	"	—— " —— JDAS06 beams lost.
14.09	30.10	53905.96	IBM	1.8	0.25	48	32	534	8	"	"	
12.29	27.67	53933.63	"	1.5	0.2	49	36	486	12	"	"	
10.44	25.22	53958.85	"	1.0	0.15	49	38	493	5	"	4851	

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME %	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $*10^6$	T_0 Rej. $*10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 bit 2 $E_{LG}>660$	T_2 bit A 27.64 ≥ 2 TR	PROCESSORS ON/OFF NIO	MIP	TOF	FA
28279	18/8/86	18:12	18:57	7.07	6.81	0		8003	4868			5361		1320	28	ON	ON	ON	ON
28280	"	18:57	19:03	6.02	5.78	17.6	292	875	502	75	13	605	497	132	1	"	"	"	"
28281	"	19:32	20:08	12.00	11.60	27.5	2108	8002	5566	548	151	5237	4717	1489	32	ON	ON	ON	ON
28282	"	20:09	20:54	10.28	9.92	19.1	2547	8002	5010	663	127	5324	4827	1331	35	"	"	"	"
28283	"	20:54	21:15	7.42	6.29	16.1	1083	2955	1716	282	45	1986	1878	430	9	"	"	"	"
28284	"	22:23	22:34	9.37	8.15	23.0	583	1989	1304	152	35	1331	1159	363	8	"	"	"	"
28285	"	22:36	23:18	8.93	7.73	20.5	2454	8002	5272	638	131	5438	4615	1419	20	"	"	"	"
28286	"	23:17	23:29	7.64	6.52	20.2	634	2000	1280	165	33	1354	1173	349	6	"	"	"	"
28287	~~~~																		
28288	"	23:35	0:07	7.15	6.08	19.6	1609	4996	3120	418	82	3326	2941	291	16	"	"	"	"
28288	19/08/86	2:47	3:12	6.85	6.32	16.8	1486	4085	2448	387	65	2657	2640	572	18	"	"	"	"
28290	"	3:54	3:56	10.78	10.80	23.1	88	373	243	23	5	228	173	56	2	"	"	"	"
28291	"	4^{33}	5^{10}	10.26	10.70	23.0	2248	8002	5508	584	134	5338	4632	1421	35	"	"	"	"
28292	"	5^{11}	5^{52}	8.73	8.22	19.7	2448	8002	5757	637	125	5342	4825	1402	38	"	"	"	"
28293	"	5^{53}	6^{36}	7.39	7.84	18.6	2587	8002	5010	672	125	5355	4803	1375	32	"	"	"	"
28294	"	6^{37}	7^{15}	6.27	6.69	17.6	2261	6621	4058	588	103	4483	4075	1122	22	"	"	"	"
28295	"	8^{07}	8:47	11.03	10.23	22.7	2326	8002	5330	604	137	5396	4697	1391	36	"	"	"	"
28296	"	8.47	9:28	9.44	8.69	19.7	2430	8002	5093	632	120	5327	4730	1397	27	"	"	"	"
28297	"	9:29	10:13	8.13	7.43	19.1	2640	8002	4940	686	130	5455	4786	1368	20	"	"	"	"
28298	"	10:14	10:48	6.99	6.34	18.1	2048	6236	3756	532	96	4180	3743	997	28	"	"	"	"
28299	"	11:27	11:37	11.44	11.05	24.5	579	2140	1492	150	36	1401	1272	373	12	"	"	"	"
28300	"	11:39	12:19	10.88	10.52	22.4	2343	8002	5261	609	132	5290	4843	1383	36	"	"	"	"
28301	"	12:19	12:59	9.39	9.04	20.4	2385	8002	5118	620	126	5336	4818	1359	27	"	"	"	"
28302	"	13:00	13:20	7.99	7.70	19.7	1158	3658	2272	301	59	2424	2218	604	9	"	"	"	"
28303	"	13:21	13:30	7.34	7.09	18.5	101	371	217	26	4	245	182	43	1	"	"	"	"
28304	"	13:40	14:07	6.94	6.65	17.1	1580	4706	2827	411	70	3174	2768	773	16	"	"	"	"
28305	"	14:43	15:20	11.17	10.87	25.8	2197	8002	5492	624	147	5194	4721	1415	39	"	"	"	"
28306	"	15^{27}	16:09	9.37	9.10	23.1	2405	8002	5209	626	145	5296	4701	1395	32	"	"	"	"
28307	"	16^{10}	16:48	8.04	7.78	19.1	2105	6633	4017	548	105	4449	3890	1126	26	"	"	"	"
28308	"	16^{51}	17:32	6.76	6.52	17.7	2359	6986	4104	614	109	4655	4137	1087	40	"	"	"	"
28309	"	18:01	18:11	11.71	11.44	46.4	614	2311	1387	160	74	1212	1013	333	12	OFF	OFF	"	"
28310	"	18:13	18:39	11.08	10.74	25.6	1543	5826	3966	401	103	3878	3380	1088	18	ON	ON	"	"
28312	"	19:06	19:18	8.76	8.45	22.6	612	2157	1364	159	36	1445	1226	371	4	"	"	"	"
28313	"	21^{08}	21^{44}	10.48	10.47	24.8	2177	8002	5343	566	140	5324	4751	1393	341	"	"	"	"

$\langle L \rangle$ $10^{30} cm^{-2} s^{-1}$	RHONA $\int L dt$ μb^{-1}	$\int L dt$ Exp. Energy	IBM/ TAPE OUTPUT	AT RUN START TOF [V]	AT RUN START ID [kA]	ONLINE REF. SUM MIPROC T_2 %	ONLINE REF. NORDCD $T_1 T_2$ %	Σ RHONA	MM	E_{BEAM}	MAG. FIELD −1+6	REMARKS
	22.14	53980.99	IBM	0.9	0.1		40	385	6	17.500	4847	numbers missing from run survey!
6.88	2.93	53983.72	"	0.8	0.1	51	44	48	1	"	4850	beams dumped
15.32	33.14	54016.86	IBM	1.9	0.2	47	31	582	3	17.501	4850	
10.37	24.54	54041.40	"	1.5	0.2	50	39	431	4	17.500	4851	
7.07	6.43	54047.83	"	0.75	~0	53	43	113	2	17.501	4850	beams dumped
12.64	7.00	54054.83	"	1.3	~0	49	36	123	1	17.500	4847	run stopped:
11.49	27.90	54082.73	"	1.15	~0	50	35	490	10	17.503	4848	
10.13	6.38	54089.11	"	0.95	~0	51	37	112	3	17.500	4847	run hang-up
8.66	11.80	54101.01	"	1.9	~0	48	38	208	4	"	4846	beams dumped
7.58	9.62	54110.63	"	1.8	~0	51	41	168	2	17.501	4844	beams dumped
14.28	1.08	54111.71	"	1.8	0.1	31	37	19	0	17.500	"	beams dumped last
14.85	37.94	143.65	"	1.5	0.1	48	32	561	16	"	"	
12.81	29.15	172.80	"	1.2	0.1	48	37	572	8	"	"	
10.06	23.12	195.92	"	1.0	0.0	50	38	406	8	"	"	
7.89	18.21	214.14	"	0.8	0	52	40	310	6	"	"	beams dumped
14.33	29.95	54244.09	"	1.6	0.1	50	34	526	11	"	"	
11.47	25.56	54269.65	"	1.2	0	49	37	449	10	"	"	
8.99	22.95	54292.60	"	1.0	0	52	39	413	3	"	"	
7.60	15.20	54307.80	"	0.9	0	51	41	267	6	"	"	dumped
15.25	8.20	54316.00	"	1.8	0.1	47	31	144	2	"	"	
12.03	26.58	54342.58	"	1.6	0.1	49	35	467	7	"	"	
11.81	25.39	54367.97	"	1.3	0.1	50	37	446	7	"	"	
10.40	12.07	54380.04	"	1.0	<0.1	50	39	212	4	"	"	
9.10	0.85	54380.89	"	0.8	~0	44	44	15	0	"	"	changed over to mag. tape
8.31	11.39	54392.28	JADS08	0.8	~0	50	41	200	7	"	"	beams dumped.
13.45	26.47	54418.75	"	1.8	0.2	47	32	465	3	"	"	
11.38	24.93	54443.68	JDAS09	1.2	0.2	48	36	438	10	"	4850	
9.21	19.82	54463.50	"	0.9	0.2	50	41	348	6	17.503	"	
7.54	16.74	54480.24	JDAS11	0.8	0.1	50	43	294	8	17.500	"	beams dumped
11.05	5.64	54485.88	JDAS12	2.0	0.2	0	41	99	2	"	"	MP 4 and TOR switched off
14.56	22.66	54508.54	"	1.6	0.2	48	33	398	6	"	"	
11.69	7.29	54515.83	IBM	1.2	0.1	49	38	128	4	"	"	beams lost
13.24	28.81	54544.64	"	1.7	0.1	49	34	506	10	"	4846	

RUN	DATE	START	STOP	AT RUN START I+	AT RUN START I-	DEAD TIME (%)	TIME (SECS)	RECORDS IN	RECORDS OUT	ALL *10^6	TØ REJ *10^6	T1 ACC SUM	T2 ACC SUM	T1 BIT2 E_LG >6GeV	T2 BIT 17 2T. E_LG > 2.2T	PROCESSORS ON/OFF NSO	MIP	TOF	OTHER
28314	19/8/86	21^45	22^30	9.00	8.98	21.9	2398	8002	5074	623	136	5261	5007	1300	33	ON	ON	ON	ON
28315	"	22^30	23^12	7.35	7.18	21.2	2503	8002	5019	651	138	5257	5023	1263	32	"	"	"	"
28316	"	23^12	23^35	6.32	6.16	20.4	1341	4240	2590	349	71	2821	2668	693	8	"	"	"	"
28317	20/8/86	0^11	0^35	11.25	10.60	25.7	1412	5507	3559	367	94	3483	3033	952	23	"	"	"	"
28318	"	1.10	1:47	11.28	10.86	25.0	2111	8002	5494	549	137	5356	4611	1357	26	"	"	"	"
28319	"	1.46	2:26	9.71	9.32	22.3	2292	8002	5302	596	132	5406	4761	1441	34	"	"	"	"
28320	"	2:25	3.15	8.33	7.96	20.4	2395	8002	4999	622	126	5358	4754	1392	33	"	"	"	"
28321	"	3:15	3.59	6.91	6.54	19.1	2556	8002	4854	664	127	5390	4799	1312	33	"	"	"	"
28322	"	4.00	4.08	5.95	5.79	17.6	490	1456	841	122	21	995	827	211	4	"	"	"	"
28323	"	4.48	5.25	10.88	10.64	24.1	2196 ~~8002~~	8002	5364	571	137	5392	4721	1400	33	"	"	"	"
28324	"	5.25	6.06	9.34	9.10	20.9	2396	8002	5064	623	130	5407	4771	1392	33	"	"	"	"
28325	"	6.05	6.45	7.99	7.77	21.6	2370	8002	4972	616	132	5348	4781	1413	39	"	"	"	"
28326	"	6.46	7.13	6.91	6.71	21.1	1595	5207	3235	415	87	3421	3134	864	24	"	"	"	"
28327	"	7.52	8^20	11.13	10.68	26.2	1603	5308	3829	417	109	3853	3413	986	23	"	"	"	"
28328	"	9^21	9^59	10.73	10.73	23.6	2250	8002	5278	586	138	5261	4793	1354	30	"	"	"	"
28329	"	10^00	10^39	9.21	9.05	21.3	2377	8002	5074	618	132	5361	4711	1397	34	"	"	"	"
28331	"	10^42	11^24	7.85	7.66	21.5	2483	8002	5012	646	139	5387	4917	1340	34	"	"	"	"
28332	"	11^24	11^46	6.76	6.58	22.2	1295	4496	2558	337	75	2781	2585	669	23	"	"	"	"
28333	"	12^43	12^53	10.42	10.75	25.7	563	2070	1381	147	38	1339	1225	355	7	"	"	"	"
28334	"	12^56	13^36	9.88	10.14	22.5	2274	8002	5142	584	133	5396	4742	1391	29	"	"	"	"
28335	"	13^36	14^16	8.41	8.56	20.8	2388	8002	4874	621	129	5379	4788	1360	44	"	"	"	"
28336	"	14^17	14^59	7.21	7.34	22.1	2511	8002	4841	653	145	5325	4834	1328	37	"	"	"	"
28337	"	15^02	15^08	6.16	6.28	20.6	388	1233	743	101	21	807	755	203	5	"	"	"	"
28338	"	15^51	16^32	10,33	11,05	26,2	2759	8002	5408	561	147	5334	4639	1440	42	"	"	"	"
28339	"	16^33	17^11	9,21	8,94	23,5	2272	8002	5157	591	138	5322	4754	1340	31	"	"	"	"
28340	"	17^12	17^51	7,85	7,64	22,6	2357	8002	5186	613	138	5298	4840	1386	40	"	"	"	"
28341	"	17^53	18^35	6,54	6,46	22,2	2459	8002	5045	639	141	5367	4892	1430	33	"	"	"	"
28342	"	18^36	19^20	5,54	5,47	19,7	2635	8002	4632	685	134	5278	5093	1250	34	"	"	"	"
28343	"	19^20	20^10	4,52	4,37	16,0	2963	8002	4335	771	123	5332	5263	1175	29	"	"	"	"
28344	"	20^10	20^25	3,92	3,78	14,8	906	2306	1220	235	34	1521	1534	310	11	"	"	"	"
28345	"	20^56	21^33	11,05	10,82	26,7	2176	8002	5396	566	151	5312	4765	1414	30	"	"	"	"
28346	"	21^33	22^10	9,48	9,27	23,2	2227	8002	5245	579	134	5343	4691	1385	30	"	"	"	"
28347	"	22^10	22^51	8,13	7,94	21,4	2406	8002	4958	625	133	5328	4929	1356	30	"	"	"	"
28348	"	22^51	23^27	6,96	6,79	20,6	2140	6903	4256	557	115	4564	4310	1141	38	"	"	"	"

<L> 10^30 cm^-2 s^-1	BHABHA ∫L dt nb^-1	∫L dt EXP. ENERGY	IBM TAPE OUTPUT	AT RUN START TOF [V]	AT RUN START ID [mA]	ONLINE REJECT SUM MISREC %	ONLINE REJECT NSO T1T2 %	Σ BHABHA	MA	E_BEAM	MAG FIELD 1 G	REMARKS
10.72	22.49	54567.13	IBM	1.4	0.1	50	38	395	7	17.501	4847	
8.54	21.18	54588.31	"	1.2	0.1	50	38	372	5	"	"	
7.33	10.82	54599.13	"	1.1	0.1	51	40	190	3	"	"	beams dumped
13.89	19.87	54619.00	"	1.7	0.2	47	34	349	9	"	"	beams lost
14.64	29.21	54648.21	"	1.7	0.1	48	32	513	7	"	4845	
12.68	26.81	54675.02	"	1.5	0.05	50	35	471	11	"	4844	
10.13	23.23	54698.25	"	1.3	0.05	49	39	408	1	"	"	
7.94	19.30	54717.55	"	1.0	"	57	41	339	3	"	"	
6.64	2.85	720.40	"			57	44	50	0	"	"	dump
13.69	28.41	748.81	"	1.8	0.05	50	34	499	9	"	"	
11.50	23.97	772.78	"	1.4	0.05	50	38	421	6	"	"	
9.12	21.29	794.07	"	1.2	~0	49	39	374	11	"	"	
7.92	10.76	804.83	"	2.2	~0	48	39	189	6	"	"	dump
12.20	19.30	54824.13	"	1.8	0.08	49	35	339	8	"	"	Beams lost
13.10	26.76	54850.89	"	1.75	0.15	48	35	470	9	17.500	4846	
11.11	23.00	54873.89	"	1.35	0.1	49	38	404	8	"	4847	R28330 died during pedestals
8.80	21.76	54895.64	"	1.2	0.05	51	38	382	6	17.501	4846	
7.41	7.97	54903.61	"	1.2	0.05	51	40	140	3	"	4847	Beams dumped
12.33	7.06	54910.67	"	1.7	0.1	48	35	124	4	"	4835	"No evts..." -dap
12.20	25.81	54936.58	"	1.5	0.1	50	37	455	4	17.503	4836	
9.84	20.66	54957.24	"	1.2	0.1	50	39	363	10	17.502	4837	
7.53	17.42	54974.66	"	1.2	0.05	51	39	308	8	"	4838	
6.66	2.39	54977.05	"	1.2	0.05	48	41	42	1	17.501	4837	beams dumped
13,62	27,33	55004,38	"	2.0	0,15	50	33	480	8	17500	4837	
11,49	24,88	55029,26	"	1,5	0,1	49	37	437	6	"	4838	
9,55	19,19	55048,45	"	1,3	0,1	49	36	337	5	17501	4837	
7,58	18,84	55067,29	"	1,3	0,05	51	38	331	5	17500	4838	
4,95	11,21	55078,50	"	1,1	0,05	51	43	197	3	"	4837	
3,71	9,62	55088,12	"	0,8	<0,05	54	47	169	3	"	"	
3,40	2,62	55090,74	"	0.8	<0,05	54	49	46	0	"	"	beams finally dumped. (see bottom of page 70)
13,86	28,07	55118,81	"	2,0	0,2	50	34	493	7	"	4835	
12,15	24,65	55143,46	"	1,6	0,1	49	36	433	5	17501	4834	
9,59	21,07	55164,53	"	1,4	0,05	51	39	370	5	"	"	
7,53	14,52	55179,05	"	1,3	<0,05	51	39	255	8	17500	"	beams dumped.

20.08.86

7.00 Persuaded Neuke 7 to refill (currents are just below 6.5 mA)

8.00 Cartwright on shift
8.05 Gas check done
8.19 Most of both beams lost. Not surprisingly, everything trips!
9.13 J68K processors reloaded by Herr Riesberg.
10.25 Missing LAM br 4 cr 1, JETC pt 701 ~~de~~ MISSING LAM at FEP Ready immediately after IBM transfer error 0; probably consequence of relinking IBM.
10.40 Run 28330 died with system crate watchdog flag 6*0 177777 during pedestals
10.50 IBM transfer error 52
11.02 " " " "
11.18 Missing LAM br 3 cr 4: Zch part 1

12.00 Becker

12.53 "No events in" - stop run
13.35 New version of JETC programs with more error diagnostics. As a result the "SEE HOP" - message appears on the colour TV occasionally. As long as the HOP-message is "Forced Scanner Reset" or none no further action need be taken.
This is not (yet) the standard version, F15, F10 will bring back the old defaults. E.E.

16.00 Hill
16.16 ID+ VTX ch soft trip. TOF rate goes off scale - comes back down after a few mins.
16.45 Gas check done all OK.
16.51 IBM transfer error 0
16.44 IBM transfer error 52.

20.00 Chrin,
Fill kept for over 4 hrs as Peter ~~Ist~~ unable to start injection (some magnet problems).
Beams finally dumped at 20.25 and injection begins.
New fill + new run at 20.56.

21.08.86

0.00 Nye on shift. Gas check done.
0.12 JDAS readout error 32 - Missing LAM at FEP ~~Ready~~ (JETCH) → Pause/Continue doesn't work - STOP run.
START run with no O/P → still JDAS r/o err. 32, followed by JDAS r/o err 37, "Wrong answer at FEP Ready (JERH). Reloaded J68K
→ The problem is cured! ~~Old~~ JETC programs now running.
FOR THE ATTENTION OF ELSEN thank yt

0.26 Msg on system console: error in ~~reading~~ opening file for EMD0034 2
Also notice that YSPY terminal is silent - no messages at start of run - decide to STOP run and try and discover whats wrong. - terminal just needed switching OFF/ON!
0.43 JDAS r/o err 64 - AC2099 TOF-2 &X missing stn = 3 Subaddr 5
1" Beams partially lost → Set ch trip

4:00 Wado on shift

6:50 IBM error 52 → relink successfull, but no run continuation possible (no events, ...) Pause/Continue does not help
start new run - ok.

8:00 Elsen on shift
Gas check done
10:40 JDAS R/O ERROR 52 system crate watchdog flag 000002 177777
11:35 New JETC/68K readout program with more diagnostics (starting run 28365)
This is the default now. E.E.
12.00 Cartwright on shift
12.46 IBM transfer error 52
13.39 " " " "
13.52 NO EVENTS — NORDSO BUSY. Cured by Pause/Continue
14.01 IBM transfer error 52
14.04 Run 28369 died after 48 seconds for no obvious reason (following an IBM-transfer error, but not immediately following it — run continued for ~ 30 seconds before grinding to a halt with NO TRIGGERS. White trigger disco light was ON.)
14.24 VXC PC complains about mismap. Very small spike (below expt threshold).
14.40 IBM transfer error 52 - not restarted because Elsen is working in the HOP-terminal
14.42 Restarted.

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Run No.	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 Bit 2 E_L>6 GeV	T2 Bit 17 2T.E4 ≥ 2TR	Processors ON/OFF NSO	MIP	TOF	FFA
28349	21/5/86	23^59	0^15	11.11	10.73	27.1	880	3493	2380	229	62	2357	2003	646	14	ON	ON	ON	ON
28350	"	0^26	0^38	9.92	9.58	24.6	694	2822	1692	180	44	1687	1537	449	7	"	"	"	"
28351	"	0^39	1^13	9.34	8.99	23.1	1958	6945	4457	509	117	4647	4172	1229	31	"	"	"	"
28352	"	1^44	2^21	11.29	10.78	26.1	2149	8002	5347	659	146	5297	4743	1435	39	"	"	"	"
28353	"	2^21	3^00	9.62	8.96	21.9	2331	8002	5034	608	133	5349	4886	1391	22	"	"	"	"
28354	"	3^00	3^43	8.23	7.60	20.9	2494	8002	4828	649	135	5302	4930	1262	42	"	"	"	"
28355	"	3:44	4:17	7.06	6.46	19.3	2010	6375	3809	523	107	4235	3952	1042	30	"	"	"	"
28356	"	4:44	4:48	11.76	11.25	31.5	149	637	449	39	12	399	355	108	8	"	"	"	"
28357	"	5:44	5:58	11.10	10.71	30.3	798	2960	1954	208	63	1953	1844	534	14	"	"	"	"
28358	"	6:32	6:57	11.08	10.68	29.1	1077	3988	2702	280	82	2627	2408	701	22	"	"	"	"
28359	"	6:52	7:29	10.13	9.66	24.3	2214	8002	5231	576	140	5378	4843	1442	37	"	"	"	"
28360	"	7:30	8:10	8.68	8.89	22.9	2368	8002	4988	616	141	5269	5000	1282	31	"	"	"	"
28361	"	8:10	8:46	7.44	6.80	21.5	2157	7008	4230	561	120	4647	4419	1176	26	"	"	"	"
28362	"	9:32	10:15	9.39	10.15	27.7	2182	8002	5386	568	157	5236	4863	1396	43	"	"	"	"
28363	"	10:16	10:55	8.81	8.64	24.7	2340	8002	5029	608	150	5271	4819	1243	32	"	"	"	"
28364	"	10:56	11:17	7.41	7.30	22.8	1246	4172	2582	324	74	2738	2534	689	16	"	"	"	"
28365	"	11:18	12:00	6.79	6.68	22.3	2497	8002	4837	649	145	5280	5008	1262	31	"	"	"	"
28366	"	12^00	12^05	5.83	5.71	22.0	294	1016	623	76	17	655	576	151	4	"	"	"	"
28367	"	12^46	13^23	10.16	10.30	26.0	2203	7999	5168	573	149	5211	4851	1388	45	"	"	"	"
28368	"	13^24	14^02	8.79	8.83	24.7	2293	8002	5079	596	147	5217	4951	1298	30	"	"	"	"
28369	"	14^02	14^04	7.50	7.53	25.8	48	238	153	13	3	149	112	38	2	"	"	"	"
28370	"	14^05	14^41	7.42	7.46	23.6	2148	7199	4536	559	132	4787	4479	1193	26	"	"	"	"
28371		14^43	15^24	6.40	6.44	22.6	2448	8002	4828	637	144	5221	5028	1310	25	"	"	"	"
28372	"	15^24	15^35	5.47	5.62	21.7	659	2065	1223	172	37	1313	1353	808	7	"	"	"	"
28373	"	16^20	16^36	10.05	9.27	26.8	921	3373	2246	239	64	2212	1938	563	13	"	"	"	"
28374	"	16^40	17^19	9.27	8.46	22.9	2324	8002	4964	604	138	5247	4786	1326	23	"	"	"	"
28375	"	17^20	18^02	7.89	7.10	20.5	2480	8002	5124	645	132	5305	4621	1319	28	"	"	"	"
28376	"	18^03	18^16	6.74	5.96	19.7	756	2408	1432	157	38	1552	1454	357	9	"	"	"	"
28377	"	20:07	20:50	10.90	10.68	29.5	2782	8002	5261	567	167	5099	4959	1303	27	"	"	"	"
28378	"	20:50	21:34	8.88	8.35 (8.73)	23.6	2343	8002	4945	610	144	5199	5000	1294	36	"	"	"	"
28379	"	21:33	22:15	7.50	6.96	23.2	2391	8002	4909	622	144	5287	4929	1268	34	"	"	"	"
28380	"	22:15	22:23	6.40	5.86	22.7	437	1485	879	114	26	975	876	223	3	"	"	"	"
28381	"	22:54	23:25	11.27	10.68	28.4	1763	6682	4336	459	130	4342	4080	1133	118	"	"	"	"
28382	"	23:30	23:44			24.6	794	2891	1879	207	51	1875	1754	483	10	"	"	"	OFF

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∠L7 10^30 cm^-2 s^-1	Bhabha ∫Ldt nb^-1	∫L dt Exp. energy	IBM/Tape Output	At Run Start TOF [V]	At Run Start TD [mA]	Online Rejections Sum %PCC T2 %	Online Rejections NonSO T1·T2 %	Σ Bhabha	MHs	E beam	mag. field -1.6	Remarks.
14.97	13.44	55192.49	IBM	2.1	0.1	49	33	236	1	17.501	4834	J68K problem.
13.38	9.11	55201.60	"	1.8	0.1	48	35	160	2	"	"	
12.00	22.37	55223.97	"	1.6	0.1	50	37	393	6	"	"	beams lost.
13.25	29.04	55253.01	"	2.0	0.2	49	34	510	5	"	"	
11.12	22.77	55275.78	"	1.5	0.1	51	38	500	7	"	"	
8.91	19.36	55295.74	"	1.3	0.1	51	41	340	4	"	4832	
8.00	14.35	55309.49	"	1.1	< 1	51	47	252	4	"	"	beams dumped
14.63	2.28	55311.77	"	2.2	0.2	42	37	40	0	"	"	beams lost
13.33	10.76	55322.53	"	2.4	0.2	51	35	189	5	"	4831	beams lost
13.20	13.43	55335.96	"	2.2	0.2	50	33	236	2	17500	4833	run hang up after IBM transfer error
11.74	26.25	55362.21	"	1.8	0.2	51	36	461	2	17503	4832	
9.31	20.84	55383.05	"	1.5	0.15	51	39	866	6	17501	4832	
7.71	15.37	55398.42	"	1.3	0.15	51	41	270	3	17500	4832	beams dumped
12.62	24.77	55423.19	"	2.1	0.20	50	35	485	11	17501	4833	
10.29	20.33	55443.52	"	1.6	0.20	50	39	357	2	17501	4834	
8.38	9.96	55453.48	"	1.4	0.15	50	40	175	2	17501	4834	JETC/768k load
7.10	16.05	55469.53	"	1.3	0.15	53	41	282	9	17500	4834	
5.62	1.71	55471.24	"			49	41	30	1	17.503	4835	Beams dumped
11.71	26.07	55497.31	"	2.1	0.2	50	37	458	5	17.500	"	
10.15	21.12	55518.43	"	1.7	0.2	51	38	371	4	"	4836	
9.55	0.68	55519.11	"	1.5	0.2	39	39	12	0	17.501	4837	Run hangup for no apparent reason
8.41	15.66	55534.77	"	1.5	0.2	53	38	275	3	"	"	
6.70	16.77	55550.54	"	1.4	0.15	52	41	277	4	17.500	"	
5.50	3.19	55553.73	"	1.25	0.15	52	43	56	1	"	"	Beams dumped
11.42	9.91	55563.64	"	1.9	0.2	49	35	174	3	17.501	"	No triggers to stagged.
9.89	21.35	55584.99	"	1.6	0.2	52	39	375	7	17.500	4838	
7.57	18.16	55603.15	"	1.3	0.2	51	37	319	3	"	4837	
6.29	4.10	55607.25	"	1.2	0.15	49	42	72	0	17.501	"	Beams dumped.
10.90	21.75	55629.00	"	2.2	0.25	49	36	382	9	"	4835	
9.01	17.99	55646.99	"	1.7	0.2	51	40	316	5	"	4834	
7.71	16.28	55663.27	"	1.7	0.15	52	40	286	2	17500	"	
6.10	3.13	55666.40	"	1.4	0.15	50	43	55	0	"	"	Beams dumped
12.28	20.35	55687.35	"	2.3	0.22	50	36	368	3	17501	"	
			"			50	36	129	6		"	

14^{46} JDAS readout error 64 - AC2099 TOF2 Q,X missing stn=13 subaddr=1
14^{51} IBM transfer error 52
14^{52} "Short break" in PETRA TV. But we still have beam. ?!
14^{58} Mark J say PETRA has vacuum problems & some trouble with a power supply. There will be a short break (of unknown length) after this fill. At the moment PKR don't even know if they can dump the beams in a controlled manner, so it is unclear how long this fill will continue.... probably not long...
VXC PC grumbling about wiremap again, but it looks OK to me.
15^{32} IBM transfer error 52, followed after relink by DMA timeout 177777 000003 640 br 4 cr 1 JETC point 503
15^{44} Threatened "short break" has not materialized. Maybe PKR managed to fix their problems without it.

16^{00} - ink Walther on shift

16^{20} IBM transfer error 52
16^{39} NO TRIGGERS wants to come. White trigger lights ON. Stop run.
17^{31} VXC-ch alarm + PETRA "Energie-Änderung" ⇒ 17:515 GeV after ~ 1500 counts to IBM ⇒ 1900 counts (2500 " " NIKO ⇒ 3300 " ")
17^{31} YSPY detects LG error 4x blanks/event >20 x2
18^{15} VXC valve failure after "DOWN". 18^{25} Workbird on shift.
19^{10} Beams filled. Bad beam conditions "Background optimum" Finally beams lost, HV down again.

Correlation between Pickup event and such an event with miss. JETC.
11 Events, but with no JBBK-Bank.

20^{40} Jackpot Hit. All chambers tripped + Valve failure + Pickup Event.
Non-resettable valve failure (i.e. only by manual valve action came twice during this shift, both times connected with something else. (Legal "down" action and "trip") Can the experts do something about it?
22.15. Again BP-CL Valve failure together with "down". This time green lamp on. Pressing red lamp cured failure
22.50 Nord Error. "Outside Segment Bounds": See Console Printout. 2x 5x Read JDAS manual 4.7
22.34. Nord hangup with white lamp on. Run stopped. Since the error occured shortly afterwards, and deathtime (Read Manual) 4.7 It destroys the database
If you can stop the run the NORD cannot be hung up. to exorcise the system the NORD was reloaded from bottom up. - What does this mean.
Misleading What shall we do if NORD Error comes more often. HEM's telephone does not respond.
PETRA-Currents are not updated! Try to find entry for operator insertion.
& HEM finally responded and solved two problems at one blow: The task YMAIL was corrupted and produced the errors. Rebuilding it. This is all in the JDAS manual 4.7. Not at all necessary to phone.

23.50. IBM-Error. Phone call: IBM down.
0^{00} Eckerlin on shift 22.8.86
Gas check done
1^{20} FAMP was off from run 28382 on. Reason unknown
try to switch FAMP on before next run: failed (tryed with FAMP-INITL-LOAD in FAMP-DIALOG)
Start run without FAMP.
Reload FAMP during run 28387 (successfully ended at 1:50)
2^{00} hard trip of all chambers
2^{02} beams dumped (may be lost?)
2^{16} FAMP switched ON
2^{36} IBM Transfer error : 52
3^{00} JDAS Readout error 53 - Missing LAM branch 4 crate 1 JETC point 703
immediately after IBM Transfer Error: 52
3^{20} JDAS Readout error 53 - System crate watchdog flag PARMS: 000002 177777 (oct)
3^{26} No Events for more than 30 seconds. Pause/Continue doesn't help. Run stopped
4^{00} Ranke on shift
7^{40} YSPY terminal shows junk YSPY task corrupted? - No Terminal in COPY mode (spurious).

8^{00} H. Mills on shift
Gas check ok
8.45 New fill. warned LA DCs up first - good thing I did.
Notice background over last few days rather high (TOF, TD, DT). PKR will investigate.
The background - typically we now have same TOF rate (1.5?) with 6.5 mA/beam that we had a week ago with 10.5 mA....

12.30 New fill. Despite 3 times doing a LA test run there were pedestal problems on starting run.
12.30 G. Weber on shift
12.48 dead time at beginning of run 38401 looks reasonable (27%); suddenly increase to 35%.
call PKR: they are trying to reduce background for TASSO(!), but promise to reduce ours as well.
12.56 we are now back to normal again!
12.58 JDAS readout error 44 - DMA time out
branch 4 crate 1: JETC point 707
14.11 JDAS readout error 53 - Missing Lam branch 3 crate 2: muon chambers
16^{00} Meinke, Rickenberg
Gas check done

Run	DATE	Start	Stop	FT RUNSTART I^+	FT RUNSTART I^-	Dead Time %	Time (secs)	Records IN	Records out	RLL $*10^6$	TO Reg $*10^6$	T_1 Acc SUM	T_2 Acc SUM	T_1 BIT2 $E_{LG}>6$ GeV	T_2 BIT7 $2T \cdot E_T \geq 2TR$	Processors NSO	Processors MIP	Processors TOF	ON/OFF FAN
28383					Junk														
28384					Junk														
28385	21/8/86	23:58	0:38	8.48	7.13	23.2	2337	8003	4905	608	141	5136	4901	1297	233	ON	ON	ON	OFF
28386	22/8/86	0:38	1:20	7.30	6.04	20.8	2512	8002	4811	654	136	5351	5064	1259	38	ON	ON	ON	OFF
28387	"	1:22	2:00	6.25	5.09	20.3	2258	6881	3986	588	114	4505	4461	1046	25	"	"	"	OFF
28388	"	2:33	3:09	10.96	10.95	28.8	2132	8002	5231	555	160	5244	4778	1351	28	"	"	"	ON
28389	"	3:09	3:26	9.20	8.93	26.8	938	3769	2401	260	70	2516	2186	658	12	"	"	"	"
28390	"	3:28	4:07	8.64	8.78	24.8	2316	8002	4817	602	149	5157	4960	1286	42	"	"	"	"
28391	"	4:08	4:49	7.20	6.69	24.1	2414	8002	5087	628	151	5256	4947	1383	39	"	"	"	"
28392	"	4:49	5:01	6.15	5.67	23.2	703	2319	1378	183	42	1535	1430	355	8	"	"	"	"
28393	"	5:38	6:14	11.22	11.06	30.3	2134	8002	5320	555	168	5188	4933	1350	29	"	"	"	"
28394	"	6:14	6:51	9.44	8.97	26.9	2200	8002	5089	572	154	5272	4762	1419	29	"	"	"	"
28395	"	6:52	7:31	8.04	7.54	23.9	2335	8002	4897	607	145	5164	5076	1226	36	"	"	"	"
28396	"	7:32	8:02	6.84	6.26	22.5	1734	5808	3468	451	101	3778	3614	935	20	"	"	"	"
28397	"	8:45	9:22	10.40	10.41	30.2	2161	8002	5207	562	169	5143	4997	1388	27	"	"	"	"
28398	"	9:22	9:33	8.91	8.92	25.5	634	2353	1492	165	42	1578	1416	447	9	"	"	"	"
28399	"	9:37	10:12	8.46	8.47	24.8	2257	8002	4994	587	145	5271	4974	1351	36	"	"	"	"
28400	"	10:12	10:47	7.19	7.17	23.1	2043	6979	4273	532	122	4515	4326	1071	31	"	"	"	ON
28401	"	12:30	13:07	10.14	9.61	28.9	2154	8002	5124	561	162	5260	4878	1427	18	"	"	"	OFF
28402	"	13:07	13:45	8.65	8.15	26.1	2250	8002	5063	586	153	5224	4839	1387	37	"	"	"	ON
28403	"	13:47	14:23	7.34	6.88	22.2	2090	7027	4211	548	121	4662	4147	1170	26	"	"	"	"
28404	"	14:24	14:47	6.36	5.92	21.5	1351	4348	2496	352	76	2878	2632	720	16	"	"	"	"
28405	"	15:28	15:47	10.22	10.04	27.7	1131	4224	2731	284	81	2726	2573	709	17	"	"	"	"
28406	"	15:48	16:12	9.40	9.09	27.6	1358	4978	3130	354	98	3257	2957	855	23	"	"	"	"
28407	"	16:14	16:51	8.47	8.14	26,0	2239	8002	5005	582	151	5275	4842	1339	39	"	"	"	"
28408	"	16:52	17:32	7.23	6.91	25.3	2180	7309	4494	567	143	4726	4591	1211	49	"	"	"	"
28409	"	18:39	19:15	10.62	10.57	30.3	2125	8002	5210	553	167	5194	4660	1379	35	"	"	"	"
28410	"	19:15	19:53	9.03	8.86	25.3	2250	8002	5099	585	148	5269	4789	1428	26	"	"	"	"
28411	"	19:55	20:35	7.63	7.45	22.9	2339	8002	4752	609	139	5290	4801	1318	24	"	"	"	"
28412	"	20:35	21:01	6.53	6.23	20.3	1516	4892	2740	395	80	3221	3043	718	18	"	"	"	"
28413	"	21:40	22:15	10.44	10.23	29.2	2041	7998	5143	581	155	5125	4673	1327	30	"	"	"	"
28414	"	22:16	22:53	8.91	9.15	25.7	2205	8002	4955	573	147	5187	4771	1369	41	"	"	"	"
28415	"	22:53	23:13	7.60	7.82	25.0	1144	4056	2513	298	74	2634	2344	657	13	"	"	"	"
28416	"	23:14	23:54	7.00	7.20	22.3	2419	8002	4770	630	140	5202	4915	1252	32	"	"	"	"
28417	"	23:55	23:55	5.98	6.16			41	23							"	"	"	"

<L> 30 -2-1 10 cm s	BHFBHT $\int Ldt$ nb^{-1}	$\int Ldt$ Exp. Energy	IBM/Tape output	FT RUNSTART TOF [V]	FT RUNSTART IO [mA]	ONLINE REJECT SUM MIPROC T_2 %	ONLINE REJECT NORDSO T_1+T_2 %	Σ BHFBHT	MH	E_{Beam}	MAG Field -1*G	Remarks
8.68	19.76	55707.11	IBM	1.5	0.1	50	40	347	3	17.501	4834	
6.65	17.70	55724.81	"	1.3	0.1	54	41	311	4	17.500	4834	
5.83	11.50	55736.31	"	1.25	0.1	53	44	202	3	17.500	"	beams lost
12.47	23.62	55759.93	"	2.4	0.2	50	36	415	7	17.500	"	
10.98	11.33	55779.26	"	2.0	0.2	51	38	199	3	17.501	"	To Trigger → stopped
8.29	17.59	55788.85	"	1.6	0.15	49	41	309	8	17.500	"	
7.25	18.85	55807.70	"	1.5	0.1	51	38	431	4	17.501	"	
6.20	4.27	55811.27	"	1.4	0.1	53	42	75	1	"	4833	beams dumped
12.41	23.28	55834.55	"	2.5	0.2	51	35	409	10	17.500	"	
10.57	24.09	55858.64	"	2.0	0.2	50	38	423	4	17.501	"	
8.20	16.91	55875.55	"	1.4	0.1	51	40	297	7	"	"	
6.86	11.56	55887.11	"	1.4	0.1	51	42	203	3	"	"	beams dump
11.10	24.02	55911.13	"	2.5	0.25	51	36	422	5	"	4837	
11.54	7.46	55919.59	"	2.0	0.2	53	38	131	0	"	"	Triggers stoped!
9.86	19.07	55937.66	"	2.0	0.15	52	39	335	1	"	"	
7.63	14.64	55952.35	"	1.6	0.1	51	40	258	1	"	"	beam dumped!
11.91	24.19	55976.54	"	2.0	0.2	51	37	425	8	"	4830	
10.22	20.84	55997.38	"	1.8	0.2	50	38	366	7	"	4838	
8.48	17.36	56014.74	"	1.7	0.2	50	41	305	8	17.500	4838	run stopped because of IBM transfer error
7.00	9.51	56022.25		1.5	0.2	51	44	167	3	17.501	4839	beams dumped
11.57	11.61	56038.86	"	2.2	0.2	49	36	204	3	17.500	4839	↑
10.47	11.95	56045.81	"	1.9	0.2	50	39	210	2	17.500	4838	run stopped because of IBM transfe trouble
9.22	18.90	56064.71	"	1.7	0.2	51	39	332	2	17.501	4838	TRIGGER HANG UP
6.93	14.40	56079.11	"	1.6	0.2	51	40	253	4	17.501	4839	beams dumped
12.09	24.25	56103.36	"	2.3	0.35	49	36	426	3	17.501	4838	
10.30	24.37	56127.73	"	1.8	0.25	51	38	428	5	17.501	4838	
7.58	17.53	56145.26	"	1.5	0.15	51	42	308	5	17.500	4838	
6.82	9.00	56154.26	"	1.3	0.15	52	45	158	4	17.501	4838	beams dumped
11.57	22.43	56176.69	"	2.4	0.25	48	37	394	3	17.501	4838	
10.00	20.95	56197.64	"	1.8	0.2	50	40	368	6	"	"	
8.73	9.34	56206.98	"	1.6	0.2	50	40	164	2	17.500	"	runned stopped because of IBM transfe error
7.13	14.06	56221.04	"	1.5	0.2	51	42	247	6	"	"	
	.06	56221.10	"	1.4	0.15			1	1	17501	4837	beams dumped

16:42 Trigger hang up. Start new run
17:10 TOF-rate goes over 10V. PKR has no explanation. We can continue after 3 min
17:32 Stop for refilling. Reset VTXC valve error
18:53 New fill ready Reload JG8K. Reason: Head (DL300) measurement, and noisy FEP 27
19:40 Missing LAM B3C4 : z-Q, port 1
21:01 valve failure of VTXC; reset

23.8.86

0[00] Bloom + Hedgecock
has deck completed.
4[55] See that Monitor MOP is black/dead. CTRL/C and Run Zimmoni puts it to life again. Immediately a
R28424 message appeared in the MOP message area: 455 08FEP29 Forced Scanner Reset FWD
457 -- Same with FEP30.15 --- and then many more --- ~1/minute
5[18] Trigger hang up, Run had to be stopped. Happened again in the pedestal events of next run. In both cases, White event lamp on, but no Branch Demand present (and therefore no event interrupt).
6[45] At the begin of the fill high deadtime. Made a couple of short runs with FAMP ON/OFF in order to test its contribution to deadtime. Seems to be ~5% absolute. Since it does not flicker for the time being, I choose to leave it off as long as these bad beam conditions last. J.O.
R28431 For a short time, energy was 17.516 GeV (or till November)
7[50] Jetc-VTX soft trip
8[00] Greenshaw and Hellenbrand on shift
Gas check done, all Ok.
07[58] Notice following system messages on MOP screen.
"07:52:19 FEP10 Forced scanner reset BHW" There were 10 such messages, referring to error which had occurred at times between 07:52 and 07:56 at ~ 30 sec. intervals
Units referred to were 19 FEP10, 13 FEP26, 57 FEP10, 32 FEP15, 25 FEP14, 44 FEP15, 11 FEP10 25 FEP31, 15 FEP04 and 80 FEP15. The tracking BHW was replaced by FWD in the cases of unit 3, 7 and 10 ~ the above list.
11[20] Fed the Gould Plotter, it burped and hiccupped gratefully as usual.
16[00] Krehbiel on shift.
17[06] "Energie-Änderung". Run paused. On phone-call: PETRA has "Sonderausfall." To keep the beam, they have to increase the frequency and the energy increases with it. Got it?
Run 28444. Energy increase at ca Event ~~700~~ 1100, Back again at ca Event 1000 (N10 count)
18[00] Nye on shift. Gas check done.

22[00] New fill with poor background conditions. Untergrund Optimierung for a long time reduces TOF rate from 3V to 2.3V, but Deadtime still >30%
22[36] TOF rate jumps off scale → soft trip. After a couple of minutes it settles down and run is continued.

24.8.86

0[00] Kleinwort and Heinzelmann on shift
Gas check done
1[27] all 3 chambers tripped
3[40] " again
6:14 JDAS Readout Error 55 Missing LAM Bc,4 Cr.1 J68K Bank. → Stop run Reload JETCCSK. Start new run.

8[10] Cl Hedgecock completes the gas check. How I have to wake up!!
10[45] Z-CHAMBER TRIP; VALVE FAILURE; PICK-UP EVENT. How exciting.
11[00] VTXCH HARD TRIP, ID SOFT TRIP.
12[00] H. Mills on shift
NO JADE account left to submit REFORM jobs!
Twice the BPCH gets valve fails when turning volts on/off.
16[00] Ramcke on shift
16[04] Gas check O.K.
15[00] Call from Mark J: PETRA has problems with DESY, so we can't get a new filling at the moment
15[10] YPARA 24: Some BG-Channels with PED CRT <100 LG Testrun (PF4, PF3) doesn't help
18[40] TAGGING HV (HAINFRAMES) ≠ 0 - reset o.k. -
18[55] DL-300 Monitor crashed ⇒ Run ZIMMONI ⇒ MOP up again
20[00] Frost on shift
20[30] discussion with Mr. Fisk PKR spoke no obvious reason (vacuum, beam blow up etc) for the increased background and diminished luminosity. The orbit is no prob, however, it doesn't improve by operating the optimization program. Mr. Loreke should look into the problem monday morning.
PKR claims to have only one background signal (ask expert monday!)

0[00] Hill on shift.
0[51] Jdas readout error 33 br 4 Cr. 1 jetc port 401
then lots of "jdas readout error 33 missing lam at FEP ready"
stop run. Reload FADC processors. New run is # 28292
3[29] "jdas readout error 64 - AC2099 TOF 2 Q,K missing stn = 14 subaddr = 5"

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 bit2 Etot >66eV	T2 bit7 T1 E4 260	Processors On/Off NSO	MIP	TOF	FMH
28418	23/8/86	00 35	01 11	10.84	10.82	29.9	2100	8002	5212	546	163	5219	4882	1445	27	ON	ON	ON	ON
28419	"	01 11	01 48	9.32	9.16	25.7	2198	8002	4959	572	147	5257	4862	1369	33	"	"	"	"
28420	"	01 48	02 31	7.97	7.71	23.1	2311	8003	4859	601	139	5298	4777	1408	34	"	"	"	"
28421	"	02 31	03 03	6.73	6.47	21.2	1837	6144	3482	478	60	4097	3720	985	19	"	"	"	"
28422	"	03 40	4.17	10.11	9.99	28.7	2108	8002	5064	548	157	5227	4793	1388	28	"	"	"	"
28423	"	4.17	4.54	8.66	8.54	24.6	2298	8002	5018	572	140	5337	4645	1467	26	"	"	"	"
28424	"	4.54	5.18	7.44	7.32	22.7	1387	4769	2886	361	82	3120	2762	799	10	"	"	"	"
28425	"								7	junk						"	"	"	"
28426	"	5.19	5.59	6.72	6.62	21.9	2290	7527	4341	596	131	4988	4534	1295	25	"	"	"	"
28427	"	6.33	6.38	10.70	10.33	33.3	235	990	632	61	20	624	534	162	3	"	"	"	"
28428	"	6.38	6.43	10.48	10.13	27.5	251	991	638	65	18	637	603	151	6	"	"	"	OFF
28429	"	6.43	6.48	10.25	9.90	32.1	254	994	688	66	21	645	554	195	5	"	"	"	ON
28430	"	6.48	7.24	10.09	9.67	27.2	2127	8002	5043	553	150	5261	4845	1404	27	"	"	"	OFF
28431	"	7.24	08 05	8.60	8.28	24.0	2200	8002	4766	572	177	5245	4635	1341	24	"	"	"	OFF
28432	"	08 05	08 45	7.14	6.82	22.3	2762	8002	4684	614	137	5226	4961	1319	33	"	"	"	"
28433	"	08 45	08 46	6.12	5.83	20.3	18	96	61	4.68	0.980	58	80	10	2	"	"	"	"
28434	"	09 12	10 08	10.02	9.93	31.0	2153	8002	5164	561	174	5058	5110	1296	32	"	"	"	"
28435	"	10 08	10 46	8.54	8.38	28.4	2192	8002	5001	570	155	5145	4837	1317	32	"	"	"	"
28436	"	10 46	11 23	7.34	7.20	27.0	2221	8002	4885	578	156	5220	4950	1314	41	"	"	"	"
28437	"	11 23	11 47	6.35	6.22	26.3	1749	4846	2986	351	92.2	3160	2987	799	22	"	"	"	"
28438	23/8/86	12:27	13:02	10.00	10.60	29.6	2030	8002	5216	528	156	5166	4915	1317	27	on	on	on	off
28439	"	13:02	13:42	8.54	8.39	26.5	2607	7601	4777	522	138	4954	4694	1356	33	"	"	"	"
28440	23/8/86	14:24	14:59	10.09	10.09	29.2	2055	8002	5068	534	156	5203	4975	1322	34	on	on	on	off
28441	"	14:59	15:35	8.60	8.52	27.8	2117	8002	5113	551	153	5318	4841	1444	37	"	"	"	"
28442	"	15:35	16:13	7.32	6.90	27.1	2217	8002	4942	577	156	5173	5005	1288	28	"	"	"	"
28443	"	16:13	16:32	6.25	6.11	25.1	1041	3797	2300	271	68	2462	2227	587	20	"	"	"	"
28444	"	17:06	17:46	9.83	10.30	28.7	2230	8002	5074	580	166	5149	5081	1341	38	"	"	"	"
28445	"	17:46	18:24	6.72	7.30	26.8	2216	8002	4908	577	154	5214	5007	1278	29	"	"	"	"
28446	"	18 24	18 35	5.74	6.29	24.6	642	2294	1367	167	41	1504	1417	360	7	"	"	"	"
28447	"	19 16	19 52	9.76	9.95	29.4	2054	8002	5234	534	157	5205	4987	1450	21	"	"	"	"
28448	"	19 52	20 28	8.29	8.46	28.0	2140	8002	4960	556	156	5209	5116	1346	26	"	"	"	"
28449	"	20 28	21 06	7.04	7.20	27.8	2207	8002	4939	574	159	5100	4998	1303	33	"	"	"	"
28450	"	21:05	21 10	6.00	6.15	27.7	197	716	442	51	14	443	457	110	7	"	"	"	"
28451	"	21:56	22 31	9.96	9.74	29.7	2058	8002	5063	535	159	5123	4840	1330	40	"	"	"	"

⟨L⟩ 10³⁰ cm⁻² s⁻¹	Bhabha SLdt nb⁻¹	SL dt EXP. ENERGY	IBM Tape output	At Run Start TOF [V]	At Run Start ID [mA]	Online Reject SUM MIG	Online Reject Num ISO T1 T2 %	Σ Bhabha	M/H	Ebeam	Mag Field +×G	Remarks
11.79	22.94	56244.04	IBM	2.6	0.3	51	36	403	5	17500	-4837	
10.18	20.32	56264.36	"	1.8	0.2	51	39	357	4	17501	4838	
8.48	20.32	56284.68	"	1.6	0.15	51	41	357	4	17500	4837	
6.74	11.73	56296.41	"	1.4	0.1	53	45	206	6	17500	4837	Beams dumped.
11.45	23.34	56319.75	"	2.3	0.25	50	38	410	6	17500	4838	
9.56	23.11	56342.86	"	1.6	0.2	51	39	406	7	"	4837	
8.07	11.33	56353.19	"	1.6	0.15	52	41	199	2	17501	4836	Stopped due to trigger hangup.
			"									Stopped due to trigger hangup Junk
6.56	13.49	56366.68	"	1.4	0.15	52	44	237	4	17500	4836	Beams dumped.
12.48	2.56	56369.24	"	2.4	0.25	48	38	45	1	17501	4835	Stopped for Deadtime test
13.64	2.56	56371.80	"	"	"	50	37	45	1	"	"	" " " " "
11.83	2.68	56374.48	"	2.1	"	48	32	47	0	17500	4836	" " " " "
11.07	19.53	56394.01	"	2.3	0.2	51	38	343	6	17501	4836	
8.90	17.82	56411.83	"	1.9	0.2	50	42	313	4	17500	4837	Ebeam 17.516 for some time (~1 min)
6.94	15.22	56527.60	"	1.5	0.2	51	43	277	3	17501	4835	
5.54	0.11	56627.71	"	1.9	0.15	50	44	2	0	17500	"	Beams dumped
10.74	18.56	56446.27	"	2.6	0.25	51	37	326	7	17500	4835	
8.51	17.25	56463.52	"	2.1	0.2	50	39	307	6	"	4837	
7.04	15.77	56479.29	"	1.9	0.15	52	41	277	0	17501	"	
5.88	8.43	56587.72	"	1.8	0.15	51	40	145	3	17501	4838	Beams dumped
12.71	20.38	56508.10	IBM	2.6	0.3	50	36	358	10	17500	4840	
9.63	18.45	56526.55	"	2.2	0.2	52	39	324	4	17501	4840	beams lost during Energie Aenderung
12.37	21.01	56547.56	IBM	2.6	0.3	51	38	369	5	17500	4841	
9.63	19.13	56566.69	"	2.1	0.25	52	37	336	10	17501	4841	
7.57	14.35	56581.04	"	1.9	0.2	50	40	252	4	"	"	
6.35	6.78	56587.82	"	1.7	0.2	48	41	119	0	"	"	
8.53	18.22	56606.04	"	2.1	0.22	52	38	320	9	"	"	Energy-change shortly after Run start 100 Evts and both. See ~~Log~~ Log entry
7.03	14.46	56620.50	"	1.95	0.21	52	40	254	4	"	"	
6.09	4.27	56624.77	"	1.8	0.2	51	42	75	0	"	"	Beams dumped
11.66	23.06	56647.83	"	2.6	0.3	52	36	405	8	"	4840	
9.29	17.31	56665.14	"	2.2	0.2	53	40	304	6	"	"	
7.04	14.40	56679.54	"	2.0	0.2	51	40	253	4	"	"	
6.05	0.91	56680.45	"	1.8	0.2	51	41	16	0	"	4839	Beams dumped
10.92	2038	56700.83	"	2.6	0.3	49	38	358	5	"	4838	

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 Bit 2 $E_{LG} > 6$GeV	T_2 Bit 17 ≥ 2 Tr. $E_0 > 27$	Processors ON/OFF NSD	MWP	TOF	FMF
28452	23/8/86	22^{32}	23^{13}	8.49	8.29	24.7	2231	8002	4880	580	143	5240	4967	1335	23	ON	ON	ON	OFF
28453	"	23^{13}	23^{36}	7.03	6.63	23.9	1337	4670	2709	348	83	3002	2875	687	12	"	"	"	"
28454	24/8/86	0^{08}	0^{42}	10.35	10.17	32.2	2043	8002	5169	531	171	5126	5024	1385	31	"	"	"	"
28455	"	0^{42}	1^{17}	8.81	8.64	30.1	2078	8002	5154	540	163	5195	4962	1299	32	"	"	"	"
28456	"	1^{18}	1^{27}	7.55	7.40	29.4	530	2039	1294	138	41	1338	1172	359	7	"	"	"	"
28457	"	2^{09}	2^{43}	10.58	10.46	33.7	1999	8002	5172	520	175	5132	5073	1320	35	"	"	"	"
28458	"	2^{43}	3^{18}	9.01	8.88	30.6	2088	8002	5059	543	166	5081	5003	1314	27	"	"	"	"
28459	"	3^{19}	4:06	7.69	7.57	29.4	2184	8002	5047	568	167	5118	5045	1341	33	"	"	"	"
28460	"	4:42	5:16	10.24	9.69	31.2	2018	8002	5236	524	164	5114	4806	1374	28	"	"	"	"
28461	"	5:16	5:52	8.76	8.25	29.5	2132	8002	4986	554	163	5116	5038	1274	34	"	"	"	"
28462	"	5:52	6:14	7.49	7.02	27.5	973	3673	2251	253	70	2427	2478	639	16	"	"	"	"
28463	"	6:20	6:30	6.70	6.26	28.8	583	2679	1317	152	44	1311	1333	339	5	"	"	"	"
28464	"	7:09	7:43	10.02	9.38	31.5	2050	8002	5090	533	168	5111	5003	1307	26	"	"	"	"
28465	"	07:93	08:23	8.62	8.03	29.7	2136	8002	5028	555	165	5121	5016	1331	41	"	"	"	"
28466	"	08^{23}	09^{00}	7.28	6.69	29.4	2194	8002	4986	571	168	5173	5144	1368	41	"	"	"	"
28467	"	09^{00}	09:17	6.27	5.73	29.3	976	3474	2151	254	74	2177	2232	554	13	"	"	"	"
28468	"	09^{50}	10^{24}	10.02	10.25	33.6	1999	8004	5094	520	175	5141	4964	1338	36	"	"	"	"
28469	"	10^{24}	10^{59}	8.57	8.79	32.5	2043	8002	5041	531	106	5175	4831	1286	33	"	"	"	"
28470	"	10^{59}	11^{39}	7.35	7.55	31.6	2159	8002	5011	562	177	5080	5005	1320	28	"	"	"	"
28471	"	11^{39}	12:17	6.22	6.40	29.5	2250	8002	4970	585	172	5093	5067	1280	38	"	"	"	"
28472	"	12:17	12:27	5.35	5.52	29.4	549	1920	1185	142	42	1166	1195	282	14	"	"	"	"
28473	"	12:54	13:24	10.65	10.56	34.2	1978	8002	5192	514	175	5111	4934	1332	30	"	"	"	"
28474	"	13:29	14:04	9.07	9.00	31.9	2058	8002	5081	534	170	5159	5004	1381	34	"	"	"	"
28475	"	14:04	14:52	7.77	7.70	30.5	2136	8002	5020	565	169	5118	4919	1287	45	"	"	"	"
28476	"	14:52	15:02	6.34	6.27	29.7	2582	2157	1374	151	44	1354	1355	375	18	"	"	"	"
28477	"	15:32	16:07	10.77	10.86	33.5	2011	8002	5142	523	175	5141	5008	1312	35	"	"	"	"
28478	"	16:07	16:42	9.19	9.28	32.8	2050	8002	5057	533	175	5159	4940	1346	21	"	"	"	"
28479	"	16:42	17:18	7.86	7.94	33.0	2109	8002	5069	548	181	5066	4998	1305	42	"	"	"	"
28480	"	17:20	17:57	6.65	6.75	31.5	2189	8002	5108	569	179	5037	5154	1266	41	"	"	"	"
28481	"	17:57	18:02	5.69	5.86	28.2	281	1051	654	73	21	668	644	165	4	"	"	"	"
28482	"	18:35	19:20	10.46	10.64	33.9	2068	8002	5099	538	182	5028	5102	1343	26	"	"	"	"
28483	"	19^{20}	19^{55}	8.52	8.69	33.4	2087	8003	5084	545	181	5066	5022	1334	42	"	"	"	"
28484	"	19^{56}	20^{32}	7.21	7.37	28.9	2153	8002	4998	559	161	5216	4942	1289	28	"	"	"	"
28485	"	20^{33}	20^{42}	6.14	6.28	27.4	534	1872	1136	138	38	1211	1236	290	10	"	"	"	"

$\langle L \rangle$ 10^{30} cm^{-2} s^{-1}	Bunch $\int L dt$ nb^{-1}	$\int L dt$ exp Energy	IBM / Tape	At Run Start TOF (V)	At Run Start ID (mA)	Online Reject Sum Mirror T_0 (%)	Online Reject NSD $T_1 \cdot T_2$ (%)	Σ Bunch	MH	E_{beam}	Mag. Field $-1 \times G$	Remarks
8.39	17.73	56718.76	IBM	2.0	0.2	51	40	315	5	17.500	4838	
6.50	8.99	56727.75	"	1.7	0.2	50	44	158	1	"	"	beams dumped.
11.23	22.56	56750.31	"	3.0	0.3	51	37	396	3	17501	"	
9.27	18.44	56768.75	"	2.4	0.2	51	37	324	5	17.500	4836	
7.91	4.33	56773.08	"	2.2	0.2	49	38	76	0	17.501	"	beams lost/dumped
11.19	21.12	56794.20	"	3.1	0.3	51	37	371	12	17.500	4835	
9.14	18.96	56813.16	"	2.5	0.2	50	38	333	6	"	4836	
7.39	17.06	56830.22	"	2.1	0.2	50	38	300	7	17.501	4835	beams dumped
10.82	21.29	56851.51	"	2.8	0.3	48	36	385	3	17.500	4835	
8.68	17.54	56869.05	"	2.6	0.2	50	39	308	4	17.503	4834	
7.19	7.06	56876.11	"	2.0	0.2	51	40	124	1	17.500	4836	
6.15	3.81	56879.92	"	1.9	0.2	51	38	67	1	17.501	4835	beams dumped
9.78	18.83	56898.25	"	2.6	0.2	50	38	322	5	17.500	4834	
7.96	16.57	56914.82	"	2.3	0.2	50	39	291	4	17501	4836	
6.61	15.32	56930.14	"	2.1	0.2	53	39	269	3	17501	4835	
5.36	5.24	56935.38	"	1.9	0.2	51	40	91	2	17500	4835	Beams dumped.
10.90	20.61	56955.99	"	3.0	0.3	51	38	362	6	17500	4837	
8.75	16.85	56972.84	"	2.5	0.25	51	39	296	7	17500	4838	
6.78	14.17	56987.01	"	2.25	0.2	50	39	249	7	17500	4837	
5.33	10.48	56997.49	"	2.05	0.2	51	40	184	4	17500	4838	
4.43	2.22	56999.71	"	1.9	0.2	49	41	39	2	"	4840	Beams dumped
11.00	19.18	57018.89	"	3.0	0.4	50	37	337	3	"	4837	
9.37	18.90	57037.79	"	2.5	0.35	52	38	332	6	"	"	
7.14	13.72	57051.51	"	2.3	0.3	50	39	241	3	"	"	
6.41	3.47	57054.98	"	2.1	0.25	49	38	61	"	"	"	Bams dumped
10.59	17.82	57072.80	"	3.4	0.4	52	37	313	4	"	4838	
9.20	18.18	57091.08	"	2.8	0.4	51	38	321	6	17.501	"	
7.86	16.58	57107.66	"	2.4	0.3	50	38	235	6	17.500	4837	
6.11	13.15	57120.71	"	2.0	0.2	51	38	231	3	17.501	4837	
5.37	1.71	57122.42	"	2.0	0.2	51	40	70	0	"	4836	beams dumped
36.33	18.33	57140.81	"	3.0	0.4	50	38	325	9	"	4837	
8.78	15.54	156.35	"	2.5	0.3	50	38	273	8	"	"	
7.12	13.27	169.62	"	2.2	0.2	51	39	233	5	"	"	
6.06	3.36	172.98	"	2.0	0.1	54	41	59	0	"	"	beams dumped

RUN	DATE	START	STOP	AT RUN START I+	AT RUN START I-	Dead TIME %	TIME secs	RECS IN	RECS OUT	ACC ×10⁶	T0 REC ×10⁶	T1 ACC SUM	T2 ACC SUM	T1 Bit 2 E_LC>66GeV	T2 Bit 2 2T·E_LC ≥ 2T_R	PROCESSORS ON/OFF NSD	HP	TOF	FADC
28486	24.8.86	21^15	21^47	10.89	10.80	35.3	1961	8002	5187	510	179	5064	5079	1349	33	on	on	on	off
28487	"	21^48	22^22	9.28	9.20	37.4	2073	8002	5075	523	164	5209	4867	1384	33	"	"	"	"
28488	"	22^22	22^57	7.91	7.84	37.6	2053	8002	5077	533	168	5183	4885	1358	32	"	"	"	"
28489	"	22^57	23^06	6.77	6.70	34.2	495	1886	1182	128	44	1206	1161	296	6	"	"	"	"
28490	24.8.86	23^50	0^25	10,62	10,14	32,8	2004	8002	5151	520	170	5187	5032	1355	28	"	"	"	"
28491	25.8.86	0^26	0^48	9,00	8,56	32,0	1317	5211	3317	342	109	3401	3193	904	31	"	"	"	"
28492	"	0^54	1^29	7,93	7,50	28,4	2092	8002	4881	543	154	5223	4886	1322	36	"	"	"	"
28493	"	1^29	1^58	6,80	6,39	28,4	1711	6229	3705	444	117	4003	3928	1000	29	"	"	"	"
28494	"	2^30	3^05	10,65	10,42	33,8	1974	8002	5281	512	173	5154	4933	1367	25	"	"	"	"
28495	"	3^05	3^39	9,01	8,81	31,1	2044	8002	5095	537	165	5187	4931	1369	33	"	"	"	"
28496	"	3^40	4^15	7.71	7.53	31.6	2127	8002	4964	553	175	5041	5145	1346	41	"	"	"	"
28497	"	4^16	4^55	6.63	6.46	47.3	2332	8002	4143	606	286	3969	4028	944	26	"	"	"	"
28498	"	4^55	5^05	5.66	5.51	43.9	602 1004	1043	2070	1030	156	1009	1043	239	6	"	"	"	"
28499	"	5^40	6^17	10.36	9.33	32.4	2031	8002	5048	528	171	5141	5012	1312	33	"	"	"	"
28500	"	6^18	6^56	8.75	7.82	31.1	2116	7980	5067	550	171	5147	5004	1365	30	"	"	"	"
28501	"	6^58	7^35	7.37	6.52	28.9	2184	8002	4954	569	164	5170	5073	1237	35	"	"	"	"
28502	"	7^35	7^54	6.35	5.57	26.2	1118	4017	2366	291	76	2625	2527	646	16	"	"	"	"
28503	"	8.41	9.15	10.27	10.39	34.0	1932	7999	5140	503	171	5191	4920	1309	37	"	"	"	"
28504	"	9.16	9.51	8.71	8.55	33.8	2051	8002	4950	534	180	5186	5069	1363	34	"	"	"	"
28505	"	9.52	10.28	7.43	7.54	32.1	2124	8002	4937	552	177	5271	5095	1328	26	"	"	"	"
28506	"	10.28	10.33	6.36	6.46	30.1	254	1065	682	68	20	686	641	158	7	"	"	"	"
28507	"	15.03	15:47 16:40	10.21	10.21	19.2	2527	8002	5193	658	126	5251	4752	1286	27	"	"	"	"
28508	"	15:47	17:56	8.82	8.82	18.4	2627	8002	5139	684	125	5264	4810	1264	40	"	"	"	"
28509	"	16:40	17:27	7.36	7.35	16.3	2791	8002	4828	726	118	5355	4756	1276	33	"	"	"	"
28510	"	17.28	17:52	6.26	6.24	15.4	1436	3931	2238	373	57	2589	2346	559	20	"	"	"	"
28511	"	18.25	19:04	10.44	10.71	20.6	2320	8002	5355	603	124	5340	4498	1410	27	"	"	"	"
28512	"	19.04	19:59	8.97	9.12	18.2	2503	8002	5083	651	118	5310	4594	1351	22	"	"	"	"
28513	"	20:00	20:47	7.12	7.36	16.5	2790	8002	4828	727	120	5299	4779	1264	34	"	"	"	"
28514	"	20:48	20:52					653	396										
28515	25.8.86	21:27	22:07	10.31	10.80	20.1	2389	8002	5329	621	125	5332	4562	1371	32	on	on	on	off
28516	"	22:08	22:50	8.73	9.20	18.3	2509	8002	5101	653	120	5325	4538	1324	35	"	"	"	"
28517	"	22:50	23:35	7.41	6.99	17.3	2663	8002	5020	692	120	5347	4584	1259	30	"	"	"	"
28518	"	22:35	0:08	6.30	6.71	16.2	1909	5397	3163	496	81	3571	3223	856	12	"	"	"	"
28519	26.8.86	0:55		4.92	10.54											"	"	"	"

⟨L⟩ 10³⁰cm⁻²s⁻¹	BHABHA SLdt nb⁻¹	SLdt EXP. ENERGY 57172.98	IBM/TAPE OUTPUT	AT RUN START TOF EVT	AT RUN START ID [MM]	ONLINE REJ SUM HP T₂%	ONLINE REJ USO T₁T₂%	Σ BHABHA	HVMa	E_BEAM	MAG FIELD −1.×G	REMARKS
11.12	18.80	57191.88	IBM	3.4	0.4	50	37	332	6	17.527	-4.834	
9.86	19.01	210.89	"	3.0	0.3	51	38	334	5	"	"	
7.82	14.80	225.69	"	2.5	0.2	50	36	260	7	"	"	
6.54	2.56	228.25	"	2.1	0.1	51	39	45	3	"	"	beams dumped
10.99	20.78	249.03	"	3.2	0.4	51	37	365	5	"	4833	
9.38	11.73	260.76	"	2.8	0.3	51	38	206	2	17500	4834	Run stopped to reload FADC processors
7.75	14.63	275.39	"	2.4	0.2	51	40	257	6	"	4833	
6.21	9.28	284.67	"	2.0	0.1	51	42	162	2	"	4832	beams dumped
11.04	21.79	306.46	"	3.25	0.3	51	35	360	2	17501	4834	
8.79	18.05	334.51	"	2.7	0.2	50	38	317	6	17501	4832	
6.73	13.78	348.29	"	2.5	0.2	50	40	242	7	"	4834	
3.86	8.85	357.14	"	2.2	0.2	8	50	145	1	17.500	"	
3.30	1.42	358.56	"	2.0	0.2	7	52	25	0	"	"	beams dumped
9.94	18.44	377.00	"	3.1	0.3	50	38	324	4	"	"	
7.72	16.51	383.51	"	2.5	0.2	51	38	290	4	17.503	"	
5.70	11.50	395.01	"	2.2	0.2	52	40	202	3	17.504	"	
5.04	5.29	400.30	"	2.0	0.2	52	43	93	0	"	"	beams dumped
10.54	17.60	57417.90		3.7	0.3	51	37	5742	4	17.503	4834	
7.89	16.85	434.75	"	3.0	0.25	51	39	296	6	"	"	
6.52	13.49	448.24	"	2.6	0.20	53	40	237	5	"	"	
6.19	1.20	449.44	"			49	43	21	0	"	"	dump
12.02	28.41	57477.85	"	1.25	0.15	48	36	499	11	17.500	4833	
10.14	25.90	57503.75	"	0.85	0.1	49	37	455	6	"	"	
8.70	24.28	57528.03	"	0.7	0.1	50	41	416	11	"	"	
7.13	10.24	57538.27	"	0.6	0.1	49	45	164	4	"	"	beams dumped
14.04	34.10	57572.37	"	1.20	0.15	47	34	599	8	"	"	
11.35	28.87	57601.24	"	0.85	0.15	48	38	507	5	"	4840	
8.67	21.30	57622.54	"	0.7	0.10	50	41	374	8	17.503	4840	
7.42	1.71	57624.25	"	0.6	0.1			30	1			beams dumped
13.31	28.81	57653.06	IBM	1.2	0.15	48	35	506	9	17.500	4838	
11.30	26.94	57680.00	"	1.0	0.15	47	37	473	6	17.503	4838	
9.12	21.01	57701.01	"	0.75	0.1	49	39	369	11	17.500	4837	
7.25	13.83	57714.84	"	0.6	0.1	50	43	243	2	"	"	beams dumped
			"	1.1	0.1							

see pp 88/14

25.8.86

4⁰⁰ Schneekloth

5⁰⁰ still bad beams conditions. TOF rate ≈ 2 V, dead time 40-50%, continue running with same fill run 28497 MI online rejection only 8%

5⁰⁴ beams dumped, valve failure

8.00 Narroska

Gascheck ok.

Complain to Petra about background situation since Friday. Tasso has same problems as we ao. deadtime ~ 30%. CELLO got better yesterday after very bad Friday and Saturday.
Petra will try their best.

9¹⁵ Signal ID-Anode current to PKR increased by a factor 3.4 (0.24V → 0.82V). Amplifier gain is now at max. ~~Ha~~ &

News from Petra: they think that bad background is due to a ~~for~~ vacuum leak in ~~the~~ they will try to fix it at 10.30⁴.

10.38 Short break, run down magnet to 1000 A.

12⁰⁰ H. Mills Magnet ⇒ 500A

13⁰⁰ Herr Krehbiel is working in ruchsack - run must not be started without informing him or he having left with electronics in working stat.

14⁰⁰ Injection. Magnet ⇒ 7500A

15⁰⁰ Beams. Background very much improved.

Event display program broken — rebuilt

15⁴⁵ Repair work at Trigger T2 (RØ Track) done to ~~rem~~ cure low point in T2 input Histogram. Bad card (not the one where the low was, but the next) exchanged. Seems ok. Kind

15⁵² All hard trips

16:00 M. Kuhlen + Hellenbrand

Gas check done

16:09 BP-chamber HV soft trip Q4

16:25 VTXC + ID tripped

17.56 VTXC valve failure. Pressing the green/red buttons did not help, I had to operate V2.

19:31 all chambers tripped + VTXC valve failure

19:33 Two LG-ADC channels (cr. 2 ch 211+205) give low pedestals (≈90). If this persists until tomorrow, I'll exchange the chip.

24:00 This was my last shift for JADE Lüth

26.8.86 0⁰⁰ Skeard

0⁰³⁰ Gas checked, aethan pressure adjusted acc. to instructions from J. Klein.

1⁰⁰–1²⁰ Many Missing LAM, Br 3, Cr 2: μ-chambers. Pressed "reset" button on crate. Messages stopped.

3⁵⁰ VTXCH valve failure during HV run-down

4⁰⁰ Nye on shift

8⁰⁰ Kreisberg + Feist on shift

gas check done Maihak Zulauf 9.85, Maihak Kreislauf 10.35. Zulauf fluctuates ± 0.15, Kreislauf ± 0.25
Herr Seidel checks ZERO and CALIBRATION of Maihaks → ok. Fluctuations stop.

9¹³ ID soft and VTXC hard trips

10³⁷ JDAS Readout error 50 in Branch 1. Power supply of VTXC # 5 failed → stop Run # 28530
C.K. and R.R. exchange the power pack, VTX Load → ok

10⁵⁰ Beams dumped

Next filling will be test at E_{beam} = 11 GeV

Today 14:00 to 18:00 no IBM

11³⁴ Reload J68K after HEAT measurement.

11³⁰–11⁴⁵ Beams with about 8.5 mA, 8.5 mA at 10.969 GeV. INJECTION-status, our detector off
Then tests at 11.000 GeV with beams of ~ 1.5 mA. till 12²⁰

14³⁰ test run at 22 GeV CMS, data written onto tape JDAS05 since IBM down
J. Nye is adjusting threshold of luminosity monitor for this energy — OK

14⁵⁵ JDAS Readout error 53 System crate watchdog PARMS = 000002 177777 (oct)

15³² A1 automatic ~~R~~ END of RUN:
At System Console: ERROR 14 in 32505 at 47762; OUTSIDE SEGMENT BOUNDS
PAGE No.: 75 → NO EOF on tape

Run Sum lost.

15⁴⁴ High TOF rate, all chambers trips. This are Machine shifts, PKR says

15⁵² Run 28533 with z-trigger readout started (J.O.)

16:00 Kado on shift

gas check done ⇒ "Kammerdruck Rücklauf (P18)" is a bit low, 0.68 mb instead of 0.75 mb but this is ok. (according to Jan Chwin)

18:30 JDAS ZMAG Error 57 (oct) Suberror 177 (oct) ** UNEXPECTED ** (+ screen message)
run stopped automatically, "Bandsalat" in Tape unit (not possible to write EOF mark!)

Run	Date	Start	Stop	At run start I⁺	At run start I⁻	Dead time %	Time (sec)	Records in	Records out	All ×10⁶	TΦ Raj. ×10⁶	T₁ Acc Sum	T₂ Acc Sum	T₁ B,t2 E_Lo>66	T₂ B,t1 7 2T·E_Lo 2 2TR	Processors ON/OFF N50	MIP	TOF	Fan
28519	26.886	00:57	01:41	9.93	10.61	24.7	2621	8002	5311	682	168	5344	4542	1407	29	ON	ON	ON	OFF
28520	"	01:41	02:24	8.33	8.97	17.8	2586	8002	5063	672	120	5414	4529	1358	27	"	"	"	"
28521	"	02:24	03:11	7.08	7.68	16.7	2744	8002	4842	713	119	5353	4692	1257	30	"	"	"	"
28522	"	03:11	03:46	6.03	6.59	15.7	2102	5826	3329	547	86	3853	3521	850	25	"	"	"	"
28523	"	4^{21}	5^{03}	10.50	10.69	19.8	2409	8002	5201	627	124	5364	4486	1360	37	"	"	"	"
28524	"	5^{03}	5^{46}	8.95	9.14	17.5	2576	8002	5279	670	117	5460	4468	1387	24	"	"	"	"
28525	"	5^{47}	6^{33}	7.62	7.80	16.9	2752	8002	4782	715	121	5459	4609	1244	30	"	"	"	"
28526	"	6^{33}	7^{06}	6.51	6.68	15.5	1977	5527	3139	514	80	3766	3242	785	23	"	"	"	"
28527	"	7^{48}	8^{29}	10.58	10.50	19.3	2387	8002	5320	623	120	5364	4672	1326	29	"	"	"	"
28528	"	8^{30}	9^{11}	9.04	8.99	18.2	2475	8002	5126	644	117	5478	4492	1416	32	"	"	"	"
28529	"	9^{12}	9^{59}	7.73	7.68	16.8	2655	8002	4813	691	116	5462	4477	1335	32	"	"	"	"
28530	"	10^{00}	10^{39}	6.53	6.40	15.0	2296	6409	3700	598	90	4306	3759	958	30	"	"	"	"
28531	"	14:41	15:32	~6.0	~6.5			8002	4467	801	118	5387	5216			"	"	"	"
28532	"	15:40	15:57	5.34	5.97	18.5	164	481	283	43	8	277	326	58	1	"	"	"	"
28533	"	15:58	16:06	4.36	5.70	73.3	468	461	264	122	89	286	315	56	2	"	"	"	"
28534	"	16:07	16:45	4.87	5.60	22.0	1738	3445	1990	296	65	2728	2418	471	12	"	"	"	"
28535	"	16:48	16:49	4.57	5.19	15.8	17	127	76	4	1	85	27	23	0	"	"	"	"
28536	"	16:49	17:02	4.57	5.19	42.6	753	1367	687	196	83	883	926	166	3	"	"	"	"
28537	"	17:02	17:21	4.36	5.01	14.7	1105	2884	1494	287	42	1937	1962	376	6	"	"	"	"
28538	"	18:20	18:31	6.29	4.36	14.1	604	1592	812	157	22	1055	976	147	6	"	"	"	"
28539		J	U	N	K	—	I	D	TR	IP	DURING	PEDESTALS							
28540	"	22^{35}	22^{36}	6.22	6.19	13.6	63	170	97	17	2	99	113	28	0	"	"	"	"
28541	"	22^{37}	23^{32}	6.19	6.16	13.8	3154	8002	4305	820	114	5352	5370	1042	24	"	"	"	"
28542	"	23^{32}	00^{08}	5.56	5.51	13.9	5441	4120	2173	423	58.8	2738	2684	555	12	"	"	"	"
28543	27/8/86	00^{37}	01^{17}	10.69	10.62	21.5	2354	8002	5351	812	131	5300	4635	1364	34	ON	ON	ON	OFF
28544	"	01^{17}	01^{54}	9.25	9.17	19.1	2469	8002	5005	642	123	5313	4691	1288	28	"	"	"	"
28545	"	01^{54}	02^{43}	8.01	7.94	18.4	2662	8002	4844	667	126	5391	4705	1317	34	"	"	"	"
28546	"	02^{43}	03^{23}	6.96	6.90	18.3	2165	6481	3835	563	103	4242	3847	1028	27	"	"	"	"
28547	"	03^{48}	04^{27}	10.87	10.71	21.5	2288	8002	5324	695	128	5310	4558	1376	37	"	"	"	"
28548	"	04^{27}	05^{24}	6.43	5.85	18.7	2943	8002	4807	766	120	5344	4728	1203	31	"	"	"	"
28549	"	05^{25}	06^{16}	5.42	4.89	16.0	3048	8002	4237	793	119	5353	4966	1086	34	"	"	"	"
28550	"	06^{17}	7"	4.74	4.25	13.9	3228	8002	4210	839	117	5334	4961	1052	31	"	"	"	"

Run	⟨L⟩ 10^{30} cm^{-2} s^{-1}	Bhabha ∫L dt nb^{-1}	∫L dt Exp. energy	IBM/TAPE output	At run start TOF [V]	At run start ID [μA]	Online SUM Miproc T_2 %	Reject Nord50 T_1+T_2 %	Σ Bhabha	M/H	E_{Beam}	Mag. field -1×G	Remarks
28519	12.23	28.98	57743.82	IBM	1.1	0.1	47	35	509	7	17.500	4838	
28520	10.65	27.72	57771.54	"	0.8	0.1	48	38	487	9	"	"	
28521	8.38	21.29	57792.83	"	0.7	~0	49	41	374	6	"	4837	
28522	6.73	13.78	57806.61	"	0.65	~0	49	44	342	6	17.501	"	Beams dumped
28523	13.19	30.80	57837.41	"	1.1	0.1	47	36	541	9	"	"	
28524	10.89	27.61	57865.02	"	0.8	0.1	49	38	485	6	"	"	
28525	8.36	21.29	57886.31	"	0.7	0.1	49	42	374	5	"	"	
28526	6.53	11.96	57898.27	"	0.6	0.1	49	45	210	2	"	"	beams dumped.
28527	13.17	28.88	57927.25	"	1.2	0.2	48	34	509	8	"	"	
28528	11.44	29.09	57956.34	"	0.9	0.2	49	37	511	8	17.500	4837	
28529	8.90	22.72	57979.06	"	0.75	0.15	49	41	399	5	17.501	4837	
28530	7.73	14.92	57993.98	"	0.6	0.1	50	44	262	1	17.501	4837	VTXC-CAMAC CRATE Power failure, Beam beams dumped
28531				TAPE 05									
28532	2.25	8.84	8.84	TAPE 05	0.8	0.05					11.00		Run Sum Lost. Tagging luminosity adjusted during run ↗
28533	2.14	0.22	9.06	"	~1.5	0.1	47	44	10	0	11.000	4838	← data lost because of missing EOF
28534	0.57	0.18	9.24	"	2.0	0.2	52	45	8	0	11.001	4838	With Z-TRIGGER - readout
28535	2.25	2.16	11.40	"	2.2	0.2?	50	44	96	2	11.007	4838	stopped by JO
28536	2.92	0.17	11.57	"	1.3	0.2	-3???	45	5	0	"	"	" " " readout changed 2TRG readout
28537	1.83	1.08	12.59	"	1.2	0.15	53	51	48	1	"	"	" " " " " again
28538	2.70	2.63	15.22	"	1.3	0.15	56	50	117	2	"	"	beams dumped
28539	2.16	1.13	16.35	TAPE 06	1.2	0.1	52	51	50	0	11.074	4837	tape unit break down/shortly afterwards: beams dumped
28540	3.31	0.29	16.64	IBM	1.5	0.2	51	47	13	0	11.000	4838	Stopped in hope of causing bad HG pedestals to go away
28541	3.33	9.81	26.45	"	1.5	0.2	54	47	436	5	11.001	"	... they didn't
28542	3.18	4.77	31.22	"	1.1	0.1	53	49	212	2	11.000	"	Beams dumped
28543	12.34	26.53	58020.51	IBM	1.3	0.2	47	34	466	10	17.500	4838	Tagging threshold adjusted during run.
28544	10.25	26.64	58047.15	"	1.0	0.2	48	39	467	4	"	"	
28545	8.22	23.24	58070.45	"	0.8	0.15	50	41	409	6	"	"	
28546	6.63	13.49	58083.93	"	0.8	0.1	49	42	237	2	"	"	Beams dumped
28547	12.54	28.13	58112.06	"	1.4	0.2	47	34	494	12	" 01	"	
28548	5.21	17.02	58129.08	"	0.6	.15	50	45	299	4	" 01	4837	low currents
28549	4.18	12.36	58141.44	"	0.6	"	52	49	217	2	" 03	4838	"
28550	3.29	11.10	58152.54	"	0.5	01	52	49	195	2	" 01	4838	very " .

18:40 not possible to rewind the tape! push-buttons does not work, DEV M-T-T rewind does not work. I had to rewind the tape by hand!!! -ufff-

tests with new tapes show: The tape unit is kaputt (meanwhile: beams dumped)

18:45 → the IBM is up again, so we are lucky

19[50] Cartwright

22[20] Switch on the high voltage! Unfortunately it won't stay on — TOF rate appalling (6V, ringing wildly).
22[23] TOF suddenly calms down. Chambers going up ....
22[24] ... VXC going down again (hard trip)
22[26] ... ID joins VXC on strike (TOF kept up to > 10V). Give up, switch z-c off, wait ...
22[28] Try again, since TOF steady at 1V
22[30] Chambers up, start run .... 1 second later (literally) VXC + ID soft trip ... stop run
22[34] Start new run, realise forgot to do LG test, so 3 extra bad LG pedestals; stop run; start new run, still 3 extra bad LG pedestals, leave them that way.
22[38] Soft trip of VXC & ID due to TOF rate
23[32] Did short LG test run between runs 28541 and 28542 — now back to 3 bad LG pedestals as opposed to 6
23[33] Everything trips. System console says the TOF channel voltages wrong — by 5 & 7 V respectively! — ignore!
23[58] ID/VXC soft trip becomes hard trip halfway down.

27/8/86 Greenhaw and Duerdoth on shift.

00[00] Gas check done, all OK.
00[12] Beams dumped. Mark J 'phone to inform us that the next fill will be ramped up to 35 GeV, as this .. only just outside the "phone John Nye" cut. I try to contact him. No reply, he's obviously already fast asleep. I leave him in that happiest of states.
00[38] Spontaneous appearance of John Nye, smelling of onions! Despite this handicap he manages to readjust the trigger thresholds.
02[10] JOAS Readout Error 53. System crate watchdog flag perm = 2 177777 root)
01[20] Vertex chamber gas system valve failure.
04[28] 3 chbs trip: halt the beams lost.
04[58] Mark J phone: PKR have transmitter problem & can't refill, so we may stay with this fill (now only 52+58 nA) for some time.
06[35] 4 chambs trip. again at 07[58]

27.8.86 Haidt and Smolik

8[30] Gascheck done OK
8[37] Run stopped on request off Mr. Bartel (current too low)
9[42] Take data again (currents: 2x2 mA; Synchrotron vacuum problem; PKR wants beams kept), for these data may be probably used for background studies (Olson? Zorn?) and over magnet + electronics have to stay on anyhow. Also, we might need some cosmics ... S. Bethke, H. Rieseberg.
10:40 Short break, restart 12:00 → Magnet to 500 amps
14[30] Move up magnet

16[00] Eckerlin on shift Krehbiel at intervalls 18[00] - 19[00], 21[00] - 24[00].
Gascheck done
Then tries hard to inject. Magnet must be up; nothing goes, no beam, no lumi.

28.8.86

0[00] Bethke on shift.
Gas check done. No beams, PETRA-TV in very bad shape. Nothing to do but killing the IBM-account ....
3[00] Finally, beams are ready. But high background.
Start LGr-Testrun → "memory out of range at 101320". Try again → "Voxel 50 cannot be loaded."
So "Exit" and start ZDAS again. Now LGr-Ped run (incl. ASO load) seems. But: message about missing LGr-channels.
3[12] Background now ok (TOF: 1.25). But started run terminates after 2 Pedestal triggers with message "TOF 1 AG 2099 no response". After A99 initl. load (from main console, micros-cntrl) finally data taking is ready (but, still faulty LGr-channels).
4[00] Ramcke on shift
3[47] MOP restarted
4[39] ID-Softtrip due to high TOF rate
5[58] Mark J phone: PKR has vacuum problems & with Desy, so we keep running for at least one hour
6[41] from screen: no e+, e- before 8[00] a.m.

8[00] Kuhlen on shift & late 12[00] Dr. Duerdoth.
Gas check okay
8.14 After having typed "down", the Gould plotter stopped printing the run summary for run 28562. It could also not be printed with "Print-old-runsum" → YRUNSM: saved summary file (D-F)RUNSM-46-SY11B error 28.
Opened and later closed the Gould plotter, opened the switches etc. → run summary could be printed finally

Run	Date	Time run start	Time run stop	At run start I+	At run start I−	Real time	Time (rel)	Records in	Records out	Δt ×10⁶	T0 ref. ×10⁵	T1 acc num	T2 acc num	T1 hit?	T2 hit?	Processor status N50	Processor status MIP	Processor status TOF	Processor status EH
28551	27.8.86	7:11	8:11	4.16	3.72	12.8	3428	8002	3958	892	114	5438	5006	1042	30	ON	ON	ON	OFF
28552	"	8:11	8:37	3.63	3.21	12.3	1495	3512	~~3994~~ 1393	389	48	2368	2143	425	13	ON	ON	ON	OFF
28553	"	9.45	10:28	2.97	2.62	11.7	2375	5320	2464	618	72	3640	3262	649	17	"	"	"	"
28554-56	28.8.86	→	do	not	exist	(only	2 Pedestal hits each...)												
28557	28.8.86	3:20	402	10.13	10.14	22.6	2896	8002	5249	623	140	5113	4913	1234	35	"	"	"	"
28558	"	4.02	4.51	8.77	8.80	20.0	2542	8002	4945	661	132	5182	4866	1215	30	"	"	"	"
28559	"	4:52	5:39	7.42	7.45	17.0	2760	8002	4752	718	122	5306	4901	1156	38	"	"	"	"
28560	"	5:40	6.44	6.36	6.39	15.9	2956	8002	4583	769	122	5293	4933	1096	31	"	"	"	"
28561	"	6:45	~~7~~ 8:38	5.24	5.27	13.8	3176	8002	4236	826	114	5384	4928	1029	30	"	"	"	"
28562	"	7:38	~~8:12~~ 9:50	4.50	4.52	12.9	2111	5063	2463	549	70	3378	3230	603	17	"	"	"	"
28563	"	9:08	~~9~~ 9:50	11.16	10.53	21.9	2354	8002	5270	613	134	5255	4813	1340	32	"	"	"	"
28564	"	9:52	~~10~~ 10:34	9.59	8.99	18.9	2499	8002	5078	651	122	5266	4731	1337	27	"	"	"	"
28565	"	10:34	10:48	8.26	7.70	17.6	787	2460	1479	205	36	1639	1487	381	5	"	"	"	"
28566	"	10:49	11:35	7.88	7.33	16.5	2790	8002	4707	726	120	5301	4909	1194	31	"	"	"	"
28567	"	11:36	12:03	6.77	6.26	15.9	1634	4630	2606	426	68	3059	2875	652	15	"	"	"	"
28568	"	13[25]	13[54]	10.02	9.57	18.9	1601	5031	3195	417	79	3267	3065	792	19	"	"	"	"
28569	"	16[29]	16[54]	18.00	10.33	18.6	1219	3837	2339	318	59	2474	2325	565	13	"	"	"	"
28570	"	17[52]	18[40]	10.14	9.00	19.9	2602	8002	5092	677	134	5223	4955	1254	40	"	"	"	"
28571	"	18[40]	18[49]	8.71	7.67	16.7	483	1417	869	126	21	925	842	219	8	"	"	"	"
28572	"	20.23	21:05	10.44	10.37	20.4	2390	8002	5278	622	127	5253	4766	1306	28	"	"	"	"
28573	"	21:05	21:49	9.05	8.99	19.1	2559	8002	4972	666	127	5216	4883	1258	27	"	"	"	"
28574	"	21:49	22:35	7.80	7.72	18.0	2700	8002	4851	702	126	5146	4955	1188	39	"	"	"	"
28575	"	22:35	23:19	6.69	6.48	16.6	2581	7272	4134	671	111	4752	4477	996	30	"	"	"	"
28576	29/8/86	1[08]	1[54]	10.71	10.70	20.1	2500	8002	5179	649	130	5141	5004	1272	32	"	"	"	OFF
28577	"	1[54]	2[44]	8.98	8.67	17.7	2661	8002	5122	692	122	5322	4725	1214	20	"	"	"	"
28578	"	2[44]	3[38]	7.62	7.34	16.7	2787	8002	4755	725	120	5195	4323	1142	34	"	"	"	"
28579	"	3[38]	403	6.41	6.15	15.3	1375	3727	2108	357	55	2420	2287	580	12	"	"	"	"
28580	"	04[32]	04[39]	11.07	6.87	23.6	293	1072	711	77	16.7	675	609	161	3	"	"	"	
28581	"	05[42]	06[37]	10.93	10.59	20.2	2701	8002	4851	703	142	4819	5336	993	31	"	"	"	"
28582	"	06[39]	06[51]	6.57	5.43	14.5	706	1916	1066	184	27	1239	1155	248	6	"	"	"	"
28583	"	07[21]	08[05]	11.04	10.76	22.5	2334	8002	5391	606	136	5155	4739	1301	25	"	"	"	"
28584	"	08[05]	08[47]	9.42	9.17	19.2	2539	8002	5084	660	126	5211	4963	1238	36	"	"	"	"
28585	"	01[47]	01[39]	8.06	7.84	19.4	2631	8002	4926	684	132	5088	5224	1252	35	"	"	"	"
28586	"	01[39]	10[00]	6.23	6.52	16.7	1540	4432	2623	401	67	2879	2790	657	20	"	"	"	"

⟨L⟩ 10^{30} cm^{-2}s^{-1}	Rhotha ∫Ldt nb^{-1}	∫L dt energy	Output	At run start TOF	At run start ID	Online reject Sum rej. I %	Online reject N50 T1+T2 %	Σ Rhotha	MH.	E Beam	B field -1.4	Comments
2.59	8.88	58161.42	IBM	0.45	≥0.1	54	52	156	2	17.501	4838	
2.23	3.70	58165.12	IBM	0.4	<0.1	52	52	65	2	17.501	4839	
1.50	3.56	58168.68	IBM	0.38	<0.1	54	56	78	1	17.500	4838	beams dumped
												AC2099 no response.
11.03	25.05	58193.73	IBM	1.3	0.6	48	36	440	6	17.500	4844	
9.61	23.54	58217.07	"	1.1	0.4	48	39	410	7	17.501	"	
7.87	22.26	58239.33	"	0.9	0.3	50	42	391	2	17.500	"	
6.10	18.56	58257.89	"	0.7	0.2	51	44	326	4	17.501	"	
4.71	15.54	58273.43	"	0.6	0.2	52	49	273	5	17.501	"	
4.08	8.71	58282.14	"	0.6	0.2	53	51	153	5	"	"	beam dumped, ~~run summary lost~~
12.11	27.10	58309.24	"	1.4	0.3	48	35	476	7	"	"	
10.02	27.39	58336.63	"	1.3	0.2	48	38	481	3	"	"	
9.02	7.63	58344.26	"	0.8	0.2	49	41	184	1	"	"	
7.63	20.27	58364.53	"	0.8	0.2	50	42	358	5	"	"	
6.77	10.25	58374.78	"	0.7	0.15	50	45	180	3	17.500	4847	Beams lost.
10.09	16.17	58390.95	"	1.4	0.25	48	38	284	7	17.503	4848	Beams lost.
9.71	11.44	58402.39	"	1.3	0.3	48	40	201	3	17.501	4850	beams lost
9.89	23.86	58426.25	"	1.1	0.3	49	37	419	6	"	"	
9.33	4.10	58430.35	"	1.0	0.2	49	40	72	2	"	"	beams lost
11.66	28.41	58458.76	"	1.4	0.3	48	35	499	7	17.500	4847	
9.67	24.20	58482.96	"	1.05	0.2	48	39	425	4	17.501	"	
8.15	19.92	58502.88	"	1.0	0.2	49	41	340	4	17.500	"	
6.55	16.57	58519.45	"	0.9	0.2	49	45	291	6	"	"	beams dumped
11.46	26.58	58546.03	"	1.4	0.2	48	36	467	10	17.500	4844	
9.11	23.17	58569.20	"	1.0	0.1	45	37	407	7	17.501	4844	
7.95	21.35	58590.55	"	0.8	<0.1	49	42	375	7	17501	4844	
6.56	8.03	58598.58	"	0.8	<0.1	49	45	141	2	17500	4847	beams dumped
12.18	3.47	58602.05	"	1.45	0.2	42	35	61	0	17501	4837	Beams lost
6.64	17.31	58619.36	"	1.25	0.15	47	41	304	3	17.500	4837	DURING RUN (2300 events) ENERGIE WENT UP TO 17.539 GeV.
5.50	4.35	58623.71	"	1.2	0.1	47	46	76	2	17501	4837	Beam dumpt.
11.75	27.50	58651.21	"	1.5	0.25	47	34	483	3	17501	483 2	
10.45	23.28	58674.49	"	1.2	0.15	49	38	409	6	17500	"	
8.55	20.32	58694.81	"	1.1	0.15	50	40	357	6	"	4838	
7.38	11.50	58706.31	"	1.1	0.1	50	42	202	1	"	4837	Beam dumped

9:08 J68K reloaded R

10:46 run 28565 stopped by itself with only 2460 records

11⁰³ Beams lost. Sch.s trip.

12³⁰ LG test done.

13⁵¹ beams lost. "

16⁰⁰ Nz on shift. Gas check done - Argon flow fairly high (15.8 compared to usual 14.5) - will recheck in 4 hrs time.

Petra starts ramping at last.

16³⁰ Vtxch [illegible]? trip.

16⁴⁰ " [illegible]? trip followed by JOAS I/O error 74 - wrong Evm hr 5 cr 1 - beampipe chambers - continue data taking "

16⁵⁰ Beams lost. - everything trips.

18⁴⁵ " " - vtxch trips - DOWN → vtx dc gas alarm.

20⁰⁰ Skard

29.8.86 0²⁰ Haidt on shift

Before run 28576 a LG Test run (data not written) was performed

1⁰³ Finally a successful filling ready (run 28576)

04⁰⁰ Gas check ok [illegible] Kreislauf/Zulauf both low! Reduced oxygen flow.

JOAS Rlout ERROR 53 SYST CRATE WATCHDOG FLAG PARMS = 000002 177777 (OCT)

8⁰⁰ Chrin & Elsen on shift. Gas check done - Zulauf/Kreislauf back to normal.

08⁴¹ - All chambers trip. (II. Chain current alarms - haven't had that one for a long time).
Reset chambs O.Kay apart from vtx chamber alarm which is still registering. Vtx chamber itself is taking data.
Call Eurokey. K. Kleinwort is on his way. (Aah - it were a value failure alarm - that occurred in between voltage trip & subsequent reset!)

09²⁰ - All chambers trip.

10⁰⁰ - Inform Mark S that we would much appreciate a new fill!

14²⁵ Start requesting pressure measurements from PETRA.

15²⁵ Standard Histograms taken.

16⁰⁰ Walker on shift.

16⁰² JOAS error 53, same as at 4.00 am.

17⁰⁰ Mark-J say PETRA has transmitter problems ⇒ coils still. Currents now 2×5 mA.

17¹⁰ Gas check done - OK.

RUN	DATE	START	STOP	AT RUN START I+	AT RUN START I-	DEAD TIME %	TIME (SECS)	RECORDS IN	RECORDS OUT	ALL *10^6	TØ REJ *10^6	T1 ACC SUM	T2 ACC SUM	T2 BIT 2 E_Lo/6 GeV	T2 BIT 2T. E_4. ≥ 2TR	PROCESSORS ON/OFF NSO	MIP	TOF	FRAC
28587	29/8/86	10:47	11:33	9.18	~~7~~.92	18.7	2594	8002	4983	675	126	5138	5120	1280	34	ON	ON	ON	
28588	"	11:31	12:21	7.87	6.71	16.2	2815	8002	4658	732	119	5294	5001	1237	35	"	"	"	
28589	"	12.24	12:56	6.71	5.63	15.2	1920	5132	2843	499	76	3415	3299	727	26	"	"	"	
28590	"	13.28	14.08	11.34	11.37	21.5	2374	8002	5290	617	133	5211	5092	1370	40	"	"	"	
28591	"	14.08	14.51	9.54	9.51	19.3	2489	8002	5056	647	125	5330	4939	1334	36	"	"	"	
28592	"	14.51	15.35	7.98	7.93	19.3	2577	8002	5015	670	129	5051	4774	1242	33	"	"	"	
28593	"	15.37	16.24	6.74	6.69	16.7	2878	8002	4800	730	121	5124	4846	1114	33	"	"	"	
28594	"	16.27	17.17	5.70	5.65	15.7	2995	8003	4567	778	122	5123	4896	1148	27	"	"	"	
28595	"	17.57	18.36	11.40	10.92	21.9	2310	8003	5398	600	131	5093	4603	1313	25	"	"	"	
28596	"	18.36	19.16	9.67	9.11	19.6	2483	8002	5170	645	126	5082	4668	1237	35	"	"	"	
28597	"	19.18	20.02	8.25	7.55	19.5	2613	8002	4995	680	133	5072	4802	1234	24	"	"	"	
28598	"	20.02	20.35	7.08	6.38	18.9	1341	4013	2457	349	69	2535	2435	596	12	"	"	"	
28599	"	21.19	21.20	10.76	10.18	23.0	33	143	103	8	2	79	73	16	0	"	"	"	
28600	"	22.02	22.42	10.65	10.44	22.1	2373	8002	5388	619	136	5033	4707	1322	38	"	"	"	
28601	"	22.42	22.57	9.07	8.87	20.4	871	2885	1832	226	46	1793	1682	448	8	"	"	"	
28602	"	23:39	0:23	10.36	9.50	19.7	2513	8002	5355	653	128	5154	4703	1285	30	"	"	"	
28603	30/8/86	0:26	1:11	8.71	7.83	17.4	2705	8002	4857	703	122	5156	4726	1200	28	"	"	"	
28604	"	1:12	2:00	7.36	6.63	15.6	2884	8002	4670	750	117	5259	4749	1164	21	"	"	"	
28605	"	2:03	2:56	6.24	5.56	13.5	3178	8002	4443	814	113	5253	4779	1078	28	"	"	"	
28606	"	2:58	3:09	5.33	4.53	13.1	641	1651	854	166	22	1083	940	219	5	"	"	"	
28607	"	3:15	3:25	5.08	4.47	13.1	551	1386	702	143	19	923	853	177	3	"	"	"	
28608	"	4.16	4:57	10.61/10.54	10.66/10.62	19.0	2449	8002	5133	636	121	5444	4867	1312	30	"	"	"	
28609	"	4:57	5:41	8.83	9.03	17.1	2625	8002	4892	683	117	5389	4781	1298	30	"	"	"	
28610	"	5.42	6.29	7.35	7.65	15.8	2834	8002	4653	737	116	5314	4904	1223	30	"	"	"	
28611	"	6:30	6.43	6.25	6.46	14.7	778	2166	1203	202	30	1440	1266	309	10	"	"	"	
28612	"	7.20	7.55	11.37	10.99	21.9	2287	8002	5237	595	130	5248	4762	1432	32	"	"	"	OFF
28613	"	7.59	8.24	9.70	9.34	19.6	1460	4981	3225	380	74	3306	2905	847	21	"	"	"	"
28614	"	8.23	9.07	8.78	8.43	19.6	2524	8002	5183	656	128	5236	4585	1285	32	"	"	"	"
28615	"	9.05	9.42	7.49	7.15	17.2	2195	6530	4084	571	98	4249	3785	969	15	"	"	"	"
28616	"	10.12	10.51	11.24	11.11	23.2	2281	8002	5468	593	137	4981	4711	1268	27	"	"	"	"
28617	"	10.49	11.32	9.57	9.42	19.8	2447	8002	5207	636	126	5105	4732	1285	32	"	"	"	"
28618	"	11.30	12.13	8.07	7.95	18.6	2540	8002	4975	660	123	5163	4539	1246	28	"	"	"	"
28619	"	12.13	12.22	6.83	6.71	17.5	596	1195	725	107	18.1	738	668	152	7	"	"	"	"
28620	"	12.27	13.35	10.98	10.88	22.1	2914	8002	5434	602	173	5089	4720	1277	32	"	"	"	"

⟨L⟩ 10^30 cm^-2 s^-1	INTEGR. ∫Ldt nb^-1	∫Ldt EXP. ENERGY	IBM TAPE OUTPUT	AT RUN START TOF [V]	AT RUN START ID [MM]	ONLINE REJECT SUM MIP/LOC T2 %	ONLINE REJECT HADRON TOTAL %	Σ GAMMA	M/H	E_BEAM	MAG FIELD -1*G	
9.27	24.48	58730.79	IBM	1.6	0.1	49	39	330	11	17.500	4.838	
7.69	21.69	58752.48	"	1.0	"	51	43	381	3	17.501	4838	
6.13	11.44	58763.92	"	0.8	0.1	53	46	201	5	17.500	4838	beams dumped
12.52	29.15	58793.07	"	1.7	0.25	50	35	512	3	"	4841	
11.25	26.76	58819.83	"	1.2	0.20	50	38	470	10	17503	4840	
8.84	23.86	58843.69	"	0.9	0.20	49	40	419	2	17.501	4838	
6.99	17.02	58860.71	"	0.9	0.15	50	43	299	3	"	4837	
5.45	15.77	58876.48	"	0.7	0.1	52	46	277	7	17.500	4838	Beams dumped (reform.)
12.37	27.50	58903.98	"	2.0	0.2	47	34	483	4	"	"	
10.46	23.68	58927.66	"	1.1	0.2	49	37	416	9	"	"	
8.40	21.29	58948.95		0.85	0.15	50	40	374	8	17.501	"	
6.38	8.65	58957.60	"			51	42	152	1	"	4.837	beams dumped
11.66	0.63	58958.23	"	1.3	0.2	44	33	11	0	"	4.838	beams lost
12.12	27.11	58975.34	"	1.3	0.2	47	35	476	4	17.503	4.837	
10.34	9.00	58984.34	"	1.0	0.15	47	39	158	3	"	"	beams lost
11.68	28.07	59012.41	"	1.2	0.2	50	35	483	7	17.500	4836	
9.13	20.86	59033.37	"	0.8	0.15	48	40	368	5	17.503	4838	
6.85	19.47	59052.84	"	0.7	0.1	52	44	342	3	17.500	"	
4.88	15.32	59068.16	"	0.6	0.1	52	47	269	3	17.501	4837	
4.19	2.96	59071.12	"	0.5	0.1	51	52	52	2	17.500	"	error: missing LAM's, reload FETC-FADC
3.55	1.76	59072.88	"	0.5	0.1	53	51	31	2	17.501	"	beams dumped
12.30	26.60	59,098.38	"	1.2	0.2	50	37	448	8	17,500	4837	
9.70	24.02	59,122.40	"	0.9	0.15	50	40	422	7	"	4838	
7.45	21.01	59,143.41	"	0.8	0.1	50	43	369	6	17,503	4839	
5.94	5.69	59,149.10	"	0.5	0.1	49	46	100	3	17,500	4837	Beam dumped
13.67	30.91	180.01	"	1.4	0.25	48	34	543	8	"	4837	
12.17	17.02	197.03	"	1.2	0.2	47	36	299	5	"	"	TOP reload with new RO pattern
9.96	24.08	221.11	"	1.0	0.2	50	37	423	9	"	"	
8.60	17.88	238.99	"	0.8	0.1	50	40	314	3	"	"	dump
12.55	27.04	266.03	"	1.45	0.2	47	34	475	7	"	"	damage
11.06	25.00	291.03	"	1.15	0.2	48	37	439	4	"	"	
9.51	23.11	59 314.14	"	0.9	0.15	48	40	406	4	"	4838	
7.98	2.40	59317.04	"	0.8	0.1	46	43	51	0	"	4840	Beam dumped
12.12	26.24	59343.28	"	1.45	0.20	47	34	461	4	"	"	

19.45 G. Kuhles on shift

20^{49} Gas alarm, valve failure, beam pipe chamber trip

30. 8. 86 0^{00} Becher

Gas check done

2^{26} UTX-CH plotter paper exchanged.
3^{05} JDAS err. 32 missing LAM at FEP Ready (JETC) - permanent - Stop run

Load JETC68K : Date : 30. 8. 86
Time : 3:08
Next run # : 28607

04^{00} Ian Duerdoth.
04^{05} LG test run.
6^{25} Z ch trip
8.00 B. Naroska
Gascheck ok.
TOC II channel 62 broken discriminator. Fixed.
12^{00} T Greenshaw
12^{05} JETC processor monitor program restarted during run number 28618
12^{22} Beams dumped. In conjunction with HV run down get BP chamber gas alarm (valve failure)
15^{17} Same thing happens again. Is this due to pick up somewhere?
↑
16:00 M. Kuhlen on shift
Gas check done
17:39 XVOLTS complains on system console caused by LG checks (I disconnected a readout cable)
17:53 IBM busy, IBM error 54. Because the tape unit is still broken, there data are lost, Since the currents are down to 6.8 mA already, I try to persuade the other experiments to agree for one IBM-down-time for a new PETRA filling. TASSO wants to keep this fill for another 10 minutes.
19:30 JDAS readout error 62-AC2098 TOF-1 Q,X missing Stn=14 subaddr=1
20:44 Exchanged the LG ADC chips which had low pedestals. (crt. 2 ch 229,211,205). One is okay now, the others now have high pedestals > 500. We tried a lot, exchanged chips, the module, tried the chip which formerly gave low pedestals,

all the same, ch. 211,205 remain high. Now we give data taking the preference.

20^{00} Diedrumm on shift.

31/8/86 0^{00} Eckerlin on shift
Gascheck done

4^{00} Fight
6^{40} paper in plotter renewed

8^{00} Walther on shift Gas check done
10:42 The two spinning TOC channels of yesterday evening are now dead. Zch
10:52 JDAS error 33: Missing camac br. 3 cr. 4 : Z-ch part 1.

12^{00} Hill on shift.
12^{26} Jdas readout error 33 - missing Lam br 3 cr 4 : Zch part 1

16^{00} W. Bartel on shift
16^{00} Gas check ok
20^{00} Ian Duerdoth.
21^{20} JDAS Readout error 53 - Subsystem crate Watchdog Flag Param = 000002 177777 (oct)
22^{30} ISM ONLINE-JOB ERROR CHECK 3 — (bad event, according to the JDAS guide p16) This causes no trouggers.
PAUSE/CONTINUE doesn't cure it. — so start a new run.
1.9.86^{00} Horvath & Olson.
02^{00} Gas check done.
6045 JDAS READOUT ERROR 33 - Missing LAM branch 3 crate 4 : Z-Chamber Part 1
08^{00} Update text in %MENU/OUTPS JDAS. NSO refuses to abort, hangs, had to reload NordIO "3 0".
420 JDAS READOUT ERROR 33 - Missing LAM branch 4 crate 1 : JETC part 401
7.35 JDAS READOUT ERROR 64 - AC2099 TOF-2 Q,X missing Stn=3 subaddr=00

8^{00} Matsumura on shift
Gas check done
10:18 MFR 61 HV down. local, HV on → OK
10:50 JDAS Read Out Error 33 Missing LAM branch 3 crate 2 : Muon Chambers
12 15 JETC 68K down Reloaded by Eckerlin OK
18 40 Vertex ch Trip

100 Run	Date	Start	Stop	At Run Start I⁺	At Run Start I⁻	Real Time %	Time (sec)	Records In	Records Out	MH	TP Rej. *10⁶	T_1 Acc. Sum	T_2 Acc Sum	T_1 B+2	T_2 Shift	Prozessor N50	Prozessor M/P	Photon TOF	Photon FAH
28621	30/8/86	13 34	16 15	9·38	9·30	14·8	2452	8002	5197	678	126	5106	6660	1756	29	ON	ON	ON	OFF
28622	"	16 15	15 01	7·97	7·90	17·6	2681	8002	4920	698	123	5237	4471	1270	36	"	"	"	"
28623	"	15 01	15 19	6·74	6·66	17·4	957	2812	1668	249	44·6	1758	1726	783	9	"	"	"	"
28624	"	15 57	16 35	11·08	10·98	11·01	2304	8002	5433	599	134	5041	4626	1264	32	"	"	"	"
28625	"	16 38	17 19	9·40	9·28	19·8	2492	8002	5162	648	128	5181	4636	1330	22	"	"	"	"
28626	"	17 20	17 54	8·00	7·88	18·5	1838	5688	3599	478	88	3606	3339	885	23	"	"	"	"
28627	"	19·13	19·59	9·72	10·17	20·1	2452	8002	5441	638	128	5155	4550	1336	28	"	"	"	"
28628	"	20·42	21·23	6·75	6·87	16·4	2297	6532	4208	597	98	4260	3840	1030	19	"	"	"	"
28629	"	21·54	22·34	11·26	11·14	22·6	2257	8002	5479	586	132	5136	4583	1418	39	"	"	"	"
28630	"	22·32	23·19	9·67	9·55	20·7	2433	8002	5182	632	131	5113	4669	1308	35	"	"	"	"
28631	"	23·17	0 03	8·15	8·03	18·3	2594	8002	4987	674	123	5241	4483	1385	30	"	"	"	"
28632	31/8/86	0:01	0:44	6·94	6·82	16·5	2408	7023	4185	626	103	4610	4019	1121	17	"	"	"	"
28633	"	1:19	2:00	10·86	10·97	22·7	2322	8002	5372	604	137	5075	4803	1347	35	"	"	"	"
28634	"	2:01	2:41	9·36	9·36	20·1	2423	8002	5116	630	127	5289	4472	1362	29	"	"	"	"
28635	"	2:42	3:26	7·98	7·97	17·4	2648	8002	4847	689	120	5264	4571	1297	24	"	"	"	"
28636	"	3 27	4 01	6·79	6·77	15·9	~~2085~~ 5721	~~3446~~ 2436	5121	534	84	3817	3475	932	17	"	"	"	"
28637	"	5 09	5 57	8·36	8·82	19·8	2515	8003	5218	654	129	5746	4728	1290	27	"	"	"	"
28638	"	5 52	6 36	8·33	8·80	17·8	2612	8002	4988	679	120	5194	4547	1265	25	"	"	"	"
28639	"	6 54	7 19	6·60	7·05	16·3	1506	4367	2639	391	64	2836	2526	656	16	"	"	"	"
28640	"	7 50	8 26	11·35	11·16	22·7	2995	8002	5524	597	135	5157	4549	1343	25	"	"	"	"
28641	"	8 29	9 09	9·74	9·54	20·6	2449	8002	5251	629	129	5157	4551	1360	29	"	"	"	"
28642	"	9 10	9 53	8·34	8·14	18·4	2590	8002	4923	673	123	5240	4650	1317	22	"	"	"	"
28643	"	9 54	10 40	7·17	6·98	16·6	2796	8002	4747	727	120	5220	4766	1217	25	"	"	"	"
28644	"	10 41	11 03	6·13	5·95	15·9	1306	3702	2074	339	54	2460	2163	559	10	"	"	"	"
28645	"	11 32	12 40	11,18	11,18	21,9	1233	4380	2923	320	70	2859	2604	759	12	"	"	"	"
28646	"	12 57	92 53	8,33	8,32	19,0	2522	8002	5002	655	124	5245	4586	1330	26	"	"	"	"
28647	"	12 54	13 39	7,10	7,09	17,7	2707	8002	4848	703	124	5277	4534	1260	24	"	"	"	"
28648	"	13 40	14 48	6,05	6,03	16,3	2242	6370	3717	583	95	4125	3763	994	16	"	"	"	"
28649	"	14 48	15 24	11,31	11,17	25,1	2187	8002	5549	568	142	5077	4800	1380	31	"	"	"	"
28650	"	15 25	16 03	9,58	9,11	21,5	2270	8007	5343	590	127	5168	4477	1481	33	"	"	"	"
28651	"	16 04	16 47	8,33	8,13	18,9	2553	8002	4980	664	126	5183	4549	1318	22	"	"	"	"
28652	"	16 48	17 36	7,10	6,96	17,4	2700	8002	4833	702	122	5182	4569	1260	33	"	"	"	"
28653	"	18 04	18 46	11,36	11,10	23,5	2312	8002	5456	601	141	5059	4660	1342	36	"	"	"	"
28654	"	18 46	19 26	9,22	9,35	21,1	2402	8002	5138	625	132	5094	4620	1313	28	"	"	"	"

$\langle L \rangle$ 10^{30} cm^{-2} s^{-1}	Rhodhe $\int L dt$	$\int L dt$ Exp. Energy	Output To	At Run Start TOF	At Run Start ID	Online Reject ΣMIO TZ %	Online Reject N50 T_1+T_2 %	Σ Rhodhe	MH	E_B	B Feld -I+G	Comments
10·75	27·11	59370·39	IBM	1·00	0·20	48	77	476	5	17500	4860	
8·68	23·74	59394·13	"	0·85	0·15	50	61	417	5	"	"	
7·26	6·38	59400·51	"	0·75	0·10	50	47	112	3	"	"	Beams dumped
12·53	26·47	59426·98	"	1·45	0·25	47	34	465	13	"	"	
10·55	27·85	59455·83	"	1·1	0·2	49	38	489	5	"	"	
8·81	14·86	59470·69	"	0·9	0,15	48	39	261	6	"	"	Beams dumped (Lab), IBM down
11·33	25·00	59495·69	"	1·1	0·2	48	34	439	2	"	"	
7·35	15·20	59510·89	"	0·7	0·1	51	38	269	7	"	"	Beam dumped
12·36	30·17	59541·06	"	1·5	0·2	48	33	530	5	"	4838	
10·77	25·91	59566·97	"	1·0	0·1	49	38	455	8	"	"	
9·09	23·17	59590·14	"	0·7	0·05	48	40	407	8	"	"	
7·36	17·02	59607·16	"	0·7	0·05	50	43	299	4	"	"	Beams dumped
12·05	27·55	59634·71	"	1·5	0·2	48	35	484	7	17500	4837	
10·71	24·71	59659,42	"	1·1	0·2	49	38	434	7	"	4838	
8·97	23·17	59682,59	"	0·8	0.15	49	41	407	8	"	4837	
7·26	14·24	59696,83	"	0·7	0·1	50	44	250	7	"	"	Beams dumped
11·16	25·80	" ~~722~~.63	"	1·2	0·2	48	37	453	7	"	"	
8·29	22·32	" ~~744~~.95	"	0·9	0·1	48	40	392	3	"	"	
7·14	10·36	" ~~755~~.31	"	0·7	0·1	50	42	182	1	"	"	Beams dumped
12·40	26·76	59732.07	"	1·5	0·2	48	33	470	8	17500	"	
10·91	24·57	59~~00~~6.66	"	1·2	0·2	49	36	432	7	17500	4838	
8·67	21·36	59828.52	"	0·9	0.15	50	41	394	3	"	4837	
7·40	18·05	59846.57	"	0·7	0·1	51	43	317	5	17500	4838	
6·22	7·57	59854.14	"	0·7	0·1	52	46	133	3	17500	4837	Beams dumped
12,24	15,26	59869,40	"	1·5	0·2	47	34	268	4	17500	4837	Run stopped. Eckelin changed 10 process restart
9,61	22,55	59891,95	"	1,0	0,2	50	40	396	9	"	4838	
7,55	20,44	59912,39	"	0,8	0,2	50	42	359	11	"	"	
5,92	13,32	59925,71	"	0,75	0,15	50	44	234	4	17500	4839	Beams dumped.
13,16	26,98	59952,69	"	1,5	0,22	46	33	474	12	17500	4838	
11.60	28.42	59981.11	"	1,3	0,22	47	34	488	6	"	4840	
9.27	22.88	60003.99	"	1.0	0.20	49	40	402	8	"	4841	
7.27	18.67	022.66	"	0.8	0.2	50	42	328	4	"	4841	beams dumped
12.16	25.28	047.34	"	1.5	022	47	34	444	11	"	4840	
10.36	23.68	071.62	"	1.3	0.2	48	38	416	6	"	4840	

Run	Date	Start	Stop	I^+	I^-	Dead time %	time sec	Records in	Records out	All $\times 10^6$	T^0_{trig} $\times 10^6$	T^1_{rec} sum	T^2_{rec} sum	$T_1 \cdot L1^2$ $E_{cl}>6$	$T_2 \cdot L17$ $\Sigma T, E_{cl}>10$	Purposes on/off NSD	NEP	TOF	TANF
28655	31/3/86	19.27	20:10	7·88	8·00	18·6	2588	8002	4918	673	126	5215	4527	1297	22	ON	ON	ON	OFF
28656	"	20:11	20:52	6·74	6·83	16·7	2464	7262	4372	641	107	4796	4080	1206	15	"	"	"	"
28657	"	21:21	21:59	11·39	11·10	22·6	2306	8002	5204	600	136	5084	4638	1420	35	"	"	"	"
28658	"	22:00	22:32	9·15	9·27	20·8	1879	6293	4113	489	102	4101	3499	1065	23	"	"	"	"
28659	"	22:36	23:19	7·95	8·06	18·9	2565	8002	4976	667	126	5176	4596	1278	26	"	"	"	"
28660	"	23:20	23:49	6·80	6·89	17·7	1703	5050	3033	443	79	3235	2922	806	19	"	"	"	"
28661	1/9	00:15	0:57	11,16	11,06	23·5	2345	8002	5370	640	143	5065	4697	1328	31	"	"	"	"
28662	"	00:55	1:38	9·59	9·50	19·9	2439	8002	5189	634	126	5150	4592	1306	33	"	"	"	"
28663	"	01:37	2:28	8·25	8·15	17,4	2672	8002	4781	695	121	5258	4680	1315	26	"	"	"	"
28664	"	02:38	2:44	6,36	6,41	15·9	922	2648	1528	240	38	1724	1463	398	5	"	"	"	"
28665	"	4:15	4:58	10·79	10·10	20·9	2399	8003	5307	624	131	5051	4680	1310	24	"	"	"	"
28666	"	4.58	5.42	9·18	8·10	18·1	2560	8002	5085	666	121	5192	4708	1313	32	"	"	"	"
28667	"	5.42	6 20	7·88	6·86	17·4	2261	6726	4079	588	102	4347	3894	1043	26	"	"	"	"
28668	"	6.51	7·30	10·90	10·87	22·4	2307	8002	5406	650	135	5086	4639	1325	31	"	"	"	"
28669	"	7.30	8:11	9·33	9.29	20. 1	2393	8002	5200	623	125	5237	4393	1398	34	"	"	"	"
28670	"	8^{11}	8^{55}	8.00	7·95	17·5	2673	8002	4930	680	118	5276	4481	1351	19	"	"	"	"
28671	"	8^{58}	9^{37}	6·78	6.73	16·8	2000	5840	3472	520	87	3769	3416	891	31	"	"	"	"
28672	"	10.14	10:54	11.42	10.38	21.9	2372	8002	5477	619	135	5090	4683	1359	38	"	"	"	"
28673	"	10:56	11:38	9.28	8.68	19.0	2468	8002	5108	642	122	5234	4505	1319	25	"	"	"	"
28674	"	11:38	12: 23	7.93	7.36	17.2	2666	8002	4840	694	120	5247	4651	1278	35	"	"	"	"
28675	"	12^{23}	12^{35}	6·78	6·24	16·7	660	1876	1203	171	28	1291	1147	342	5	"	"	"	"
28676	"	13^{27}	14^{13}	9.29	10.23	20.2	2444	8002	5190	636	128	5194	4577	1357	27	"	"	"	"
28677	"	14^{13}	14^{59}	7.54	8.18	17·9	2631	8002	4933	685	122	5216	4600	1269	34	"	"	"	"
28678	"	15^{00}	15^{13}	6.35	6.96	16.5	550	1624	973	143	25	1025	949	259	4	"	"	"	"
28679	"	15^{44}	16^{22}	11.23	11.04	23.7	2249	8002	5539	585	139	5005	4639	1383	33	"	"	"	"
28680	"	16.22	17.01	9.72	9.53	22.6	2320	8002	5352	604	136	5076	4630	1382	31	"	"	"	"
28681	"	17.02	17.43	8.39	8.20	19.5	2449	8003	5081	637	124	5283	4492	1270	37	"	"	"	"
28682	"	17.43	18.19	6.89	6.06	18·3	2143	6426	3878	558	102	4129	3718	1019	19	"	"	"	"
28683	"	18.54	19.32	11.18	10.97	23.2	2283	8002	5461	595	138	4973	4706	1327	29	"	"	"	"
28684	"	19 33	20^{13}	9.63	9.43	21.2	2393	8002	5152	623	132	5228	4548	1327	31	"	"	"	"
28685	"	20^{14}	20^{57}	7.52	7.48	18.4	2588	8002	4839	674	124	5185	4634	1284	35	"	"	"	"
28686	"	2058	2119	6.44	6.40	16.4	1275	3744	2131	332	54	2384	2233	510	17	"	"	"	"
28687	"	22^{08}	22^{09}	10.20	9.63	24.9	34	164	110							"	"	"	"
28688	"	22 45	22 56	10.80	10.72	23.2	610	2169	1468	159	37	1861	1238	339	6	"	"	"	"

$\angle L7$ $10^{30}\,cm^{-2}\,sec^{-1}$	Bhab $\int L dt$ nb^{-1}	$\int L dt$ Exp Energy	IBM/ Tape	TOF [ns]	ID [μm]	Sum μPlane $T_1 \Sigma$	NSD $T_0 \cdot T_2$ Σ_{ch}	Σ_{BHB}	Mult.	E_{beam}	$\vec{B}$ $\times 10$ G	Remarks
8.41	21.63	60,093.25	IBM	1.0	0.2	49	41	380	7	17,500	4840	
6.62	16.40	,109.65	"	.8	.15	49	42	288	7	17503	"	beams dumped.
12.05	26.37	,136.02	"	1.45	.25	47	34	463	12	"	4838	
10.47	19.81	,155.83	"	1.2	.2	48	37	348	6	17500	"	Run stopped. IBM ONLINE-JOB ERROR CHECK 3.
8.62	20.44	,176.27	"	1.0	.2	49	40	359	8	17503	4837	
7.12	10.70	,186.97	"	.8	.15	48	42	188	8	17603	4838	beams dumped
11.22	25.45	.212.02	"	1,5	0,3	48	35	447	8	17503	4837	
9.86	22.42	.234.45	"	1,2	0.2	48	37	394	6	17.500	4837	
7,94	20,72	60.255.17	"	0.8	0.2	50	43	364	4	17.500	4837	
6,51	5,18	260.35	"	0,7	0,15	47	45	91	1	17503	4836	Beams dumped.
11·59	26 81	.287.16	"	1.3	0.2	47	36	471	6	17500	4837	
9·41	22.61	.309.77	"	1.0	0.2	49	38	397	7	17.503	4837	
7.32	15.89	.325.66	"	0.8	0.15	49	42	279	6	17.503	4837	Beams dumped.
11.99	26. 88	,352.54	"	1.3	0.2	47	34	472	7	17.503	4837	
10.67	25.90	,378.44	"	1.0	0.2	47	37	455	5	17500	4837	
8.50	21.86	400.30	"	0.9	0.15	49	40	384	14	"	"	
6.81	12.13	412.43	"	0.7	0.1	49	43	273	4	"	"	Beams dumped
11.03	28.36	440.79	"	1.4	0.2	48	33	498	8	17503	4837	
10.34	24.08	468.87	"	1.1	0.15	48	38	423	4	17500	4838	
8.38	21.98	490.85	"	0.8	0.1	50	42	386	7	17503	4837	
7.49	5.24	496.09	"	0.8	0.1	50	41	92	1	"	"	Beams dumped
10.35	26.13	523.22	"	1.2	0.2	48	37	459	6	"	"	
P.39	20.04	543.26	"	0.8	0.2	49	41	352	6	"	"	
7.13	4.38	547.64	"	0.7	0.1	49	43	77	1	17502	4838	Beams dumped
11.82	24.82	,572.46	"	1.5	0.3	46	33	436	6	17500	4837	
10.56	26.36	,598.82	"	1.2	0.2	48	35	463	7	"	"	
9.44	22.38	,621.20	"	1.0	.15	49	39	393	6	17503	4838	
7.65	16.22	,637.42	"	.8	.15	50	42	285	4	17500	"	Beams dumped.
11.79	25.28	662.70	"	1.5	.25	47	34	444	6	"	"	
10.36	22.49	685.19	"	1.3	0.2	50	38	395	10	17.503	"	
7.89	18.50	7036.9	"	0.9	0.2	49	42	325	9	17.500	"	
6.55	7.80	711.49	"	0.8	0.15	49	46	137	1	"	"	Beams dumped
9.44	0.23	711.72	"	1.5	0.2	34	39	4	0	"	"	beams lost
11.38	6.21	717.93	"	1.4	0.2	47	35	109	2	17.503	"	

Run	Date	Start	Stop	I^+	I^-	Dead time %	time sec	Records in	Records out	All $\times 10^6$	T^0_{inj} $\times 10^6$	T^1_{rec} sum	T^2_{rec} sum	$T_3 \Delta 1^2$ $E_{cl} > 6$	$T_3 \Delta 17$ $\Sigma T_i E_{cl}$ $i \geq 20$	Triggers on/off N50	NTP	TOF	TANP
28655	31/8/86	19.27	20:10	7·88	8.00	18.6	2588	8002	4918	673	126	5215	4527	1297	22	ON	ON	ON	OFF
28656	"	20:11	20·52	6·74	6·83	16·7	2464	7262	4372	641	107	4794	4030	1206	15	"	"	"	"
28657	"	21:21	21:59	11·39	11.10	22.6	2306	8002	5204	600	136	5082	4638	1420	35	"	"	"	"
28658	"	22:00	22:32	9·15	9.27	20·8	1879	6293	4113	489	102	4101	3499	1065	23	"	"	"	"
28659	"	22:36	23:19	7·95	8·06	18.9	2565	8002	4976	667	126	5176	4596	1278	26	"	"	"	"
28660	"	23·20	23:49	6·80	6·89	17·7	1703	5050	3033	443	79	3235	2922	806	19	"	"	"	"
28661	1/9	00.15	0:57	11,16	11,06	23·5	2345	8002	5370	640	143	5065	4697	1328	31	"	"	"	"
28662	"	00.55	1·28	9·59	9·50	19·9	2439	8002	5189	634	126	5150	4592	1306	32	"	"	"	"
28663	"	01.37	2·28	8·25	8.15	17,4	2672	8002	4781	695	121	5258	4680	1315	26	"	"	"	"
28664	"	02:28	2:44	6.36	6.41	15.9	922	8648	1528	240	38	1724	1463	398	5	"	"	"	"
28665	"	4:15	4:53	10·79	10·10	20·9	2399	8003	5307	624	131	5051	4680	1310	24	"	"	"	"
28666	"	4.58	5.42	9·18	8·10	18·1	2560	8002	5085	666	121	5192	4708	1313	32	"	"	"	"
28667	"	5.42	6 20	7·98	6·86	17·4	2261	6726	4079	588	102	4347	3994	1043	26	"	"	"	"
28668	"	6.51	7·30	10·90	10·87	22·4	2307	8002	5406	680	135	5086	4639	1325	31	"	"	"	"
28669	"	7.30	8:11	9·33	8·29	20.1	2393	8002	5200	623	135	5237	4393	1398	34	"	"	"	"
28670	"	8^{11}	8^{55}	8.00	7.95	17·5	2673	8002	4930	680	118	5276	4481	1351	19	"	"	"	"
28671	"	8^{58}	9^{37}	6·78	6.73	16·8	2000	5840	3472	520	87	3769	3476	891	31	"	"	"	"
28672	"	10.14	10·54	11.12	10.39	21.9	2372	8002	5477	619	135	5096	4683	1359	38	"	"	"	"
28673	"	10·56	11·38	9·28	8.68	19.0	2468	8002	5108	642	122	5234	4505	1319	25	"	"	"	"
28674	"	11:38	12:23	7·93	7.36	17.2	2666	8002	4840	694	120	5247	4651	1298	35	"	"	"	"
28675	"	12^{23}	12^{35}	6·78	6·24	16·7	660	1876	1203	171	28	1291	1147	342	5	"	"	"	"
28676	"	13^{27}	14^{13}	9.29	10.23	20.2	2444	8002	5190	636	128	5199	4577	1357	27	"	"	"	"
28677	"	14^{13}	14^{59}	7·54	8.18	17·9	2631	8002	4933	685	122	5216	4600	1269	34	"	"	"	"
28678	"	15^{00}	15^{13}	6·35	6.96	16.5	550	1624	973	143	25	1025	949	259	4	"	"	"	"
28679	"	15^{44}	16^{22}	11·23	11·06	23·7	2249	8002	5539	585	139	5005	4639	1383	33	"	"	"	"
28680	"	16.22	17.01	9·72	9·53	22·6	2320	8002	5352	604	136	5076	4630	1382	31	"	"	"	"
28681	"	17·02	17.43	8·39	8·20	19·5	2449	8003	5081	637	124	5253	4492	1270	37	"	"	"	"
28682	"	17·43	18.19	6·89	6·06	18·3	2143	6426	3878	558	102	4129	3718	1019	19	"	"	"	"
28683	"	18.54	19.32	11.18	10.97	23.2	2283	8002	5461	595	138	4973	4706	1327	29	"	"	"	"
28684	"	1933	20^{13}	9.63	9.43	21.2	2393	8002	5152	623	132	5228	4548	1327	31	"	"	"	"
28685	"	20^{14}	20^{57}	7.52	7.48	18.4	2588	8002	4839	674	124	5185	4634	1284	35	"	"	"	"
28686	"	2058	21.19	6.44	6.40	16.4	1275	3744	2131	332	54	2384	2233	510	17	"	"	"	"
28687	"	22^{08}	22^{09}	10.20	9.63	24.9	34	164	110							"	"	"	"
28688	"	22^{45}	22^{56}	10.80	10.72	23.2	610	2169	1468	159	37	1861	1238	339	6	"	"	"	"

$\angle L7$ 10^{30} cm^{-2} sec^{-1}	Bkgd $\int L dt$ nb^{-1}	$\int L dt$ Exp Energy	IBM/ type	TOF (V)	ID (μA)	Sum μPmt $T_1 T_2$	N50 $T_3 \cdot T_3$ $i_1 i_2$	Σ GMB	Mult.	E_{beam}	$\vec{B}$ $\times 1$ G	Remark
8·41	21.63	60, 093.25	IBM	1.0	0·2	49	41	380	7	17,500	4840	
6.62	16.40	,109.65	"	·8	·15	49	42	288	7	17503	"	beams dumped.
12.05	26·37	,136.02	"	1·45	·25	47	34	463	12	"	4838	
10·47	19·81	,155·83	"	1·2	·2	48	37	348	6	17500	"	Run stopped. IBM ONLINE-SOS ERROR CHECK 3.
8.62	20.44	,176.27	"	1·0	·2	49	40	359	8	17503	4837	
7.12	10.70	,186.97	"	·8	·15	48	42	188	8	17503	4838	beams dumped
11·22	25.45	.212.02	"	1,5	0,3	48	35	447	8	17503	4837	
9·86	22·42	.234·45	"	1,2	0.2	48	37	394	6	17.500	4837	
7,94	20,72	60.255.17	"	0·8	0·2	50	43	364	4	17.500	4837	
6,51	5,18	260.35	"	0,7	0,15	47	45	91	1	17503	4836	Beams dumped.
11·59	26.81	.287.16	"	1·3	0·2	47	36	471	6	17500	4837	
9·41	22·61	.309·77	"	1.0	0·2	49	38	397	7	17.503	4837	
7·32	15·89	.325·66	"	0·8	0·15	49	42	279	6	17.503	4837	Beams dumped.
11·99	26. 88	,352·54	"	1·3	0.2	47	34	472	7	17.503	4837	
10.67	28.90	,378.44	"	1·0	0·2	47	37	455	5	17500	4837	
8·50	21·86	400.30	"	0·9	0.15	48	40	384	14	"	"	
6.81	12·13	412.43	"	0·7	0·1	48	43	213	4	"	"	Beams dumped
11·03	28.36	440. 79	"	1·4	0·2	48	33	488	8	17503	4837	
10.30	24.08	468. 87	"	1·1	0.15	48	38	423	4	17500	4838	
8.38	21.98	490. 85	"	0·8	0·1	50	42	386	7	17503	4837	
7.49	5.24	496.09	"	0·8	0·1	50	41	92	1	"	"	Beams dumped
10·35	26.13	523.22	"	1·2	0·2	48	37	459	6	"	"	
P·39	20.04	543.26	"	0·8	0·2	49	41	352	6	"	"	
7.13	4.38	547.64	"	0·7	0·1	49	43	77	1	17502	4838	Beams dumped
11·82	24·82	,572.46	"	1·5	0·3	46	33	436	6	17500	4837	
10·56	26.36	,598.82	"	1·2	0·2	48	35	463	7	"	"	
9·44	22.38	,621.20	"	1·0	·15	49	39	393	6	17503	4838	
7·65	16.22	,637.42	"	·8	·15	50	42	285	4	17500	"	Beams dumped.
11.79	25.28	662.70	"	1·5	·25	47	34	444	6	"	"	
10.36	22.49	685.19	"	1.3	0·2	50	38	395	10	17.503	"	
7.89	18.50	7036.9	"	0·9	0.2	49	42	325	9	17.500	"	
6.55	7.80	711.49	"	0·8	0.15	49	46	137	1	"	"	beams dumped
9.44	0.23	711.72	"	1·5	0·2	34	39	4	0	"	"	beams test
11.38	6.21	717.93	"	1.4	0.2	47	35	109	2	17.503	"	

1.9.86

15[00] Mr. Lueck confirmed that the change to separated beam running will take place tomorrow morning
15[10] technical Lieutenant confirms that they are notified about the loose "Sechsmix" of the UV-Roll

16[00] Ian Duerdoth.
Gas Check done.

17[50] JDAS ERROR 32 MISSING LAM AT FEP Ready (JETCH)

18[00] JDAS REPEAT ERROR 53 System costs watchdog Flag PARMS: 000002 177777 (oct)

18[20] VTX chamber 'valve failure' at 'DOWN'.

19[20] Schneekloth

22[45] after starting run 28680 YPARA 24 PED CRT 3 CH 510, 492, 486 (pedestals too low) appeared
stopped run, started LG test run, new run.

2.9.86

0[00] Diethraum on shift gas check done.

4[00] Barthel on shift

5[30] short break linac power supply failed

8:00 Kado (Hamatsu) on shift

8:20 still "short break", probably until lunch time, because the separator plate connections will also be changed now. ⇨ magnet OFF 10:15 magnet ON again

10:35 JDAS READOUT ERROR 33 - This occured 6x times and could not be eliminated. Hence a new run was started.

10:53 JDAS READOUT ERROR 33 - Missing LAM branch 3 crate 4 : Z-Chamber Part I

12:14 Run 28699 ended as IBM link down for ≈ 1hr. Cannot write to tape as the tape recorder is taken.

14[20] separated beams at UW interaction region only
CELLO : luminosity somewhat low, background somewhat higher but have electronics problems
TASSO : luminosity ≈ 30% low, background O.K.
Mark J : luminosity slightly low, background reasonable

16[00] Becker
Gas check done

18[00] JDAS error 32 - Missing LAM ... continuously - STOP RUN
Reload JETC68K:

Date :	2.9.86
Time:	18[03]
Next run #:	28711

During Load : Hard Trip : JETC, VTXCH, Z-CH.

18[28] JDAS error 52 - control word 000600 - Stop run
18[40] beams lost : hard trip : JETC, VTXCH,
20[00] Ian Duerdoth.
20[45]. JDAS READOUT ERROR 52. controlword combo later 000200
" " " 76 wrong LAM branch : Jet-pipe ch.
23[01] 3 ch trip.
23.15 Standard Histograms — experts should check.
23[50] New fill, new run; ch 492 486 PED<100. STOP run 2 do LG test run. Next Run is OK. Run 28717 was only 450 events.

3.9.86

0[00] U. Schneekloth
0[03] all chambers tripped
2[50] gas check done
3[50] P. Warming
3[53] all 3 chambers trip, that's a nice welcome really!
7[12] new fill ready
7[15] ID + Vtx-ch trip
8[00] Echevlin
gas check done
10[00] Z-chamber HV-Failure
10[14] Z-chamber HV-Failure and valve failure
12[07] JJ74S Readout error 33 = Missing branch 3 crate 4 : Z-Chamber Part I
12[05] Ramche on shift
13[00] Readout err 33 Miss Lam br 3 crt 2 : Muon chambers
14[00] short tape test (U. Nasbender) ⇒ Nord 10 reloaded (14[10])
runs 28733, 28734 lost due to tape-test. (no events)
14[36] RUN 28735 written to IBM and to tape. After 189 triggers run terminated due to ZHAS error

16[00] Chin + Hill
gas check done.
Complaints about appearance of lumi energy plots, synchrotron radiation etc can all be blamed on low statistics, since lumi events are now very rare and sync plots are made from lumi and random events. This, don't care about fluctuations! J.O.

8[00] forgot to do LG test run. 3 channels low after 100 Stop run. Do test run. 3 low channels persist (?)

21[30] Everything tripped. VTXch, ID, Z-ch and magnet, PETRA lost beams.
Magnet cannot be reset "Rücklauf < 35°C" Call M&C!. They are on the way
* this is not a error. !!! Contrary to the written instructions the current was raised using the RAISE button. Maybe someone would care to update the instructions.

RUN	DATE	START	STOP	AT RUN START I+	AT RUN START I−	DEAD TIME %	TIME (SECS)	RECORDS IN	RECORDS OUT	ALL ·10⁶	TO REJ ·10⁶	T1 ACC SUM	T2 ACC SUM	T1 B+2 E>6	T2 B+T	PROCESSORS ON/ NSD	PROCESSORS ON/ MIP	PROCESSORS ON/ TOF	PROCESSORS ON/ FAI
28689	1.9	22.57	23.37	10.35	10.27	20.8	2412	8002	5267	627	131	5145	4569	1274	32	ON	ON	ON	OF
28690	1.9	23:37	0.21	8.98	9.10	13.5	2618	8002	4900	680	125	5126	4702	1204	18	"	"	"	"
28691	2.9	0.29	1.14	7.59	7.51	17.2	2696	8002	4774	701	120	5182	4577	1188	33	"	"	"	"
28692	"	1.15	1:39	6.55	6.47	15.9	1339	3767	2156	348	55	2461	298	567	15	"	"	"	"
28693	"	2.47	2.57	10.94	10.69	22.4	2345	8002	5460	610	136	5048	4683	1329	35	"	"	"	"
28694	"	2.54	3:37	9.45	9.21	19.2	2498	8002	5000	649	124	5170	4725	1314	30	"	"	"	"
28695	"	3:37	4:21	8.16	7.93	17.9	2618	8002	4904	680	122	5240	4573	1277	25	"	"	"	"
28696	"	4.22	5.07	7.08	6.86	16.3	2658	7721	4616	692	113	5147	4304	1204	21	"	"	"	"
28697	"	10:20	10:31	10.07	9.89	15.81	1039	2591	1540	270	438	1506	1853	264	4	"	"	"	"
28698	"	10:41	11:37	9.58	9.51	14.7	3330	8002	4191	867	128	4826	5565	781	31	"	"	"	"
28699	"	11:37	12:11	8.19	7.46	12.8	1980	4496	2125	515	66	2713	3196	413	17	"	"	"	"
28703	"	14:03	14:42	10.31	10.38	14.6	2264	5438	2584	590	86	3330	4155	459	16	"	"	"	"
28704-6																			
28707	"	14.46	15:27	8.20	8.24	12.9	2425	5478	2514	631	82	3491	4084	533	15	"	"	"	"
28708	"	15:27	16:26	8.17	8.28	13.1	3461	8002	3816	901	118	5234	5777	844	20	"	"	"	"
28709	"	16:27	16:48	6.47	6.50	12.5	1256	2862	1338	327	41	1818	1844	322	10	"	"	"	"
28710	"	17:21	18:05	10.92	11.18	16.2	2586	6506	3330	673	103	4006	4948	586	27	"	"	"	"
28711	"	18:14	18:31	8.66	8.56	14.6	810	2003	1021	211	31	1242	1470	204	5	"	"	"	"
28712	"	18:37	18:33	7.86	8.86	13.7	3392	8002	3743	883	121	5207	5711	833	28	"	"	"	"
28713	"	18:34	18:39	6.68	7.61	12.6	275	644	285	73	9	430	444	48	1	"	"	"	"
28714	"	20.5	21.13	11.01	11.02	15.5	3270	8002	4043	851	132	4969	6266	796	20	"	"	"	"
28715	"	21.14	22"	9.11	9.19	14.0	3450	8002	3901	892	125	5105	6105	853	29	"	"	"	"
28716	"	22.11	23.13	7.83	7.90	12.9	3441	7792	3714	895	115	5107	5669	888	31	"	"	"	"
28718	3.9.	23.54	052	11.07	10.64	15.9	3280	8002	4109	853	135	4902	6419	827	19	"	"	"	"
28719	"	052	148	9.36	8.25	14.9	3315	8002	3850	862	128	5138	5943	954	24	"	"	"	"
28720	"	148	245	8.03	7.82	14.1	3403	8002	3769	884	125	5160	5823	895	33	"	"	"	"
28721	"	246	249	6.92	6.54	14.0	160	407	187	41	9	243	279	31	2	"	"	"	"
28722	"	332	431	10.63	10.80	15.6	3271	8002	4021	851	133	4930	6228	798	21	"	"	"	"
28723	"	431	529	9.02	9.16	13.8	3480	8002	3880	906	125	5075	6067	939	31	"	"	"	"
28724	"	530	628	7.69	7.80	13.1	3492	8002	3787	909	119	5280	5870	895	24	"	"	"	"
28725	"	628	641	6.62	6.72	13.3	726	1771	797	189	25	1188	1176	211	4	"	"	"	"
28726	"	7:16	8:14	10.99	10.60	15.4	3506	8002	4157	860	133	5015	6082	877	24	"	"	"	"
28727	"	8-15	9:11	8.52	8.58	14.1	3367	8002	3971	874	123	5126	5815	870	25	"	"	"	"
28728	"	9:11	10:12	7.33	7.75	13.3	3394	8002	3778	883	118	5187	5627	843	27	"	"	"	"

<L> 10^{30}cm^{-2}s^{-1}	BHABHA SLOt	SLOt EXP. ENERGY	IBM TAPE	AT RUN START TOF	AT RUN START ID	ON LINE SUM MIP %	ON LINE N SD %	E Blue.	MH	E_B	B	REMARKS
10.27	24.15	60742.08	IBM	1.3	0.2	48	36	424	6	17.503	4838	
8.37	19.36	60761.44	"	1.0	0.2	49	41	340	10	17.500	4838	
7.22	18.50	60779.94	"	0.9	0.1	49	43	325	3	"	"	
6.10	8.14	60787.08	"	0.7	0.05	50	45	143	2	"	4837	Beams dumped
11.13	25.80	60812.88	"	1.5	0.2	48	34	453	8	"	4838	
9.28	24.02	60836.90	"	1.1	0.2	50	40	422	4	"	4838	
7.30	19.10	60856.00	"	0.9	0.1	50	41	349	6	"	4837	
6.46	18.51	60874.51	"	0.8	0.1	51	43	325	2	-	-	beams dumped
1.64	148	60875.19	"	1.0	0.1	53	44	26	0	17.500	4845	separated beams – Run stopped due to SDMS ERROR 22.
1.13	5.35	60881.34	"	0.9	0.1	54	51	94	1	17.500	4847	Still had luminosity so they were both with the voltages.
0.00	0.00	000.00	"	0.7	0.1	54	56	0	1	17.503	4847	IBM tape Beam dumped
0.01	0.06	0.06	"	1.2	0.2	54	54	1	0	17.503	4847	Runs 703–702 do not exist as there were for tape testing.
												Runs 704–706 also tape testing
0.01	0.00	0.06	"	0.8	0.2	55	56	0	0	17.500	4848	Run terminated on 164 went down for ≈ 30 secs
0.00	0.06	0.12	"	0.7	0.2	56	54	1	1	17.500	"	
0.01	0.00	0.12	"	0.7	0.2	56	55	0	0	17.503	"	beams dumped
0.02	0.00	0.12	"	1.3	0.3	54	51	0	2	17.500	4847	missing LAM, STOP
0.01	0.00	0.12	"	1.0	0.3	54	51	0	0	"	4848	
0.01	0.00	0.12	"	0.8	0.2	55	55	0	0	17.503	4849	
.0.00	0.00	0.12	"	0.7	0.2	53	58	0	0	17.500	4847	beams lost
0.01	0.00	0.12	"	1.3	.25	56	51	0	1	17503	4847.	
−0.00	0.00	0.12	"	1.0	.20	57	53	0	0	17500	"	
0.00	0.00	0.12	"	.8	.15	57	54	0	0	"	"	beams dumped
-0.00	0.00	0.12	"	1.35	.25	56	50	0	0	"	"	
0.00	0.00	0.12	"	1.0	0.2	56	54	0	0	"	"	
0.00	0.00	0.12	"	0.9	0.15	56	55	0	2	17.503	"	
0.01	0.00	0.12	"	0.75	0.15	49	57	0	0	17.500	"	beams dumped
0.00	0.00	0.12	"	1.3	0.2	55	51	0	0	"	4845	
0.00	0.00	0.12	"	1.0	0.2	56	53	0	0	"	"	
-0.00	0.00	0.12	"	0.85	0.15	56	54	0	0	"	"	
0.00	0.00	0.12	"	0.7	0.1	55	57	0	0	"	4846	beams dumped
0.00	0.00	0.12	"	1.45	0.25	55	50	0	0	17.503	4845	
0.00	0.00	0.12	"	1.0	0.2	55	52	0	0	"	4844	
0.00	0.00	0.12	"	.8	0.15	55	55	0	1	17.500	4847	

Run	DATE	START	STOP	AT RUN START I⁺	AT RUN START I⁻	DEAD TIME %	TIME (secs)	RECORDS IN	RECORDS OUT	ACC * 10⁶	TO Rej. * 10⁶	T1 Acc SUM	T2 Acc SUM	T1 Bit 2 E_{Lab} ~~66~~ GeV	T2 Bit A 2T·E₀ ≥ 2TR	PROCESSORS ON N50	PROCESSORS ON MIP	PROCESSORS ON TOF	PROCESSORS ON FAM
28729	3/9	10:12	10:35	6.29	6.67	13.4	938	7190	1086	244	38	1436	1436	268	5	ON	ON	ON	OFF
28730	"	11:17	12:12	10.85	10.80	15.9	3277	8002	3977	852	136	4927	6168	809	22	"	"	"	"
28731	"	12:13	13:09	8.94	9.20	14.6	3344	8002	3889	870	127	5139	5902	917	20	"	"	"	"
28732	"	13:09	14:05	7.20	7.73	14.1	3373	7832	3956	868	123	5090	5577	849	23	"	"	"	"
28735	"	14:39	14:40	10.87	10.94	— only few events —													
28736	"	14:41	15:34	10.79	10.86	17.1	3081	8002	4353	801	137	4977	5946	820	25	"	"	"	"
28737	"	15:34	16:28	9.38	9.44	15.8	3149	8002	4044	832	131	5138	5761	876	22	"	"	"	"
28738	"	16:28	17 23	8.17	8.22	14,8	3272	8002	3950	851	125	5226	5530	931	19	"	"	"	"
28739	"	17:25	18:20	7.06	7.12	14.0	3285	7752	3758	854	119	5081	5368	913	35	"	"	"	"
28740	"	20:11	20:12	10,42	10,56	16,2	25	90	48	6	1	40	55	6	1	"	"	"	"
28741	"	20 14	21"	10,34	10,48	14,3	3401	8002	5668	884	126	5044	6003	716	17	"	"	"	"
28742	"	21 13	21 31	8,88	9,00	13,5	1055	2437	1135	274	37	1562	1755	247	3	"	"	"	"
28743	"	23 02	23 59	10,97	10,86	15,4	3389	8002	5502	883	136	4958	6188	746	28	"	"	"	"
28744	4.9.	23.59	0:56	9.38	9.25	14,4	3383	8002	4450	881	127	4875	5883	774	22	"	"	"	"
28745	"	0:57	1:56	8.05	7.87	12.0	3544	8002	4640	921	113	5217	5726	869	17	"	"	"	"
28746	"	1:57	2:40	6.37	6.75	13.3	2129	5072	2604	553	73	3325	3774	536	13	"	"	"	"
28747	"	3 11	4.05	10.97	10.92	16.3	3214	8002	4324	835	136	4836	6001	762	22	"	"	"	"
28748	"	4.06	5:04	9.53	8.02	14.9	3291	8002	4196	856	127	5049	5731	825	22	"	"	"	"
28749	"	5.04	6.01	8.01	8.00	13.3	3398	8002	4070	884	118	5193	5487	836	25	"	"	"	"
28750	"	6.02	6.33	6.52	6.20	12.5	1838	4200	2064	478	59	2729	2892	457	16	"	"	"	"
28751	"	7.02	~~10.34~~	10.84	10.90	16.4	3176	8002	4462	827	135	4887	5892	722	22	"	"	"	"
28752	"	7.56	8:52	9.36	9.41	14.9	3293	8002	4252	857	128	4991	5853	837	29	"	"	"	"
28753	"	8:52	9:00	8.07	8.11	21.9	421	967	510	109	24	620	652	95	2	"	"	"	"
28754	"	9:01	10:15	7.88	7.93	14.5	3868	8002	4096	877	127	5188	5314	839	19	"	"	"	"
28756	"	10:19	10:41	6.46	6.50	13.2	1276	3023	1474	332	44	1929	2049	332	5	"	"	"	"
28757	"	13:16	13:22	9.59	9.56	46.5	373	527	269	97	45	302	401	43	1	"	"	"	"
28759	"	13:31	13:34	9.23	9.21	15.7	157	419	244	41	6	251	251	23	0	"	"	"	"
28760	"	13:35	14:08	9.14	9.11	15.4	1913	4487	4269	498	76	2709	3240	398	16	"	"	"	"
28761	"	14:20	15:19	8.02	8.12	14.3	3502	8002	3818	912	130	5111	5788	836	29	"	"	"	"
28762	"	15:19	15:58	6.85	7.01	14.1	2298	5277	2534	598	84	3467	3632	536	16	"	"	"	"
28763	"	15:53	16:08	6.19	6.36	13.4	573	1286	599	149	20	830	897	146	5	"	"	"	"
28764	"	17:53	18:17	10.79	10,77	16.8	3231	8002	4256	840	141	4815	6324	808	47	"	"	"	"
28765	"	18:48	19:22	9.33	9.31	16,3	2024	5002	2569	527	86	3155	3785	564	19	"	"	"	"
28766	"	19:22	20:10	8.55	8.52	15.1	~2880	6971	3412	(860)	(223)	4422	5171			"	"	"	"
28768	"	20:31	21:26	7,93	7,A	14,7	3294	7849	3989	857	196	5065	5632	992	30	"	"	"	"

$\langle L \rangle$ $10^{30}\,cm^{-2}s^{-1}$	BHABHA $\int L dt$ nb^{-1}	$\int L dt$ EXP. ENERGY	IBM/TAPE OUTPUT	AT RUN START TOF CVT	AT RUN START ID [μA]	ONLINE REJECT SUM MIPROC T_2 %	ONLINE REJECT NORDSO [LATE %]	Σ BHABHA	MH	E_{Beam}	MAG FIELD −1×G	
0.00	0.00	0.12	IBM	0.7	1.5	56	53	0	0	17.503	4845	beams dumped
0.00	0.00	0.12	"	1.3	0.2	55	52	0	0	"	"	
0.00	0.00	0.12	"	1.0	0.2	56	53	0	0	17.510	4846	
0.00	0.00	0.12	"	0.8	0,15	56	51	0	0	17.502	4847	beams dumped
				1.2	0.3							stopped due to ZHAG err
0.00	0.00	0.12	"	1.3	0.2	54	47	0	1	17.500	4847	
0.00	0.00	0.12	"	1.1	0.2	55	51	0	0	17.503	"	
0,00	0,00	0,12	"	0.9	0.2	55	52	0	2	17503	"	
"	"	"	"	0,75	0,2	56	53	0	0	17.500	4848	beams dumped
0,0	0,0	"	"	1,2	0,2	40	58	0	0	17500	4845	run stopped to do LG test.
0,0	0p6	0,18	"	1,2	0,2	55	30	1	48	17503	4845	
0,0	0,0	8 "	"	1,0	0,2	56	56	0	0	"	"	Beams lost.
0,0	0,0	"	"	1,25	0,2	55	32	388 0	39	17500	4846	??
0,0	0,0	"	"	1,0	0,2	53	50	0	2	17,500	4845	
0.0	0.0	"	"	0,8	0.1	56	43	0	1	17,503	4840	
0.0	0.0	"	"	0,7	0.1	55	51	0	0	17,500	4840	Beams dumped
0.01	0.06	0.24	"	1,25	0,2	54	48	1	0	17.503	"	
0	0.06	0.30	"			55	50	1	2	"	"	
0	0	"	"	0.75	0.2	55	57	0	0	"	"	
0	0	"	"			54	53	0	1	"	"	dump
0	0	"	"	1.25	0.35	54	46	0	0	17.500	4839	
0	0	"	"	1.0	0.2	55	49	0	1	17.503	"	
0	0	"	"	0.8	0.2	55	50	0	0	"	4840	stopped due to missing LAM BR3 CR2, μ-filter
-0	0	"	"	0.8	0.2	54	51	0	0	"	"	run 28755 test
0	0	"	"	0.7	0.2	53	53	0	0	17.500	"	beams dumped
0	0	0.30	"	1.0	0.2	55	52	0	0	"	4843	~~28757~~ 28758: JUNK, NO Z-CH
0	0	"	"	"	"	48	46	0	0	17.503	4842	~~28758~~ ZCH off
0	0	"	"	"	"	52	50	0	0	"	"	with Z-CH
0	0	"	"	0.8	0.2	54	54	0	0	17.500	4843	run stopped due to LG problem
0	0	"	"	0.7	0.18	55	54	0	0	"	"	run stopped to allow tape test
0	0	"	IBM + JDAS Ø5	0.65	0.15	55	55	0	0	17.500	4844	Beams dumped
0	0	"	IBM + TAPE (JDAS Ø5)	1.2	0.25	54	49	0	0	17.503	4844	
0	0	"	"	1.15	0.23	56	50	0	1	17.503	4844	
0	0	"	IBM	1.05	0.2					17.500	4844	Nord, ZDAS crash. Run Sum lost
0	0	"	"	0.85	0.15	55	51	0	0	17503	4844	No Run # 28767 Beams dumped.

21[44] "Short Break". PKR suspect a brief pow failure at PE54. All the accelerators went down.

22[54] Luminosity - er.. well, no luminosity ... I mean ... Missing beams. PETRA is working again.

4.9.86

0[00] Zimmer Gas check done 0.2.
2[00] everything tripped
4.00 8 Napoleon
4.42 everything tripped
5.30 VTX ch. trip
5.42 " "
7.09 Asked PKR to make a picture of the vacuum and noted the expectation value.

8[00] Kleinert on shift
Gas check done
9[10] several running LAM BR 3 CR 2 : μ-ch
JDAS ERR 64 - AC2099 TOF-2, Q,t-missing ; stn = 3, subaddr = 0
9[30] everything tripped
10[14] Run 28755: tried with Maschender to write to tape → Hard hang up
12[00] Warming (from Lindau)
13[20] Problem with z-CH: not possible to switch on, start Run 28759 without z-CH-readout → Run 28757 with z-ch. stopped, 28758 junk
pressing OFF/ON in Hardware room helped → again with z-CH run 28760
13[45] found MOP dead since 9:06 exception SOB at user addr. $000209?C
MOP restarted 4/9/86 13:46 during run 28760

14:17 Since yesterday evening ≈ 23:50 h all LG channels in barrel I up to #960 were very noisy or absent (run dependent). I moved the ADC processor of ADC crate 1, which is responsible for these channels, out and in again, now everything is okay.
This should have been noticed earlier!
↑ runs affected 28744 - 28760
15:50 Maschender finishes the repair of tape unit, stand alone test successful, writing to tape real data in parallel to writing to IBM successful too. No error messages so far.

16:00 J. Olsson and H. Rieseberg
Gas check done
16:08 Stop for refilling. Tape Unit no error till now.

16:51 Reload J68K since FEP06 extremely noisy R
17:46 New fill ready . RUN # 28764 → IBM + TAPE
18:08 JDAS readout error 64 AC2099 TOF2 Q, X missing stn = 4 subaddr. = 4
19:20 z-chamber trip
One mag. tape full without error message. Stop to write to tape
20:10 z-chamber trip - pickup? Event
JDAS Readout error Suberror 001000 act
↳ flashing
Nord hangs on level 9, JDAS control terminal is dead.
Reload Nord
Task ZDAS corrupted. Rebuild → o.k.
21:15 No prio time left, used HJ account to submit JADEREFO
0[40] JDAS ERR 33 Miss LAM pr 2 cr 3 TOF1
" " 64 AC2099 TOF-2 Q, X-Miss stn 7, subadd. 0

5/9/86 0[00] Howarth and Koch both on shift ≥ ??
They were too tired to write their names down

3[30] Very Funny: Run 28773 has 30 Hadrons! During Run sometimes N50 Busy, N50 reject 36% in contrast to 50% in other runs!

5:00 All chambers tripped. Beams lost. "Short break"

08[00] Holycock — Gas check completed
08[55] PETRA starts to run up. Switch magnet on and up to 7500 A
For some reason unknown to me, during run 28776, the HT control has decided to switch everything off.

12[00] Becker

12[18] JDAS err. 33 - missing LAM continuously - STOP run
Reload J7ETC68K: Date : 5.9.86
Time : 12[20]
next run # : 28780

13[25] Besuch vom Strahlenschutz: Bitte das Fahrrad runterschieben!

16[00] Bettke. Gas check done.
20[00] Hinds. LG test run done; PKR asked to record the pressures in PETRA

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_1 Acc SUM	T_2 Acc SUM	T_1 Bit 2 $E_{LG}>66$V	T_2 B.t17 2T·E_{sc} ≥ 2TR	PROCESSORS ON/OFF NSO	MIP	TOF	FAN
28769	4/9/86	21 57	22 55	11,26	11,26	16,2	3295	8002	4437	857	139	4901	6325	822	26	ON	ON	ON	OFF
28770	"	22 55	23 51	9,70	9,68	14.7	3302	8002	3922	859	126	5070	5904	877	25	"	"	"	"
28771	"	23:51	0:48	8.39	8.01	14.4	3387	8002	3805	887	127	5769 (?)	5845	877 (Yes)	20	"	"	"	"
28772	5/9/86	0:48	1:36	7.25	6,90	13.0	2807	64 98	3129	730	95	4276	4525	737	23	"	"	"	"
28773	"	2:35	3:31	10.61	10.56	15.2	3329	8002	5217	866	132	5074	6021	799	24	"	"	"	"
28774	"	3:31	4:30	9.09	9.04	13.7	3470	8002	3889	903	124	5131	5819	837	25	"	"	"	"
28775	"	4:30	5:00	7.80	7.74	13.0	1751	4007	1985	456	59	2585	2776	409	11	"	"	"	"
28776	"	09⁰⁰	10⁰²	10.79	10.73	14.9	3436	8002	3886	894	133	4935	6068	699	23	"	"	"	"
28777	"	10⁰³	11 01	9.14	9.10	13.1	3642	8002	3724	947	124	4997	6140	756	32	"	"	"	"
28778	"	1105	11 35	7.82	7.78	13.2	1793	3971	1964	467	61	2549	2988	382	15	"	"	"	"
28779	"	1204	12:18	11:12	11:01	16.8	757	1894	955	197	33	1087	1546	146	7	"	"	"	"
28780	"	12:24	13:15	10.56	10.45	17.8	3069	8002	4288	798	142	4814	6361	825	23	"	"	"	"
28781	"	13:16	14:12	9.15	9.05	15.7	3331	8002	4063	866	136	4863	6321	834	27	"	"	"	"
28782	"	14:13	15:10	4.87	4.77	13.8	3453	8002	3850	898	125	5244	5705	871	32	"	"	"	"
28783	"	15:12	15:56	6.73	6.64	13.1	2030	4702	2294	528	69	2990	3287	521	15	"	"	"	"
28784	"	16:22	17:15	11.26	11.15	16.8	3194	8002	4227	830	133	4789	6363	848	29	"	"	"	"
28785	"	17:16	18:08	9,64	9,54	16.7	3116	8002	4166	810	135	4914	6225	846	29	"	"	"	"
28786	"	18:08	19:06	8,70	8,20	14.2	3432	8002	3853	892	126	5117	5846	887	25	"	"	"	"
28787	"	19:06	20:03	7.04	6.97	13.3	3396	7725	3617	883	117	5101	5425	832	27	"	"	"	"
28788	"	20:57	21:29	11.01	11.06	18.0	3131	8002	4284	814	146	4629	6136	767	26	"	"	"	"
28789	"	21:30	22:23	9.43	9.49	16.4	3205	8002	4203	834	137	4791	6006	814	36	"	"	"	"
28790	"	22:24	23:18	8.11	8.16	15.5	3226	8002	4043	839	130	4987	5685	832	27	"	"	"	"
28791	"	23:19	23:34	7.00	7.04	14.2	1211	3221	1582	341	48	2065	2157	337	12	"	"	"	"
28792	6/9/86	0:38	1:37	11.13	10.89	17.8	3753	8002	4288	820	146	4766	6527	767	38	"	"	"	"
28793	"	1:37	2:25	9.44	9.27	16.1	3232	8002	4069	840	135	4915	6235	897	28	"	"	"	"
28794	"	2:26	3:06	8.02	7.75	14.8	2226	5398	2669	579	85	3463	3908	632	16	"	"	"	"
28795	"	3:57	4:48	11,08	10,93	18,9	2998	8002	4418	780	147	4828	6230	843	43	"	"	"	"
28796	"	4:48	5:42	9,57	9,44	19,8	2887	8002	4690	750	149	4948	5846	1021	35	"	"	"	"
28797	"	5:42	6:31	8.19	8,02	19,6	2901	8002	4468	755	148	5063	5771	1035	38	"	"	"	"
28798	"	6:31	7:07	7.17	7.01	19,0	900	2479	1392	234	44	1558	1708	312	14	"	"	"	"
28799	"	7:30	8:13	11.04	10,90	18.4	2937	8002	4392	763	140	5078	5688	756	27	"	"	"	"
28800									DUNK										
28801	"	8:21	9:16	9.46	9.31	14.8	3281	8002	3874	853	126	5131	5833	862	32	"	"	"	"
28802	"	9:13	10:14	8.02	7.86	14.0	3332	8002	3737	866	121	5223	5688	940	33	"	"	"	"
28803	"	10:15	10:34	6.91	6.76	13.8	972	2352	1109	252	34	1565	1573	290	6	"	"	"	"

$\langle L \rangle$ $10^{30}cm^{-2}s^{-1}$	BHABHA $\int Ldt$ nb^{-1}	$\int Ldt$ EXP. ENERGY	IBM/TAPE OUTPUT	AT RUN START TOF [V]	AT RUN START ID [mA]	ONLINE REJECT SUM MIPROC T_2 %	ONLINE REJECT NORD50 T_1+T_2 %	Σ BHABHA	MH	E_{BEAM}	MAG FIELD -146	REMARKS
0	0	0.30	IBM	1,3	0,25	55	49	0	2	17500	4841	
0	0	"	"	1,05	0,25	54	52	0	0	"	4842	
0	0	0.3	"	0.90	0.2	56	54	0	0	1	"	
0	0.06	0.36	"	0.80	0.16	54	53	1	1	0	"	Beams dumped Printer failure for 2 digits with ? Checked with tekt.
0	0.06	0.42	"	1.2	0.2	56	36	1	30	"	4841	See Note
0	0	0.42	"	0.85	0.2	56	53	0	3	"	4842	
0	0	0.42	"	0.8	0.16	55	52	0	0	17503	4841	Beams lost
0.01	0.06	0.48	"	1.1	0.25	54	53	1	1	17503	4837	
0	0	0.48	"	0.8	0.2	56	55	0	0	17.5	4838	
0	0	0.48	"	0.7	0.15	57	52	0	0	17.503	4838	Beams dumped
0	0	0.48	"	1.25	0.2	53	52	0	0	17.500	4837	miss. LAM-STOP, Reload JETC68K
0	0	0.48	"	1.25	0.2	54	48	0	1	17.503	4838	
0	0	0.48	"	1.1	0.2	55	51	0	0	"	4840	
0	0	0.48	"	0.8	0.2	56	54	0	0	17.500	"	
0	0	0.48	"	0.7	0.1	52	53	0	0	"	4841	Beams dumped
0	0	0.48	"	1,3	0.3	54	49	0	1	"	"	
0	0	0.48	"	1.1	0.2	55	49	0	0	"	"	
0	0	0.48	"	0.8	0.2	56	54	0	0	"	"	
0	0	0.48	"	0.7	0.1	56	55	0	0	17.503	4840	Beams dumped
0	0	0.48	"	1.3	0.3	50	48	0	2	"	4838	
0	0	0.48	"	1.1	0.4	51	49	0	0	17.500	"	
0	0	0.48	"	0.9	0.4	52	51	0	0	"	"	
0	0	0.48	"	0.75	0.3	52	53	0	0	"	"	Beams dumped
0	0	"	"	1.6	0.2	55	48	0	1	"	4837	
0	0	"	"	1.3	0.2	54	51	0	0	"	"	
0	0	"	"	1.0	0.1	55	52	0	0	"	4836	Beams dumped
0.01	0	"	"	1,5	0,2	53	46	0	2	17503	"	
0	0	"	"	1,3	0,2	53	43	0	1	"	4837	
0	0	"	"	1,2	0,1	54	46	0	1	"	4836	
0	0	"	"	1,2	0,1	52	46	0	0	17,500	"	Beams dumped
0.14	0,46	0.94	"	1,6	0,07	54	47	8	1	"	4835	
				1,2	0,07							died after 3 events due to wrong TOF Bad Angles
0	0	"	"	1.2	0.07	55	53	0	0	"	4836	
0	0	"	"	0.8	0.05	55	55	0	0	17.502	4836	
0	0	"	"	0.7	0.05	55	54	0	0	"	4828	Beams dumped

23 25 VTX chamber trips
23 33 VTX gas system failure (valve failure)

6.9.86

0 00 Kado on shift
gas check done
4 00 Ambros on shift

8 00 Zimmer on shift
gas check done o.k.
8 05 Run 28800 - stopped after 3 events due to wrong length of TOF-Bank No Summary!
9 00 MOP died reset of MOP necessary
10 30 Short break (due to replacement of a "Rolle")
10 50 Injection
11 05 Run 28804 died during LG-Pedestal taking → Python LG Testrun o.k.

12 00 Kleinwort on shift
asked PKR for pressure and hardcopy
16 00 Kunis and Warming
gas check done OK
YSPY lead glass problem, average blocks > 20 keeps coming
21:40 IDAS readout error 64/AC2099 TOF-2 Q,X missing stn = 3 / subaddr = 0
21:45 MOP died Reload JBK 6/9186 21:53 during run 28815

7.9.86

0:00 Zimmer on shift; gas check okay.
1:10 Vtx Chamber Valve failure
2:00 new run died after a couple of events with missing LAM 3684 Bank. Replacing some hardware helps

4:00 Chirm.
5 45 TOF volts (mainframe 541 systematically higher than ("should be" values (+0.008 V)), i.e. 0.3% higher.
Acknowledge error; no further messages on system console regards this error (6 45).
7 20 Idas readout error 64 - AC2499 TOF-2 Q,X missing stn = 14 subaddr = 5.

08 00 Hedgcock in - 4pm completes the gas check.
10 20 During Run 28829 - MUON CRATE MISSING (3) STAYS ON AN IDAS ERR 33 - MISSING LAM BR 3 CR 2 Mu. CHAMBERS FLASHES ON CONTROL CONSOLE AT A HIGH RATE.

I cleaned the contacts on Mcrate (5) position in Bank (3) and then recess the cables and modules in the rucksack. I resort to more serious measures like calling P.WARNING or !!.xxl. should the fault continue to interrupt my peace!
11:40 Task YPARA rebuilded Runs 28830 - 32 lost (no events) due to YPARA error
12 00 Ramcke on shift
15 15 YRUNSM: SAVED SUMMARY FILE (D-F) RUNSM -03 ; SYMB ERROR 28.

16 00 Elsen on shift
Gas check done
16 20 YRUNSM: SAVED SUMMARY FILE (D-F) RUNSM-04 : SYMB ERROR 28.
no run summary. Rebuild YRUNSM to see if that helps
16 25 It does not! Notice that the run summary directory shows the last files and when trying to read them with QED everything looks fine. Therefore, recover the run summaries of the last three runs by printing them manually and rebuild YPARA again (to see if that helps)
17 15 "Energie-Eindesung", preceeded by soft trip in TEF and BP-Chamber
18 00 Rebuilding YPARA again seems to have cured the run summary problem
19 50 missing LAM JETC point 401. Reload processors
20 50 IDAS ERROR 32 Shortly after Run start. & Miss LAM at FER Ready. Pause-Continue does not help (Readout hangup). Run stopped. Restart did not help.
Reloading of 68k-processors helped.
20 00 Krehbiel on shift

8.9.86

0 00 Spieler
Gas check ok
4.00 Naroska Histograms show Synrad hits, no single Lumi-trigger.
??
8 00 Bartel & Chirm
gas check ok

9:47 IDAS READOUT ERROR 53 - Systems crate watchdog flag
13:38 VTXC hard trip at the beginning of a fill
14:03 continuous missing LAM at FER. JETC processor restarted, run 28859 stopped first.
14:11 all chambers tripped
16:00 Gas check done.

Run	Date	Start	Stop	At Run Start I^+	At Run Start I^-	Dead Time %	Time Secs	Records In	Records Out	All $\times 10^6$	TP Rej $\times 10^6$	T_1 Acc Sum	T_2 Acc Sum	T_1 & T_2 Acc (GG)	T_2 B+H T_2^{Ex} T_2^{Tr}	Process NSO	Process MHP	ON/OFF TOF	ON/OFF Fit	$\int$ (L) 10^{30} cm^{-2} s	BHABHA $\int L dt$ nb^{-1}	$\int L dt$ est Energy	IBM/Tape Output	At Run TOF [V]	At Run Strob [V]	Online Sum MHPASS T_2 %	Recon WORDS T_1 T_2 %	Σ BHABHA	MH	E_{beam}	Mag Field	Remarks
28804																								1.7	0.7							died after 3 Events no summary
28805	6.986	11:16	11:58	10.70	11.07	26.7	2506	8002	4553	652	174	4628	5632	763	43	ON	ON	ON	OFF	0.23	0.51	1.45	IBM	1.2	0.7	47	45	9	0	17500	4838	
28806	"	11:59	12:44	9.35	9.75	22.7	2717	8002	4627	707	160	4645	5889	932	51	"	"	"	"	0.05	0.06	1.51	"	1.3	0.5	49	44	1	0	"	4832	
28807	"	12:45	13:34	8.18	8.56	19.3	2925	8002	4459	760	147	4950	5748	959	43	"	"	"	"	0.00	0.06	1.57	"	1.20	0.37	52	46	1	1	17503	4838	
28808	"	13:34	14:15	7.15	7.49	17.0	2420	6276	3327	629	107	4006	4444	792	17	"	"	"	"	-0.00	0	"	"	1.1	0.2	50	49	0	2	17500	"	beams dumped
28809	"	14:41	15.25	10.22	10.37	23.2	2612	8002	4465	679	158	4834	5309	808	33	"	"	"	"	0.19	0.51	2.08	"	1.55	0.7	47	46	11	1	"	"	
28810	"	15:25	16:16	8.80	9.10	17.2	3033	8002	4173	789	135	5063	5533	886	36	"	"	"	"	.04	0.23	2.31	"	1.0	0.5	52	50	4	1	"	"	
28811	"	16:16	17:09	7.62	7.92	16.1	3130	8002	4590	814	131	5158	5254	683	29	"	"	"	"	.01	0.11	2.42	"			52	44	2	6	17503	"	
28812	"	17.09	17.25	6.52	6.92	17.3	961	2450	1214	250	43	1541	1644	279	11	"	"	"	"	0	0	2.42	"			51	53	0	0	17500	4840	beams dumped;
28813	"	19:40	20:40	9.47	7.52	14.1	3586	8002	5529	933	132	5087	5934	769	36	"	"	"	"	0	0.06	2.48	"			55	32	1	0	"	4847	
28814	"	20:40	20:56	8.13	6.36	13.5	898	2086	1001	234	32	1351	1649	241	3	"	"	"	"	0	0	"	"			54	54	0	0	17503	"	beams dumped
28815	"	21:23	22:18	11.22	11.05	15.9	3234	8002	4126	841	134	4938	6051	730	24	"	"	"	2	0	0	"	"	1.3	0.1	54	50	0	1	17500	"	
28816	"	22:18	23:16	9.56	9.42	14.1	3472	8002	4307	903	127	5033	6106	857	23	"	"	"	"	0	0	"	"	1.0	<0.1	56	48	0	0	17503	"	
28817	"	23:19	0:18	8.12	7.93	13.3	3560	8002	3830	926	123	5222	5893	831	30	"	"	"	"	0	0	"	"	0.8	<0.1	56	54	0	0	"	4842	
28818	7.8.86	0:18	1:04	6.92	6.80	12.8	2702	6026	3003	703	89	3351	4362	656	18	"	"	"	"	0	0	"	"	0.2	<0.1	56	52	0	0	"	4845	beams dumped
28819								JUNK																								died after 14 evts due to broken FADC
28820																																. . . no summary
28821	"	2:57	3:54	9.01	8.59	14.0	3414	8002	3953	888	124	5191	5742	864	25	"	"	"	1	0	0	"	"	0.9	0.9	55	52	0	0	17.500	4846	
28822	"	3:56	4:54	7.70	7.32	13.4	3475	8002	3799	904	120	5229	5671	848	26	"	"	"	"	0	0	"	"	0.7	0.7	55	54	0	0	"	4844	
28823	"	4:54	5:13	6.63	6.28	13.2	1090	2531	1554	283	37	1676	1699	270	7	"	"	"	"	0	0	"	"	0.7	0.05	55	40	0	0	17503	"	beams dumped
28824	"	5.43	6:39	11.06	11.15	15.6	3277	8002	4167	852	132	4967	6088	821	33	"	"	"	"	0	0	"	"	1.3	0.1	54	50	0	0	17.500	4846	
28825	"	6:39	7:35	9.38	9.44	14.7	3333	8002	3997	867	127	5089	5912	922	33	"	"	"	"	0	0	"	"	1.0	0.1	55	52	0	0	17503	4844	
28826	"	7:35	8:33	7.99	8.04	13.7	3396	8002	3993	884	121	5281	5991	944	27	"	"	"	"	0	0	"	"	0.9	0.05	55	52	0	1	17503	4846	
28827	"	8:33	9:08	6.86	6.91	14.0	2050	4846	2428	534	75	3146	3432	528	21	"	"	"	"	0	0	"	"	0.75	0.05	55	51	0	0	17500	4837	
28828	"	9:57	10:22	10.99	10.13	20.7	1370	2961	1656	356	74	1989	2323	288	19	"	"	"	"	0	0	"	"	1.05	0.1	54	40	0	2	17500	4837	RUN STOPPED MU CRATE B MISSING LAM
28829	"	10:27	11:30	9.99	9.20	15.6	3553	8002	4970	925	144	5095	5911	819	24	"	"	"	"	0.01	000	— " —	"	0.85	0.1	55	39	0	23	17503	4837	
28833	"	11:53	12:50	7.74	7.21	12.9	3383	7683	3485	880	114	5004	5452	813	28	"	"	"	"	0	0	— " —	"	0.8	0.1	55	56	0	0	17.500	4837	runs 2883-832 LOST THROUGH 4 PARA ERR. beams dumped
28834	"	13:22	14:17	10.67	10.34	150	3300	8002	4017	859	129	4944	5897	778	33	"	"	"	"	0.01	0	"	"	1.1	0.15	54	51	0	2	17.500	4837	
28835	"	14:17	15:14	8.98	9.17	13.6	2448	8002	3761	889	121	5194	5657	844	25	"	"	"	"	0.00	0.02	2.50	"	0.8	0.1	55	55	1	1	17500	4837	
28836	"	15:20	16:19	7.52	7.71	16.2	3503	8002	4203	911	120	5238	5685	892	38	"	"	"	"	0.00	0.00	— " —	— " —	0.65	0.05	52	48	0	1	17500	4837	
28837	"	16:23	16:25	6.58	6.56	13.4	105	284	135	27	4	180	167	35	0	"	"	"	"	0.00	0.00	— " —	— " —	0.6	0.05	48	56	0	0	17500	4837	beams dumped
28838	"	16:52	18:01	11.07	10.91	13.5	3463	8002	4605	906	122	5064	5845	784	26	"	"	"	"	0.00	0.01	2.51	— " —	1.1	0.05	54	51	0	0	17503	4837	Energie-Änderung!
28839	"	18:02	19:00	7.98	7.74	12.7	3471	7911	3944	903	114	5114	5943	900	28	"	"	"	"	0.00	0.00	— " —	— " —	0.7	<0.05	53	52	0	4	17503	4837	FEC missing LAM
28840	"	19:06	19:22	6.73	6.51	12.3	896	2067	921	233	29	1355	1478	232	10	"	"	"	"	0.00	0.00	— " —	— " —	0.6	<0.05	55	57	0	0	17500	4837	beams dumped

Remarks

RUN	DATE	START	STOP	AT RUN START: $I^+_{(mA)}$	AT RUN START: $I^-_{(mA)}$	DEAD TIME [%]	TIME (secs)	RECORDS IN	RECORDS OUT	ACC ×10⁶	TO REJ. ×10⁶	T_1 ACC Gauss	T_2 ACC Gauss	T_1 E677 EL>66GeV	T_2 E677 2T·EL>2TR	PROCESSORS ON/OFF: NSO	HIP	TOF	?
28841	7.9.	19:51	20:46	10.92	11.28	15.5	3274	8002	4059	852	132	4977	6077	815	24	ON	ON	ON	OF
28842	+2884	3	Short Run with no data.					JETCH	68 K	problems						"	"	"	
28844	7:9.86	20.57	21:55	8.98	9.29	14.0	3438	8002	4171	894	125	5176	5925	822	36	"	"	"	
28845	"	21.55	22:54	7.62	7.89	13.7	3476	8002	3967	904	124	5238	5695	828	27	"	"	"	
28846	"	22.59	23:27	6.42	6.65	13.9	1617	3874	1988	421	58	2527	2655	430	13	"	"	"	
28847	9.86	23:57	0:51	11.20	10.94	15.7	3256	8002	4129	844	132	5068	5935	833	22	"	"	"	
28848	8.9.86	0:52	1:49	9.53	9.30	13.6	3449	8002	3892	896	121	5190	5845	821	38	"	"	"	
28849	"	1:50	2:49	8.15	7.93	12.5	3539	8002	3705	920	115	5275	5592	838	21	"	"	"	
28850	"	2:57	3:32	6.82	6.62	12.1	2015	4445	2169	524	63	2962	3072	481	15	"	"	"	
28851	"	4.00	4.56	11.08	11.06	15.1	3304	8002	4089	859	129	5021	6076	794	35	"	"	"	
28852	"	4.56	5.54	9.46	9.44	13.9	34 5	8002	3924	894	124	5084	5966	834	21	"	"	"	
28853	"	5.54	6.54	8.08	8.06	13.0	3532	8002	3779	918	119	5277	5638	795	24	"	"	"	
28854	"	6.54	7.32	6.92	6.90	12.3	2232	5000	2296	579	71	3330	3470	520	14	"	"	"	
28855	"	8:09	9:06	10.75	10.19	14.4	3397	8002	4066	883	127	5058	6058	755	25	"	"	"	
28856	"	9:06	10:06	9.13	8.65	12.8	3548	8002	3846	923	804	5191	5725	780	28	"	"	"	
28857	"	10:06	10:56	7.72	7.28	18.5	2946	8002	4661	767	141	5069	5495	964	31	"	"	"	
28858	"	10:56	11:22	6.71	6.31	17.4	1451	4019	2128	378	66	2602	2607	520	11	"	"	"	
28859	"	13:43	14:24 9:44	9.44	9.46	16.9	1762	3044	1631	302	51	1931	2179	301	76	"	"	"	
28860	"	14:08	15:06	8.83	8.84	18	2977	8002	4399	775	139	5079	5560	916	43	"	"	"	
28861	"	15:06	15:55	7.57	7.59	19.4	2907	8002	4678	757	147	5087	5672	1017	40	"	"	"	
28862	"	15:56	16:08	6.18	6.20	32.7	712	2275	1509	185	63	1363	1539	238	8	"	"	"	
28863	"	17:06	17:56	10.48	10.66	18.9	2927	8002	4502	762	144	4931	5897	831	39	"	"	"	
28864	"	17.55	18:47	9.17	9.32	18.0	2970	8002	4459	773	139	4998	5856	836	37	"	"	"	
28865	"	18.46	19.36	7.95	8.10	19.2	2892	8002	4549	753	144	5138	5484	968	45	"	"	"	
28866	"	19.35	19:55	6.99	7.12	22.2	1078	3257	1858	281	62	2030	2130	393	19	"	"	"	
28867	"	20:31	21:22	11.04	10.41	17.8	3022	8002	4306	786	140	4976	5999	745	36	"	"	"	
28868	"	21:23	22:13	9.51	8.94	16.7	3015	8002	4234	794	131	5065	5649	853	37	"	"	"	
28869	"	22:14	23:05	8.24	7.72	17.3	3050	8002	4341	792	137	5138	5597	968	43	"	"	"	
28870	"	23:06	23:44	7.18	6.71	17.8	2257	5994	3267	587	104	3834	4104	768	36	"	"	"	
28871	9/9/86	0:12	1:02	11.15	10.56	18.2	2980	8002	4456	775	141	5005	5899	804	29	"	"	"	
28872	"	1:02	1:53	9.77	9.23	16.6	3073	8002	4220	799	133	5176	5829	871	26	"	"	"	
28873	"	1:54	2:41	8.48	7.98	17.5	2790	7421	4075	726	127	4755	5230	881	30	"	"	"	
28874	"	2:53	3:41	7.22	6.78	17.6	2882	7365	4262	750	132	4741	5197	936	28	"	"	"	
28875	"	4,11	5,03	11,09	10,45	16,9	3105	8002	4282	807	136	5018	5923	842	41	"	"	"	

$\langle L \rangle$ $10^{30}cm^{-2}s^{-1}$	$\int Ldt$ nb^{-1}	$\int Ldt$ EXP. Energy	IBM/TAPE	AT RUN START: TOF [ns]	AT RUN START: ID [μA]	ONLINE REJ.: $\int Ldt$ MPROC [%]	ONLINE REJ.: NSO TIT2 [%]	Σ EVENTS	MH	EBEAM	MAG FIELD -1×6	REMARKS
0	0.06	2.57	IBM	1.2	0.10	55	51	1	2	17.500	4.837	
				0.95								
0	0	2.57	"	0.9	0.05	56	49	0	0	17.503	4838	
0	0.06	2.63	"	0.76	0.02	56	52	1	1	17.501	4837	
0	0	2.63	"	0.7	0.02	54	50	0	0	17.503	"	Beams dumped.
0	0	2.63	"	1.4	0.08	55	50	0	1	"	"	
0	0	2.63	"	1.0	0.02	56	53	0	0	17.500	4838	
0	0	2.63	"	0.8	0	55	53	0	0	"	4837	
0	0	2.63	"	0.8	0	55	53	0	1	17.503	4838	Beams dumped
0	0	"	"	1.5	~0	55	50	0	0	17.500	4837	
0	0	"	"	1.0	~0	55	53	0	0	"	"	
0	0	"	"	0.8	0	56	54	0	1	"	"	
0	0	"	"	0.6	0	56	56	0	0	"	"	dump
0	0	2.63	"	1.3	0.01	56	51	0	2	17.5	4837	
0	0	"	"	0.8	0.05	55	53	0	2	"	"	
0	0	"	"	0.8	~0	52	43	0	1	"	"	
0	0	2.63	"	1.0	0.05	51	49	0	0	17.503	4837	beams dumped.
0.01	0.11	2.74	"	1.3	0.1	54	48	2	0	17.500	"	
0.01	0.00	2.75	"	1.2	0.1	53	46	0	0	17.5	"	
0.00	0.00	"	"	1.2	0.1	53	43	0	0	17.5	"	
-0.01	0.00	"	"	1.2	0.05	49	36	0	1	17.500	4.838	beams dumped
0.00	0.00	"	"	1.5	0.1	53	45	0	3	17.500	4.838	
0.00	0.00	"	"	1.3	0.1	54	46	0	2	17.500	4.838	
0.00	0.00	"	"	1.25	0.1	53	46	0	0	17.503	4.838	
0.	0	"	"	1.3	0.1	48	45	0	0	17.503	4.837	beam dumped
0	0	"	"	1.5	0.15	54	48	0	0	17.500	4.837	
0	0	"	"	1.2	0.1	53	49	0	0	17.503	4.838	
0	0	"	"	1.1	<0.1	53	47	0	0	17.500	4.837	
0	0	"	"	1.0	<0.1	52	47	0	0	17.500	4.837	beam dumped
0.03	0.17	2.92	"	1.5	0.12	53	46	3	0	"	"	
0.00	0	"	"	1.2	0.1	54	49	0	0	17.503	"	
0	0	"	"	1.05	<0.1	53	46	0	1	17.500	"	
0	0	"	"	1.00	<0.1	54	44	0	4	"	"	beams dumped
0	0	"	"	1,5	0,1	54	47	0	2	"	"	

Message from Rolf Felst :

> Tomorrow 9/9 - detecks will attempt to re-wire JADE back into "colliding beams" status.
>
> However, it may be that the required manpower will not be available tomorrow - in which case - "colliding beams" will be put off until Wednesday, 10/9.
>
> G. Clinn

16.00 Howarth on Shift
17.02 Muon crate missing - putty port 3 - was reset.
18.46 JDAS ~~error~~ READOUT ERROR 53 - System crate watchdog flag PARMS=000002 177777 (Oct)
19:02 JDAS READOUT ERROR 33 - Missing LAM Board 2 crate 3 TOF counters.
19:19 JAS READOUT ERROR 33 - " " " 3 " 2 : Muon Chambers
20:00 Heintzelmann on shift

9/9/86 Warming on shift
gas check done OK
1:50 at run end (28872) message on system console YHCOPY: Histogram saving file error 69
2:38 JDAS readout error 33 Missing Lam br 4 cr 1 JETC point 606
177777 040204 000 276 (177777)*7
0 188 000274 3 006000 177777 177777 100140 177777
followed by continuous row of missing Lams at FEP ready (FETCH)
run 28873 stopped reload J68K 9/9/86 2:40 next run 28874
again 40 histograms at run end
EXIT; REBUILD YHCOPY, YHDISP, ~~YCDIST~~, ~~YCCOPY~~; restart JDAS
start new run 28874
3:39 end of run 28874 : still error YHCOPY and 40 histogram saving
4:00 Still on shift
YHCOPY error is gone.
6:43 jdas readout error 64 AC2099 TOF 2 Q,K Missing Str=8 Subaddr = 0
07:00 Vtx ch, ID, Zch trip.
8:00 Becker
Gas check done

10:20 JDAS err. 33 Miss. LAM TOF1
" " 64 AC2099 TOF-2

Es ist verboten, ein Fahrrad im Sperrbereich zu stellen! Von Strahlenschutz

10:65 Call PETRA : Lumi today 14 - 15:00
12:00 Matsumura
12:28 JDAS Error 64 TOF-2 Q, K, missing N=3, A=0
14:03 VZach Trip x 2
14:13 JDAS Error 33 Miss LAM B=3, C=2 Muon Ch.
15:30 returned to colliding beams status

16:00 Krehbiel & Darvill on Shift.
16:13 Gas check done. O.K.
19:07 JDAS Err. 64 Same as

10.9.86 0:00 Eileen on shift, Gas check done
0:55 Second Vtx chamber pen recorder halt. Switching to stop and run did help.
4:00 Rancha on shift
4:40 TRANSF!! No response from terminal! Stop Nord10 → Run summary 28902 lost
Fault-light on Nord disc is on. Following the instructions of JDAS Operator's Manual (page 20) (Stop Disc (press FAULT button) and start again, then reload Nord) don't help. The READY-light on disc is on, but I can't reload Nord10. So I call J. Olsson! Under his instructions, I can setup Nord again!
Important point: Before starting disc again, one has to wait until the disc (doesn't) rotate any more (≈25sec)
5:06 Run 28903 started
6:32 JDAS ERR 53 Miss Lam br 3 cr 4 : 2-chamber Part I

8:00 Heintzelmann
8:40 Present fill kept longer than usual because of injection problems
9:40 Gas check done
12:05 Carlsmith
12:22 Jet chamber & VXC soft trip
12:23 JDAS error 74-wrong LAM br 5 cr 1 : BPCH (while VXC running up after trip).
12:58 IBM online job error check 3. Run ~~disc~~ hangs up. Pause/continue doesn't work. Stop run.
13:50 Jet chamber soft trip, VXC had trip, energy change (to 17.529 GeV), loss of half of each beam, "SWITCH OFF HV". Not a very successful fill!

RUN	DATE	START	STOP	RUN START I^+	RUN START I^-	DEAD TIME %	TIME (SECS)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ $\times 10^6$	T1ACC SUM	T2ACC SUM	T1 BIT 2 ELG7660V	T2 BIT 17 2T. EQ. ≥ 2TR	PROCESSORS NSO	PROCESSORS MIP	PROCESSORS TOF	PROCESSORS FAST
28876	9/9/86	5:04	5:57	9.53	8.95	16.7	3127	8002	4243	813	136	5017	5887	901	44	ON	ON	ON	OFF
28877	"	5:57	6:49	8.23	7.71	17.2	3108	8002	4260	808	138	5144	5713	944	~~31~~	"	"	"	"
28878	"	6:50	7:42	7.16	6.69	19.9	2871	8002	4682	746	148	5696	5305	957	45	"	"	"	"
28879	"	7:43	7:51	6.19	5.76	20.4	472	1374	800	122	24	889	896	188	5	"	"	"	"
28880	"	8:24	9:18	11.00	10.34	18.7	2838	8002	4431	764	143	4963	5777	780	28	"	"	"	"
28881	"	9:18	10:06	9.36	8.80	18.4	2851	8002	4553	742	144	5140	5568	928	36	"	"	"	"
28882	"	10:08	10:54	8.15	7.64	22.1	2750	8002	4832	716	158	5129	5447	1064	53	"	"	"	"
28883	"	10:54	11:40	7.17	6.70	21.8	2734	8002	4833	711	155	5100	5263	987	36	"	"	"	"
28884	"	12:21	13:06	11.07	11.02	24.8	2624	8002	5494	683	169	4778	5733	829	45	"	"	"	"
28885	"	13:06	13:48	9.51	9.65	28.1	2480	8002	4798	645	181	4763	5489	878	39	"	"	"	"
28886	"	13:48	14:44	8.42	8.57	21.0	2816	8002	4609	732	154	5092	5246	934	35	"	"	"	"
28887	"	14:45	14:45	3.20	2.65	0	0	20	16	0	0	4	0	0	0	"	"	"	"
28888	"	17:20	18:01	10.72	10.47	20	2421	8002	5221	630	126	5288	4743	1295	41	"	"	"	"
28889	"	18:02	18:46	9.06	8.86	17.5	2643	8002	4976	688	120	5310	4941	1247	34	"	"	"	"
28890	"	18:46	19:33	7.66	7.48	16.4	2780	8002	4681	723	119	5342	5014	1211	37	"	"	"	"
28891	"	19:33	19:34	6.50	6.33	14.9	2983	8003	4529	776	116	5283	5108	1092	28	"	"	"	"
28892	"	20:24	20:36	5.54	5.38	14.8	650	1792	957	169	27	1789	1096	300	7	"	"	"	"
28893	"	21:21	22:02	10.41	10.16	19.8	2430	8002	5178	632	125	5334	4853	1378	27	"	"	"	"
28894	"	22:02	22:46	8.72	8.56	18.8	2594	8002	4940	548	127	5353	4958	1269	28	"	"	"	"
28895	"	22:46	23:31	7.42	7.26	18.0	2695	8002	4804	701	126	~~5381~~ 5288	4968	1235	41	"	"	"	"
28896	"	23:32	0:04	4.33	6.19	16.2	1934	5467	3235	503	82	3699	3345	830	27	"	"	"	"
28897	10/9/86	0:30	1:12	9.72	9.32	20.9	2480	8002	5291	645	135	5032	4585	1219	25	"	"	"	"
28898	"	1:12	1:55	8.26	7.92	19.2	2545	8002	5123	662	127	5157	4552	1219	32	"	"	"	"
28899	"	1:55	2:40	7.07	6.75	17.5	2689	8002	4941	700	123	5153	4513	1185	28	"	"	"	"
28900	"	3:12	3:51	11.00	10.47	22.1	2315	8002	5523	602	133	5120	4512	1345	25	"	"	"	"
28901	"	3:51	~~4:33~~	9.22	8.86	20.1	2478	8002	5226	645	129	5253	4442	1352	30	"	"	"	"
28902	"	4:33						~1790								"	"	"	"
28903	"	5:07	5:48	7.02	6.63	17.0	2429	7165	4268	632	107	4689	4100	1075	35	"	"	"	"
28904	"	6:25	7:06	10.19	10.38	22.8	2354	8002	5443	612	139	5178	4594	1245	41	"	"	"	"
28905	"	7:06	7:48	9.21	8.50	20.5	2477	8002	5196	644	132	5045	4701	1199	35	"	"	"	"
28906	"	7:49	8:33	7.84	7.06	19.5	2638	8002	5006	686	134	4993	4862	1265	32	"	"	"	"
28907	"	8:33	9:20	6.47	5.91	17.4	2780	8002	4926	723	126	5120	4804	1150	30	"	"	"	"
28908	"	9:20	10:10	5.42	5.01	15.9	2942	8002	4622	765	121	5123	4897	1025	30	"	"	"	"
28909		10:10	10:12	4.66	4.29	22.6	47	232	145	12	3	137	64	25	2	"	"	"	"

$\langle L \rangle$ 10^{30}cm^{-2}s^{-1}	BHABHA $\int L dt$ nb^{-1}	$\int L dt$ EXP.	IBM TAPE	RUN START TOF (V)	RUN START ID (μA)	ONLINE REJ. SUM PHYSICS T2R	ONLINE REJ. NSO TOTAL %	Σ BHABHA	M.H.	EB.	MAG FIELD −1*G	REMARKS.
0	0	2,92	IBM	1,2	<0,1	54	49	0	7	17503	4837	
0	0	"	"	1,0	<0,1	55	48	0	3	17503	"	
0	0	"	"	0,9	<0,1	51	43	0	7	17500	4838	
0	0	"	"	0,8	<0,1	52	43	0	0	"	4837	beams dumped.
0.01	0.06	2.98	"	1.4	0.2	53	46	1	1	17.500	4838	
0	0	2.98	"	1.3	0.2	53	45	0	0	17.503	"	
0	0	"	"	1.3	0.1	53	40	0	0	"	"	
0	0.06	3.04	"	1.3	0.1	50	41	1	0	17.500	"	beams dumped
0.01	0.06	3.10	"	1.5	0.1	50	33	1	42	17.503	"	
0.01	0	"	"	2.0	0.5	48	42	0	1	"	"	
0	0	"	"	1.7	0.6	51	44	0	2	17500	4840	
0	0	"	"	0.8	0.5	0	57	0	0	17503	"	beams dumped
11.83	25.56	60851.24 60906.90	IBM	1.4	0.2	48	36	449	8	17503	4839	Luminosity again
9.54	23.75	60930.65	"	1.2	0.1	50	39	417	3	"	"	
7.42	18.74	60949.39	"	0.95	0.07	52	43	329	3	"	"	
5.57	15.83	60965.22	"	0.8	0.02	51	45	278	4	17500	4838	
4.80	3.82	60969.04	"	0.7	"	50	48	67	1	17503	4837	Beams dumped
10.89	26.13	60995.17	"	1,4	0,1	50	36	459	5	17.503	4838	
9.07	21.87	61017.04	"	1,2	0,05	51	39	384	7	--	4837	
7.31	18.11	61035.15	"	1.0	0,05	52	41	318	11	--	4837	
6.10	11.80	61046.95	"	0,9	<0,05	52	42	174	1	"	4837	Beams dumped
9.80	22.37	61069.32	"	1.2	0.05	48	36	393	7	17.500	4837	
8.99	20.67	61089.99	"	1.0	0.05	49	38	363	4	17503	4837	
6.79	16.97	61106.96	"	0.85	<0.05	49	41	298	8	"	"	Beams dumped
13.38	27.73	61134.79	"	1.3	0.10	47	33	487	5	"	"	
10.76	24.49	61159.28	"	1.1	<0.1	48	37	430	5	"	"	
	3.42	61162.70	"	1.0	<0.1							Run summary lost due to transfer (disc) error
7.10	16.68	61179.38	"	0.9	<0.1	50	43	293	6	"	"	beams dumped
12.49	26.47	61195.85	"	1.3	0.1	49	34	465	6	17500	"	
9.70	20.61	61210.46	"	1.1	0.1	48	37	362	9	17500	"	
7.01	16.91	61227.37	"	0.8	<0.1	49	40	297	9	17500	"	
5.99	15.37	61242.74	"	0.8	<0.1	51	41	270	5	17500	"	
4.58	12.01	61254.75	"			51	45	211	5	17500	4837	
3.82	0.28	61284.98	"			47	43	4	0	17503	"	

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME [%]	TIME [sec]	RECORDS IN	RECORDS OUT	ALL $*10^6$	Tϕ Rej. $*10^6$	T_1 Acc SUM	T_2 Acc SUM	T_1 bit 2 $E_{LG} > 64$d	T_2 bit 17 $2\Sigma E_\phi \geq 2TE$	PROCESSORS ON/OFF NGO	μP	TOF	FANO
28910	10/9/86	10-47	11-27	10·76	10·60	22·0	2299	8002	5419	598	131	5138	4521	1330	27	ON	ON	ON	OFF
28911	"	11-27	12:12	9·17	9·02	20·7	2416	8002	5217	628	130	5114	4566	1295	37	"	"	"	"
28912	"	12:12	13^{01}	7·61	7·56	17·9	2680	8002	4794	697	125	5111	4727	1122	33	"	"	"	"
28913	"	13^{01}	13^{02}	6·47	6·10	15·7	63	287	143	16	3	141	111	38	0	"	"	"	"
28914	"	13^{05}	13^{18}	6·39	6·03	17·0	753	2223	1291	195	33	1423	1287	307	9	"	"	"	"
28915	"	13-50	13-50	10·42	10·15	0	0	65	49	0	0	35	0	7	0	"	"	"	"
28916	"	14:24	14:41	10·95	10·75	24·3	938	3436	2405	244	59	2153	1948	547	20	"	"	"	"
28917	"	14:54	15:35	9·49	9·39	21·1	2375	8002	5365	618	130	5150	4498	1318	29	"	"	"	"
28918	"	15:35	16:24	8·01	7·93	20·5	2560	8002	5058	666	137	4878	4865	1139	23	"	"	"	"
28919	"	16:24	17:01	6·71	6·46	18·1	2176	6549	3979	566	103	4282	3755	947	28	"	"	"	"
28920	"	17:32	18:17	11·21	11·14	35·3	2117	8002	5757	530	195	4676	4577	1230	36	"	"	"	"
28921	"	18:17	18:54	9·12	9·03	26·6	2224	8002	5456	579	154	4806	4570	1233	37	"	"	"	"
28922	"	18:54	19:28	7·89	7·80	24·3	1668	5727	3779	434	106	3439	3330	874	26	"	"	"	"
28923	"	20:02	20:43	10·86	11·01	19·4	2614	8002	5071	680	131	5068	4822	1133	28	"	"	"	"
28924	"	21:44	22:20	9·43	8·81	19·1	2049	6681	4525	532	105	4322	3747	1079	25	"	"	"	"
28925	"	22:21	23:05	8·19	7·60	18·6	2589	8002	5145	678	125	5229	4556	1208	36	"	"	"	"
28926	"	23:05	23:41	6·56	6·41	16·9	2136	6618	3813	552	93	3926	3614	932	27	"	"	"	"
28927	11.9.86	0"	0^{51}	11·36	10·15	21·6	2333	8002	5547	607	131	5115	4446	1342	43	"	"	"	"
28928	"	0^{51}	104	9·69	8·59	14·9	570	1496	818	148	22	954	850	205	5	"	"	"	"
28929	"	147	230	10·99	10·33	20·9	2346	8002	5451	610	127	5098	4496	1322	33	"	"	"	"
28930	"	2:33	3:19	8·78	8·09	18·0	2677	5117	4651	696	125	5117	4651	1255	30	"	"	"	"
28931	"	3:19	4:09	7·44 ~~8·44~~	6·81	16·4	2807	8002	4870	730	120	5122	4648	1148	34	"	"	"	"
28932	"	4:09	4:36	5·99	5·40	14·8	1605	4354	2473	418	62	2818	2534	614	17	"	"	"	"
28933	"	5:03	5:33	10·96	10·47	20·9	1118	3776	2585	291	61	2385	2060	630	20	"	"	"	"
28934	"	5:58	6:37	11·13	10·24	21·9	2305	8002	5554	600	132	5055	4416	1344	28	"	"	"	"
28935	"	6:36	7:05	9·44	8·62	19·6	1554	~~5084~~ 5084	32-46	405	79	3269	2850	795	21	"	"	"	"
28936	"	7:11	7:56	8·30	7·52	17·3	2718	8002	4912	707	123	5132	4712	1181	28	"	"	"	"
28937	"	7:57	8:16	7·11	6·40	18·4	1089	3312	1956	283	52	2087	1919	446	17	"	"	"	"
28938	"	8:22	8:49	6·56	5·88	17·1	1612	4728	2855	419	72	3036	2652	668	18	"	"	"	"
28939	"	9:58	10:39	10·00	9·81	20·9	2396	8002	5333	623	130	5172	4537	1264	40	"	"	"	"
28940	"	10:40	11:21	8·41	8·24	20·6	2439	8002	5200	634	131	5195	4618	1327	42	"	"	"	"
28941	"	11:25	12:08	7·09	6·92	18·9	2584	8002	5030	672	126	5120	4611	1240	32	"	"	"	"
28942	"	12:09	12:31	6·02	5·81	17·9	1347	4022	2397	343	61	2546	2295	588	17	"	"	"	"
28943	"	12:38	12:57	5·46	5·31	17·7	1129	3344	1994	293	52	2147	1945	497	11	"	"	"	"

REMARKS	MH	E_{BEAM}	MAG FIELD $-1 \times G$	Σ BHABHA	ONLINE REJECT SUM $\mu P_{T_2\%}$	ONLINE REJECT NOBD50 T_1T_2 %	AT RUN START TOF [V]	AT RUN START ID [μA]	IBM/TAPE	$\int L\,dt$ Exp. Energy	BHABHA $\int L\,dt$ [nb^{-1}]	$\langle L \rangle$ $10^{30}\,cm^{-2}\,s^{-1}$
	6	17.503	4.837	417	47	34	1·5	0·1	IBM	61278·74	23·75	12·72
	10	17·5	4.838	382	48	37	1·15	0·05	"	61300·49	21·75	10·28
	2	"	"	247	50	43	0·95	0·05	"	61314·55	14·06	6·33
Run died after IBM online error check 3	0	"	"	4	38	44	0·85	0·05	"	61314·78	0·23	4·62
Beams dumped.	3	"	"	41	50	44	0·85	0·05	"	61317.11	2·33	4·32
Beams lost	0	17·503	4·838	1	0	33			"	61317·17	0·06	0
Run stopped after IBM online error check 3	4	17·500	4·837	203	46	32	1·4	0·1	"	61328·73	11·56	14·17
	10	17·503	"	454	47	35	1·25	0·05	"	61354·58	25·85	11·23
	7	17·500	"	295	48	40	1·05	0·05	"	61371·37	16,79	7.37
beams dumped	4	"	"	237	50	42	0·95	0	"	61384·86	13.49	6.67
	5	17.503	4838	337	44	37	2·1	0.15	"	61404·05	19.19	10.46
	8	"	4837	326	45	35	1·6	0.2	"	61422·61	18.56	9,32
beams dumped	3	17.500	"	204	45	37	1.3	0.2	"	61434·22	11.61	7.74
beams dumped	8	17.500	"	351	50	39	2.2	0.2	"	61454·20	19.38	8.11
run stopped after ZHTAG Error	8	17.500	"	359	48	34	1,2	0,05	"	61474·64	20.44	11.40
	5	"	"	365	49	38	0.6	0.05	"	61495·42	20.78	9.26
beams dumped	4	"	4838	230	48	41	0.9	0.05	"	61509·65	14.23	7.23
	8	17.503	"	519	46	33	1.3	0.1	"	61539·21	29.56	12.92
Beams dumped	2	"	"	54	47	48	0.9	<0.05	"	542·29	3.08	5.43
	8	17.500	"	466	46	34	1.6	0.1	"	568·82	26.53	12.80
	15	"	"	433	49	38	0.8	<0.05	"	593·47	24.65	9.25
	5	--	4837	335	49	42	0.7	<0.05	"	61612·54	19.07	6.98
Beams dumped	3	--	4836	146	50	46	0.6	<0.05	—	61620·85	8·31	5·16
Beams dumped.	2	17.500	4837	218	46	34	1,2	0,05	"	61633·26	12·41	12·18
	10	17.500	4836	479	44	33	1,3	0,1	"	61660·53	27·27	12·85
Need hang-up? no triggers	6	17.500	4837	257	~~48~~ 49	~~38~~ 39	0,4	0,05	"	61675·16	14·63	10·76
	4	--	--	319	50	41	0,5	<0,05	"	61693·32	16·16	6·85
not Need hang-up – ewith "hang up"	1	"	"	102	48	44	0,75	<0,05	"	61'699.13	5.81	5.68
beams dumped	2	"	"	161	49	42	70	.02	"	61'708.30	9.17	6.19
	5	"	"	447	48	35	1.2	0.1	"	733·86	25.56	12.03
holes in ToF-hit map	7	"	4838	447	50	36	1.5	0.15	"	61'758.31	24.45	9.97
Tof hit map OK	5	"	4838	373	49	40	1.0	.05	"	61779.55	21.24	7.90
IBM Error (down)	7	"	4838	147	47	43	0.8	.05	"	61787.92	8.37	6.41
Beam dumped	3	"	4837	110	49	43	"	"	"	61794.18	6.26	5.30

15⁴⁵ For Jan Olsson:
On two occasions after VXC + JETC trip, pressing CONTINUE when JETC up (run having previously been PAUSEd) produced a run hanging (NO TRIGGERS FOR ... SECONDS) A further PAUSE/CONTINUE got run going again after one or two (literally 1 or 2) WRONG LAM BR 5 CR1 messages. This never used to happen.
15⁵⁸ This time the run didn't hang up but I got a JDAS readout error 52 - control word 200 as well as the wrong LAM br 5 cr 1.

16⁰⁰ C. Kleinwort on shift

16¹⁰ Gas check done
17³⁰ asked PKR for hardcopy of pressure
17⁴⁰ background optimization → several trips of ID + VTX due to TOF-rate
↳ not for us → set a factor of 3 in ID-current
17⁵⁰ ask PKR to optimize for us
18⁰⁰ back to beam condition at start of this fill
19¹⁵ Tofrate > 10 V ! , 1-2 mA lost per beam
19³⁰ YSPY reinitialized C.K.
20⁰⁰ H. Zimmer on shift
20³³ 3-4 mA lost per beam
22⁰⁰ run terminated due to JDAS ZMAG error ("read longer than buffer size")

11.9.86 U. Schneekloth on shift

0⁰⁰ Gas check done
0⁵⁰ beam partly lost, all chambers tripped
03⁵¹ ID, Z & Vertex chambers tripped - reset O.K. — Slight beam loss
04⁴⁰ Darrill on Shift.
04⁴⁰ VTX chamber gas alarm - Valve failure - reset O.K.
05¹³ ID, Z & VTX chamber trip - partial beam loss - reset O.K.
05¹⁷ — " — " — " — " — " —
07⁵⁵ No triggers - can't see anything wrong — Pause/Continue doesn't help, stop run. No run summary so I note down the figures I think are important from the screen. Try a test run without writing to IBM, seems to work — start a new run (28936) - seems to be O.K.
07⁴⁶ 3) HV READ ERROR - Supply mainframe No 2 no response - LG system - it looks O.K. - will look more carefully. — No obvious holes the the LG histmaps.

8⁰⁰ P. Steffen on shift.
Gas check done
8:18 Again the computer stopped data taking. No obvious bug seen.
8:30 Erroneous error message from Vertex chamber (paper empty)
8:45 beams dumped
Petra announces a break to 30' < break < 12^h to do some necessary repairs.
On the screen "Short Break" is announced | CAMAC & NORD clock reset to time signal.
9:57 beams back again Was ~ 4½ minutes fast (HEH)

11:00 Several error messages from YSPY : hits in TOF-TDC's 0, 1, 42, 43
TOF hit maps shows holes
11:30 No more error message from YSPY ; TOF hit map looks O.K.
I probably touched the cables when looking for the TDC's

12⁰⁰ Discussion
12⁰³ PC says: - Plotter paper out in Endcap - went down switched Interface, advanced paper, it was not out, switched JF Bord → ok.
12¹⁵ Since 10⁰⁰ this morning every run has ~ 190 times "Day/Month Zero in Head Bank". (#28939) (N50 program error)
12³⁵ IBM ERRORS 53/54 Phone Operator : IBM down
12³² IBM UP again
13⁰⁰ IBM Error 53/54 Run stopped Beam dumped
~~13⁰⁵ Reload Nord with (D45) & LD - N50 DAR to see the Day/Month Errors~~
14²⁰ New N50 program setup Run 28945 ⟹ HEH
15⁵⁰ false Paper empty Alarm of PC occured again.
15⁵⁰ " " " " " "
15⁵⁸ Mipex cannot be started. Run without MIP. Called J. Olsson
16¹⁰ false Paper down PC
16⁰⁰ Magnussen & Howarth on shift
16⁰⁰ Gas Check done.
17:45 interface to pen-recorder (hopefully) repaired. Please report further errors. (HK)
17:46 ERROR 14 IN 94761 AT 110323; OUTSIDE SEGMENTS BOUNDS - Took YVOLTS done.
19:04 JDAS Readout error 74 - wrong LAM branch crate 1 : Beampipe Chamber
20⁰⁰ Pleasey: I moved all cards in it, and rebuild YPARA, YPAROT (New versions, more debug in case of error). Now it works again! Software or hardware, that's the question! J.O.

please note in the logbook if this happens again. Then we have to exchange the optical sensor (HK)

Run	Date	Start	Stop	At Run Start I^+	At Run Start I^-	Dead Time %	Time (secs)	Records in	Records out	kll $\times 10^6$	TØ Beg. $\times 10^6$	T_1 Acc Sum	T_2 Acc Sum	T_1 Bit 2 $E_{LG} > 6GV$	T_2 Bit 17 2T. E_{LG} $\geq$ 2TR	Processors on/off N50	HIP	TOF	Film
28944	11.9.86	13:42	14:20	10.76	10.40	23.3	2261	8002	5446	588	136	5023	4671	1356	37	ON	ON	ON	OFF
28945	"	14:21	15:01	9.10	8.92	21.1	2396	8002	5236	623	131	5070	4542	1290	37	"	"	"	"
28946	"	15:02	15:48	7.72	7.41	19.4	2594	8002	5048	675	131	5095	4702	1243	29	"		"	"
28948	"	16:00	16:37	6.19	6.19	21.9	2182	8002	4023	568	124	3904	3631	895	21	"	OFF	"	"
28949	"	16:37	16:40	5.45	5.18	22.8	117	508	257	30	7	229	205	52	2	"	"	"	"
28950	"	17:08	17:43	10.15	10.28	28.6	2035	8002	4525	529	151	4010	3564	1051	25	"	"	"	"
28951	"	17:45	18:20	8.59	8.72	27.3	2105	8001	4310	547	149	3879	3656	949	17	"	"	"	"
28952	"	18:21	18:57	7.42	7.54	25.4	2143	8002	4186	557	141	3828	3708	880	226	"	"	"	"
28953	"	18:57	19:35	6.45	6.56	22.8	2229	8002	4019	580	132	3802	3760	875	204	"	"	"	"
28954	"	19:35	19:36	5.61	5.73	16.0	60	160	86	8	1	81	47	19	5	"	"	"	"
28955	"	20:13	20:59	10.76	10.60	20.0	2542	8002	5761	661	132	5049	4640	1219	35	ON	ON	ON	OFF
28956	"	20:59	21:15	6.57	6.41	11.9	943	2486	1699	245	43	1711	1660	382	14	"	"	"	"
28957	"	21:46	22:24	10.90	10.90	22.9	2284	8002	5486	594	136	5002	4732	1260	27	"	"	"	"
28958	"	22:24	23:05	9.07	8.88	21.1	2484	8002	5219	632	133	5024	4691	1262	26	"	"	"	"
28959	"	23:05	23:49	7.63	7.44	19.6	2590	8002	5066	673	131	5024	4774	1233	35	"	"	"	"
28960	"	23:49	0:29	6.66	6.26	17.5	2372	6910	4257	617	108	4264	4213	998	31	"	"	"	"
28961	12/9/86	1:02	1:41	10.80	10.27	22.6	2333	8002	5459	607	137	5028	4637	1252	43	"	"	"	"
28962	"	1:41	2:23	9.06	8.59	20.6	2695	8002	5184	649	134	5082	4687	1265	21	"	"	"	"
28963	"	2:23	3:07	7.66	7.23	19.1	2618	8002	4968	681	130	5001	4727	1194	37	"	"	"	"
28964	"	3:08	3:51	6.51	6.12	17.5	2625	6895	4062	631	110	4238	4228	926	31	"	"	"	"
28967	"	5:03	5:44	10.01	10.40	20.3	2439	8002	5208	635	129	5290	4874	1321	32	"	"	"	"
28968	"	5:45	6:29	8.36	8.72	18.2	2639	8002	4920	687	125	5305	5032	1292	23	"	"	"	"
28969	"	6:29	7:16	7.00	7.34	17.1	2807	8002	4700	730	125	5322	5102	1209	35	"	"	"	"
28970	"	7:17	7:49	5.87	6.18	15.8	1905	5228	2933	496	78	3474	3269	764	21	"	"	"	"
28971	"	8:19	9:02	8.95	7.62	19.7	2539	8002	5079	660	129	5283	4948	1349	27	"	"	"	"
28972	"	9:02	10:03	8.90	7.58	17.4	2698	8002	4744	702	122	5314	4943	1212	29	"	"	"	"
28973	"	10:04	10:52	6.76	6.46	16.1	2849	7885	4455	741	119	5140	5071	1108	33	"	"	"	"
28974	"	11:21	12:02	10.48	10.48	20.5	2411	8002	5267	627	128	5253	4845	1375	31	"	"	"	"
28975	"	12:02	12:45	8.80	8.80	19.2	2547	8002	5107	662	127	5300	4989	1355	37	"	"	"	"
28976	"	12:45	13:33	7.30	7.27	16.6	2844	8002	4605	739	122	5310	5004	1238	24	"	"	"	"
28977	"	14:31	15:15	9.74	9.19	18.2	2626	8002	5082	684	124	5367	4849	1359	36	"	"	"	ON
28978	"	15:15	15:45	7.75	7.39	17.6	1738	5137	3104	452	80	3410	3252	830	15	"	"	"	"
28979	"	16:21	16:36	10.50	10.76	22.3	567	1957	1302	148	33	1259	1180	317	8	"	"	"	"
28980	"	17:09	17:19	10.25	9.84	24.9	539	1859	1277	140	35	1089	1016	291	6	"	"	"	"

$\langle L \rangle$ 10^{30} cm^{-2} s^{-1}	Bhabha $\int L dt$ μb^{-1}	$\int L dt$ Exp. Summ. 61734.18	IBM TAPE OUTPUT	At Run Start TOF [V]	At Run Start ID [μA]	ONLINE REJECT Sum HIPROC T_0 %	ONLINE REJECT Last 50 T_1 T_2 %	Σ Bhabha	MH	E_{Beam}	Mag Field -1×G	Remarks
12.87	26.93	61821.11	IBM	1.3	0.2	48	34	473	10	17.500	4838	
10.30	22.55	61843.66	"	1.2	0.2	47	37	396	9	"	"	
7.87	19.53	61863.19	"	1.0	0.15	50	40	343	7	"	4838	
5.40	11.78	61874.97	"	0.9	0.15	08	52	207	8	"	4839	
5.06	0.46	61875.43	"	0.8	0.10	-11	53	8	0	17503	4840	Beams dumped.
11.41	22.54	61897.97	"	1.4	0.2	0	46	396	10	17.500	4838	
9.02	16.57	61914.54	"	1.2	0.2	0	49	291	3	17.500	4837	
7.50	14.81	61929.35	"	1.0	0.2	0	51	260	2	17.503	4838	
6.21	12.30	61941.65	"	0.9	0.15	0	53	216	7	17.500	4838	
6.91	0.28	61941.93	"	0.8	0.15	-25	53	5	0	17.500	4838	Beams dumped
9.72	22.26	61964.19	"	1.5	0.2	47	38	391	8	17.500	4.837	Note: E=17.526 for 2 min
6.75	5.18	61969.37	"	0.8	0.15	48	42	91	0	17.500	4837	beams dumped
13.48	27.78	61997.15	"	1.5	0.2	47	33	488	3	"	"	
10.43	22.72	62019.87	"	1.2	0.2	48	37	399	8	17.503	4838	
8.08	21.92	62031.79	"	1.0	0.15	49	39	385	8	"	4837	
6.63	14.57	62046.36	"	0.8	0.15	49	41	256	9	17.500	4837	beams dumped.
12.53	27.23	62073.74	"	1.5	0.2	48	34	481	8	17.500	4836	
9.79	22.61	62096.35	"	1.1	0.2	49	38	397	7	17.503	4835	
7.52	19.07	62115.42	"	1.0	0.2	48	41	335	6	17.500	4835	
5.99	13.26	62128.68	"	0.85	0.15	51	44	233	3	17.500	4834	Run stopped because of TOF errors beams dumped.
12.44	26.19	62154.87	"	1.5	0.2	49	36	460	7	17.500	4834	
9.58	21.92	62176.79	"	1.1	0.2	51	40	385	6	17.503	4834	
7.18	19.18	62195.97	"	1.0	0.2	52	42	337	4	17.500	4835	
5.84	10.93	62206.90	"	0.7	0.15	51	45	192	4	17.503	4834	beams dumped
10.93	27.78	62234.68	"	1.3	0.2	50	38	488	7	17.500	4834	
8.25	21.98	62256.66	"	1.0	0.2	50	42	386	7	17.503	4.835	
5.98	17.19	62273.85	"	0.85	0.2	50	45	302	4	17.503	4834	beams dumped
12.23	28.01	62301.86	"	1.4	0.25	48	35	492	5	17.5	4834	
10.34	24.08	62325.94	"	1.0	0.2	51	37	442	5	17.5	4834	
6.78	18.56	62344.50	"	1.1	0.4	51	44	326	4	17.5	4834	BEAMS DUMPED
10.24	25.28	62369.78	"	1.10	0.2	50	37	444	6	17.500	4834	
7.92	13.26	62383.04	"	1.05	0.2	51	41	233	4	17.500	4835	beam lost
12.07	5.92	62388.96	"	1.5	0.25	47	35	104	3	17.501	4836	beams dumped
11.27	5.75	62394.71	"	1.5	0.2	44	34	101	1	17.500	"	beam lost

20:30 ID + VTCH soft trip. Energy changed to 17.526 GeV for a few minutes. Part of beams lost
21:12 JDAS Error 33: System crate watchdog flag
12/9/86 Stoplessen on shift
00.00
00.05 Gas check OK
3.45 Z ch trip.
3.55 JDAS error 33 Run # 28965
JDAS error 32 Missing LAM at FED ready (fetch)
"
"
"
Stop run
restart run but after Beeper get repeat of above error. Run # 28966
Beams dumped.
4.05 Reload Data base BBK. +Void Run # 28967
4.00 Hagemann on shift
08.00 Darvill on shift.
08.10 Gas check O.K.
08.26 JDAS Readout Error 64 - AC2044 TOF-2 Q,X missing stn = 3 SUBADDR = 0
08.42 Vtx, ID + Z ch trip.
12.00 Hill on shift,
13.09 Rebuild YEDISP due to error 24 on system console.
14.00 FAMP is on: It should now be watched if deadtime changes excessively. Also the error with "IBM transfer error" may occur. This is harmless, but requires the "Press Return" action at the shiftcrew. J.O.
16.00 Reinke on shift
Gas check done → Okay
16.34 Vtx + ID trip, part of both beams lost, rest will be dumped and reinjected
17.25 beams lost, all chambers tripped
20.00 S. Bethke
22.05 Run 28986: after 29 seconds "no events". All that helps is to stop. New run works.
From time to time, IBM transfer errors occur (as predicted). Restart (ioh ("enter") helps.
Magnussen + Marshall

Gas check OK.

Tanso ord for refill, it takes 40 min
02.00 IBM link needs restarting, about 2x per run at the moment

02.30 System crash, can't login — do all checks, read JDAS 4 times in 5 mins, reload WORD 10 due to symptoms detected in A2. Eventually get it going again — I think. (Was not tempted even for a second to read for the phone).
Histograms printed 10 mins into new run.
This particular problem started with the common — "No event for N seconds" task, and the run 28992 was thus terminated. I could not start a new run. Tried again and the JDAS display showed a NSO reload in progress — which remained for several minutes. According to JDAS manual, it seemed like sparkiy, so treated that.
Had a look at histograms and they seem OK. Actually, if JDAS manual is correct on p15 where it says YSPY is never wrong, then why look at histograms anyway? To prove YSPY is never wrong?
03.45 Beam is dumped unceremoniously without warning. Call TASSO to complain but find the chairman of the BMBL Experiment Selector Panel is on shift and in charge so I end up cowardly blaming the PETRA crew.

~~Missing Run Header~~
04.15 Start run after new fill and return to JCR after setting voltages to hear an very grooving noise which is very hard to track down. I think it is the fan in the FAMP, but I am not sure
5.40 Trigger hung up. Had to stop the run and start a new one.

8.00 Rieseberg on shift
Gas check done
8.20 New fill ready
High background: ID-current is 0.6 μA/cell, three times higher than normal, dead time is around 30%! 80 Spurad hits/ID
~ 9.10 PKR will try to optimize the beams
9.50 ID-current is now back to normal, $I^+ = 7.6$, $I^- = 7.2$ mA
11.22 Finally after 3 hours run the beams are dumped. Herr Löhr says we should complain earlier!
11.54 New fill ready. R 29008 Main crate 04 gives no Q response, YPARA 2 ARRAY MCR 1 ... 13, 0, CR 44 no response
YSPY: cannot open constants file. Short non-written Run before was 08. Stop run
R 29009 YSPY: Cannot open constants file, On system console
12.10 Big fraction of beams lost, dumps. YSPY rebuild
12:00 Heintzelmann
16:00 Steffen
17:30 gas check done

RUN	DATE	START	STOP	At RUN START I^+	At RUN START I^-	DEAD TIME %	TIME (secs)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ RES. $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT 2 $E_{LG} > 6$ GeV	T_2 BIT 17 $2\Sigma E_{LG} \geq 2\sqrt{s}$	PROCESSORS ON/OFF NSO	MIP	TOF	FIH	$\langle L \rangle$ $10^{30}\,cm^{-2}s^{-1}$	BHABHA $\int L\,dt$ nb^{-1}	$\int L\,dt$ exp. en.	IBM TAPE OUTPUT	At RUN START T_0F [V]	At RUN START ID [μA]	ONLINE RESET SUM MIPROC T_2 %	ONLINE RESET NORDSO $T_1 \cdot T_2$ %	Σ BHABHA	M/H	E_{BEAM}	MAG FIELD -1*G-	REMARKS
28981	12.9.86	18.39	19:11	10.29	9.46	21.1	2456	8002	5371	639	137	4950	4754	1214	30	"	"	"	"	11.01	22.03	62 416.74	IBM	1.35	0.2	47	35	387	9	17.500	4835	
28982	"	19:21	20:04	8.66	7.88	19.9	2557	8002	5138	665	132	4976	4646	1190	39	"	"	"	"	9.00	20.32	62437.06	"	1.05	0.1	47	39	337	11	"	"	
28983	"	20:05	20:50	7.34	6.60	18.6	2721	8002	4927	707	131	4969	4700	1116	34	"	"	"	"	6.97	17.31	62454.37	"	0.9	0	48	41	304	6	"	"	
28984	"	20:51	20:57	6.22	5.53	16.3	370	1058	631	96	15	657	614	144	6	"	"	"	"	6.07	2.05	62456.42	"	0.8	0	49	44	36	1	"	"	dumped
~~28985~~	~~—~~	~~hangup after 29 records~~																													
28985	"	21:26	22:05	10.56	10.69	22.7	2343	8002	5423	608	138	4962	4538	1256	34	"	"	"	"	12.53	24.37	62480.79	"	~~1.5~~ 1.3	0.1	46	35	428	4	"	"	
28986		— hangup after 29 records —																					"	1.1	0.1							
~~28987~~	"	22:09	22:52	8.71	8.71	21.8	2565	8002	5107	667	141	4977	4683	1273	25	"	"	"	"	8.42	20.10	62500.89	"	1.1	0.1	49	39	353	3	"	"	
28988		22:52	23:33	7.34	7.02	27.4	2440	8002	5352	635	174	4631	4719	1142	51	"	"	"	"	4.69	11.33	62512.22	"	1.0	?	46	37	199	2	17.5	4835	
28989	13.9.86	23.34	23.53	6.39	6.10	23.5	1168	3714	2385	304	71	2179	2174	503	13	"	"	"	"	4.53	5.81	62518.03	"	1.0	0.4	47	40	102	1	"	"	hung up
28990	"	23.54	0:29	5.94	5.68	20.2	1851	5531	3250	481	97	3133	3426	644	23	"	"	"	"	4.38	7.29	62525.32	"	1.0	0.2	45	45	128	1	"	4834	beams dumped
28991	13.9.86	01:13	01:52	10.68	10:67	28.2	2305	8002	5385	600	168	4523	4818	1110	31	"	"	"	"	7.92	20.44	62545.76	IBM	1.8	0.5	44	26	369	3	"	4836	
28992	"	01:53	02:17	9.12	8.92	24.4	1411	4699	4310	367	89	2759	2874	651	21	"	"	"	"	8.82	11.16	62556.92	"	1.5	0.2	46	37	196	1	"	4835	
28995	"	02:51	03:35	7.35	7.17	19.7	2654	8003	4846	640	136	4773	4928	1051	31	"	"	"	"	6.03	14.18	62571.10	"	1.2	0.2	47	43	249	3	"	4834	
28996		03:36	03:44	6.26	6.10	18.7	410	1166	658	107	20	696	660	133	4	"	"	"	"	4.60	1.99	62573.09	"	0.9	0.2	45	48	35	1	17.503	4834	Energy fegged up to 17.53 and beams eventually dumped
28997	"	4:17	4:57	9.71	10.07	23.5	2404	8002	5250	625	147	4712	4871	1175	37	"	"	"	"	9.68	20.05	62593.14	"	1.6	0.4	46	37	352	3	"	"	
28998	"	4:57	5:38	8.23	8.56	22.9	2378	7843	5002	618	141	4572	4597	1110	31	"	"	"	"	7.59	17.14	62610.28	"	1.3	0.4	44	40	301	2	17.500	4835	Stopped with hung up trigger
28999	"	5:38	6:22	7.02	7.32	20.8	2610	8002	4866	679	141	4663	4966	1042	39	"	"	"	"	5.89	12.64	62622.92	"	1.2	0.35	47	42	222	6	17.503	"	
29000	"	6:23	7:02	5.98	6.26	18.9	2327	6729	3960	606	114	4030	4153	868	20	"	"	"	"	4.54	10.30	62653.22	"	1.0	0.35	49	45	181	1	17.500	4834	beams dumped
29001	"	7:31	7:47	10.81	10.76	30.7	727	2556	1749	189	58	1373	1613	323	16	"	"	"	"	10.99	6.83	62660.05	"	1.8	0.5	43	35	120	0	"	"	beams lost
29002	"	8:22	8:25	10.85	10.38	30.3	125	491	344	32	10	270	279	64	1	"	"	"	"	11.24	1.54	62 661.59	"	1.8	0.5	40	34	27	0	17.500	4834	trigger hung up
29003	"	8:30	9:08	10.50	10.04	28.8	2276	8002	5335	593	170	4507	4761	1145	38	"	"	"	"	9.94	20.95	62 682.54	"	1.7	0.6	43	37	368	7	17.500	4834	
29004	"	9:09	9:25	8.97	8.53	24.9	979	3219	2083	255	63	1801	1979	427	14	"	"	"	"	8.57	8.08	62 690.62	"	1.35	0.6	44	39	142	0	17.500	4834	trigger hung up
29005	"	9:27	10:10	8.37	7.94	20.7	2589	8002	5025	673	139	4802	4937	1159	26	"	"	"	"	7.50	18.05	62 708.67	"	1.3	0.5	48	40	317	7	17.503	4834	~~trigger hung up~~
29006	"	10:11	10:56	7.13	6.74	18.5	2715	8002	4895	706	131	4857	4892	1074	34	"	"	"	"	5.79	14.24	62 722.91	"	1.0	0.1	49	42	250	6	17.503	4834	
29007	"	10:57	11:21	6.09	5.73	17.7	1473	4235	2484	383	68	2533	2649	527	11	"	"	"	"	4.61	6.04	62 728.95	"	0.85	0.07	49	45	106	1	17.503	4835	beams dumped
29008	"	11:58	11:59	10.17	10.09	26.4	78	294	192	20	5	186	148	40	2	"	"	"	"	10.91	0.80	62 729.75	"	1.6	0.2	47	39	14	1	17.503	4835	stop because error in Muon crate 14
29009	"	12:00	12:10	10.07	9.99	22.3	572	1871	1254	149	33	1109	1181	262	6	"	"	"	"	10.39	3.93	62 733.68	"	1.6	0.2	49	36	69	0	17.503	4835	beams lost
29010	"	12:40	12:53	10.55	10.41	25.4	779	2756	1854	202	51	1680	1637	424	15	"	"	"	"	11.61	8.26	62 741.94	"	1.7	0.2	45	35	145	2	17.503	4836	IBM hick
29011	"	12:54	13:35	9.52	9.80	23.0	2435	8002	5274	633	146	4919	4898	1215	32	"	"	"	"	9.80	20.78	62 762.62	"	1.6	0.2	49	37	365	7	17.500	4837	
29012	"	13:36	14:19	7.99	8.25	21.7	2619	8002	5082	681	148	4802	5045	1183	39	"	"	"	"	7.21	17.59	62 780.21	"	1.3	0.2	49	40	309	11	17.500	4836	
29013	"	14:20	14:33	6.71	6.95	24.4	749	2146	1342	195	47	1271	1354	266	10	"	"	"	"	5.76	3.59	62 783.80	"	1.2	0.2	49	41	63	1	17.503	4838	
29014	"	15:18	15:58	10.72	10.32	25.4	2364	8002	5541	615	156	4822	4806	1280	84	"	"	"	"	10.22	22.27	62 806.07		1.5	0.2	48	33	391	6	17.503	4837	
29015	"	15:58	16:39	9.02	8.66	22.6	2449	8002	5290	637	144	4819	4748	1208	43	"	"	"	"	8.23	18.90	62 824.97		1.4	0.2							

REMARKS

RUN	DATE	START	STOP	AT RUN START I+	AT RUN START I−	READ TIME [%]	TIME [s]	RECORDS IN	RECORDS OUT	ALL ×10⁶	T0 Rej. ×10⁶	T1 Acc SUM	T2 Acc SUM	T1 Bit 2 E_LG>66M	T2 Bit 17 2T·E_T>2T_T	PROCESSORS ON/OFF N50	μP	TOF	FAST
29016	19.986	16:39	17:16	7.46	7.14	23.4	2156	6884	4454	561	131	4025	4155	959	31	ON	ON	ON	ON
29017	〃	17.47	18:06	10.80	10.73	23.5	1026	3502	2385	267	63	2121	2085	553	10	〃	〃	〃	〃
29018	〃	18:37	19:16	10.76	0.41	28.7	2361	8002	5444	614	176	4603	4943	1149	26	〃	〃	〃	〃
29019	〃	19.17	19.57	9.00	8.71	25.6	2416	8002	5267	628	160	4718	4855	1206	44	〃	〃	〃	〃
29020	〃	20.01	20.24	7.55	7.27	23.9	1395	4395	2782	363	86.0	2575	2678	631	21	〃	〃	〃	〃
29021	〃	20.27	21.01	6.84	6.58	19.9	2004	5938	3473	521	104	3768	4037	877	52	〃	〃	〃	〃
29022	〃	21.43	22.24	10.77	10.90	~~23.4~~ 22.4	2444	7999	5206	636	142	5192	5081	1261	31	〃	〃	〃	〃
29023	〃	22.32	23.15	8.71	8.83	22.3	2566	8002	5168	667	148	4902	4695	1216	34	〃	〃	〃	〃
29024	〃	23.18	0.03	7.25	7.35	19.0	2715	8002	4924	705	134	4954	4773	1131	37	〃	〃	〃	〃
29025	14.986	0.03	0.11	6.10	6.19	17.4	411	1246	752	107	18	779	773	169	4	〃	〃	〃	〃
29026	〃	0:43	0:51	11.18	11.08	28.6	511	1774	1259	133	37	1052	1080	312	68	〃	〃	〃	〃
29027	〃	1:25	1:26	10.20	10.39	0	0	27	22	0	0	9	0	2	0	〃	〃	〃	〃
29028	〃	1:26	2:07	10.12	10.32	22.9	2397	8002	5265	623	142	4959	4893	1286	30	〃	〃	〃	〃
29029	〃	2:07	2:50	8.55	8.68	21.2	2517	8002	5020	654	138	4890	4901	1152	27	〃	〃	〃	〃
29030	〃	2:49	3:36	7.22	7.34	19.2	2717	8002	4828	706	135	4893	4979	1130	32	〃	〃	〃	〃
29031	〃	3:35	3:46	6.09	6.20	16.4	553	1600	968	143	23	1016	931	213	4	〃	〃	〃	〃
29032	〃	4:20	5:07	10.57	10.77	23.8	2411	8002	5311	626	149	4830	4883	1213	29	〃	〃	〃	〃
29033	〃	5:07	5:51	7.75	6.98	19.1	2592	7733	4723	674	129	4755	4740	1031	35	〃	〃	〃	〃
29034	〃	6:30	7:11	10.26	10.43	23.3	2452	8002	5184	637	148	4810	5172	1220	33	〃	〃	〃	〃
29035	〃	7:16	7:59	9.40	8.48	21.4	2591	8002	4880	674	144	4936	5091	1169	30	〃	〃	〃	〃
29036	〃	08:00	08:46	7.15	7.08	18.6	2746	8002	4842	715	133	4978	5065	1115	35	〃	〃	〃	〃
29037	〃	09:27	10.09	10.43	10.03	22.5	2497	8002	5103	650	146	4836	4912	1193	27	〃	〃	〃	〃
29038	〃	10:09	10:49	8.86	7.70	20.9	2778	7293	4481	619	129	4512	4495	1063	31	〃	〃	〃	〃
29039	〃	10:50	11:37	7.70	6.58	18.4	2815	8002	4626	732	134	4863	5155	1027	25	〃	〃	〃	〃
29040	〃	11:37	11:53	6.05	5.24	15.9	864	2159	1170	204	33	1289	1409	251	5	〃	〃	〃	〃
29041	〃								13		jumbo								
29042	〃	12:00	12:21	5.60	4.84	14.6	1142	2795	1378	297	44	1840	1874	338	11	〃	〃	〃	〃
29043	〃	17:57	18:37	11.08	11.36	22.2	2405	8002	5297	626	137	5167	5164	1356	39	〃	〃	〃	〃
29044	〃	18:32	19:16	9.54	9.77	19.0	2620	8002	4890	681	129	5178	5238	1226	33	〃	〃	〃	〃
29045	〃	19:16	19:47	8.77	8.39	17.6	1808	5202	3101	470	83	3337	3460	747	27	〃	〃	〃	〃
29046	〃	19 49	20 37	7.35	7.56	17.3	2851	8002	4590	742	129	5150	5467	1060	37	〃	〃	〃	〃
29047	〃	20 37	20 40	6.33	6.53	16.5	133	417	250	35	6	253	266	64	2	〃	〃	〃	〃
29048	〃	20 45	21 12	6.17	6.37	15.6	1569	4152	2267	408	64	2674	2803	572	16	〃	〃	〃	〃
29049	〃	21 45	22 25	11.32	11.28	23.7	2390	8002	5125	621	147	5054	5382	1290	32	〃	〃	〃	〃
29050	〃	22 26	23 08	9.76	9.73	22.0	2499	8002	5037	650	143	5005	5473	1245	32	〃	〃	〃	〃

⟨L⟩ 10³⁰ cm⁻² s⁻¹	BHABHA ∫Ldt ab⁻¹	∫Ldt Exp. Energy 62.827	ITAPE/TAPE OUTPUT	AT RUN START TOP [V]	AT RUN START ID [T·A]	ON LINE REJECT SUM MAPP T₂ %	ON LINE REJECT NORED T₁T₂ %	Σ BHABHA	MH	E_BEAM	MAG FIELD −1·G	
6.08	11.44	62'836.81	IBM	1.25	0.15	47	39	208	–	17.503	-4837	beams dumped
11.52	10.59	62'847.40	〃	1.65	0.25	48	35	186	5	〃	〃	beams lost
9.23	17.93	62'865.33	〃	1.55	0.25	46	35	315	10	17.500	4837	
7.45	16.96	62882.29	〃	1.55	0.20	47	37	298	11	17.500	4834	
6.01	8.68	62890.77	〃	1.3	0.15	47	40	149	4	17.500	4835	Stopped to reload JETC 68K
5.26	8.77	62899.54	〃	1.25	0.2	51	43	154	2	17.500	4834	Beams dumped
11.06	23.69	62923.23	〃	1.8	0.3	49	36	416	5	17.503	4823	
8.11	20.33	62943.56	〃	1.2	0.2	47	38	357	4	17.503	4847	
6.34	14.41	62957.97	〃	1.0	0.2	49	41	253	3	〃	4848	
5.62	1.99	62959.96	〃	1.0	0.2	50	43	35	1	17.500	4847	beams dumped
11.36	6.32	62966.28	〃	1.5	0.25	48	32	111	4	17.503	4847	beams lost
0	0.06	62966.34	〃	1.6	0.25	0	38	1	0	'	'	run stopped, beam VTX was not yet up
9.98	23.00	62989.34	〃	1.6	0.25	49	37	404	6	17.500	4849	
7.92	18.45	63007.79	〃	1.3	0.2	48	40	324	3	17.503	4848	
6.14	15.54	63023.33	〃	1.1	0.2	49	43	273	9	17.500	4849	
5.26	3.24	63026.57	〃	0.9	0.2	51	43	57	0	〃	4850	beams dumped
9.39	22.55	63049.12	〃	1.6	0.3	47	36	396	5	17.503	4850	
5.82	14.97	63064.09		1.0	0.2	49	42	263	3	17.500	4850	beams dumped
9.97	21.10	63085.79	〃	1.5	0.2	49	38	381	7	17.503	4850	
7.54	18.85	63104.64	〃	1.2	0.2	50	42	331	2	17.503	4850	
5.83	17.31	63121.95	IBM	1.1	0.2	52	43	304	4	17.503	4850	beams dumped at end of run
9.17	22.49	63144.44	〃	1.7	0.3	48	39	395	5	17.500	4850	
7.28	17.54	63161.98	〃	1.25	0.2	49	41	308	5	17.503	4850	
4.92	14.98	63176.96	〃	1.0	0.2	50	45	263	3	17.503	4850	
2.38	2.06	63179.02	〃	0.8	0.2	50	50	36	1	17.53	4850	
			〃									No high tension!
2.71	3.37	63182.39	〃	0.8	0.2	54	52	59	0	17.53	4850	
11.66	27.51	63209.90	〃	1.8	0.3	50	35	483	6	17.503	4844	
9.87	21.86	63231.76	〃	1.4	0.3	51	40	384	8	17.500	4845	
8.70	13.26	63245.02	〃	1.2	0.2	52	41	233	2	17.500	4846	run hung up
6.40	15.37	63260.39	〃	1.0	0.2	52	44	270	3	〃	〃	
4.99	0.91	63261.30	〃	0.9	0.2	49	42	15	–	〃	〃	
5.14	8.14	63269.44	〃	0.9	0.2	51	47	143	–	17.503	〃	beam dumped
10.99	25.40	63294.84	〃	1.9	0.3	50	37	346	4	〃	4844	
9.27	21.29	63316.13	〃	1.1	0.25	50	38	374	5	17.500	〃	

20:00 Stephan

20:25 HOP Display disappears !! Stop Run # 29020 and reload JET68K successful and HOP once more operational.

20:27 start Run # 29021 Magnet current low (4823 KG) reset to 48444G

22:25 End of Run # 29022 ~~The Display also~~ also rebuild YMASC following consts error to RT 34237 - seems OK.

23:45 ~~Since~~ Because of readout error 32 (MISSING LAM at FEP ready) occuring four times during Root run, and because of FEP 03 being noisy reload y68K [and reset readout pattern to 16-18] Reg. next run number # 29024

14.9.86

0:00 Kuhlen on shift
Gas check done

0:15 VTXC valve failure

2:47 JDAS readout error 33 - Missing LAM Br. 3 cr. 4 : ? - Chamber part 1

4:00 Heintzelmann on shift

4:25 HOP Histogram books funny → reload HOP → ok

1:30 Valve failure

08:00 Marshall successfully arrived on shift →
Gas check done (07:56) successfully

08:46 beams dumped right at end of run, LG test run successfully carried out

11:20 IBMPC inactive came up. Followed advice in appendix A p12 in Vertex bk now OK.
After a few minutes BP-CH error - I assume just one of event stacked so will wait to see if it happens again. probably RETRY problem → extern
Low Lumi (< 3) for this run, so may be that the PC got no events during selection sequence.
After a few more minutes, IBMPC inactive again. No errors reset utility it does - to let the expert decide, by reformyth index. Expert says it can happen. It does it a 3rd time, but OKR are refilling, so lets see if it just needs a reset (HI)

11:50 HOP reloaded

12:00 Olsson Ebeam is 17.53, transmitter problem being investigated. No refill possible till this cleared up, continue DAQ with low currents. ($3 \cdot 10^{30}$ lumi)

12:30 Short break, beams dumped.

12:50 PKR says it will take longer, magnet down

14:00 Used time to backup the disc

15:45 Still Petra injection problems

Thought for the day :
JADE DAQ is more littered with phrases like "linked successfully", "loaded successfully" etc.
May I suggest that for trivial operations like this, (and getting on this) no adjective is used unless the trivial operation - which we all have come to expect - fails - then you can say "link failed" "load failed", and perspective will be restored.
HI - DAQ phrase note JOT

Comment on the thoughts above:
Not clear whether adjectives alone, or complete phrases are irritating RKR. If everything runs normal the "jitter" consists of "IBM linked successfully", "Parameter setting" If things go wrong, this prints often do not appear, they serve as useful checkpoints and early debug, in case of error. Adjectives could be dropped, though, matter of taste — J.O.

16:00 Kado on shift
gas check done (remark: the gas house was unlocked !)

19:50 5 IBM Transfer Errors (52 oct) in the last 3 hours of running

19:57 "No events for N seconds" Pause / continue does not help → run stopped, next run OK

20:00 U. Schneekloth

20:39 JDAS READOUT ERROR 32 - Missing LAM at FEP frequently, no events run 29047
reload JETC microprocessors, start run 29048, everything O.K.

22:15 IBM Transfer Error (52 oct)

22:41 " " "

~~15.9.86~~ 15.9.86

0:00 Hanath on shift

0:00 Gas check done.

0:19 JDAS READOUT ERROR 33 - Missing LAM branch 2 crate 3 : TOF1 counters

2:11 IBM TRANSFER ERROR (oct): 000052

2:25 "

3:02 The Gould plotter became troublesome and refused to print run 30054. ~~Then~~ An attempt to print it using the Tektronix 4014 terminal unfortunately also failed, but fortunately (miraculously) turning the power off and on did the trick.

3:06 Soft Trip.

3:55 IBM TRANSFER ERROR (oct): 000052

4:00 L. Bartel on shift
open new file for run summary sheets

8:00 Felst and Rieseberg on shift
Gas check done
JADE trick over coordination

9:30 standard histograms look ok, magnet on, gold plotter reserved, Rhombus claims the strange noise of plotter is due to the pumps and that he can't do anything about it

9:45 JET + VTX chamber soft trip

11:00 short break announced, Marsh 7 counts 10 min access
all power supplies dropped out because of water failure magnet → 2000 A

12:50 "RESTART ca 15:00" announced ; Now it is a vacuum leak in a transport channel. A beam stopper has to be exchanged.

15:30 Injection starts, magnet → 7500 A

Run	Date	At Run Start		Stop	Dead Time (Secs)	Time (Secs)	Records In	Records Out	All $\times 10^6$	T_{acc}° $\times 10^6$	T_1 Acc Sum	T_2 Acc Sum	T_1 Bit2 Ecc>6Gev	T_2 bit17 27.Ey 27.Tc	Processors ON/OFF NSO	µ16	70F	FMU
		I^+	I^-															
29051	14.9.86	23 08	23 53	8.39	8.36	18.7	2711	8002	4666	705	131	5146	5456	1193	31	ON	ON	ON	ON
29052	"	23 54	0 42	6 25	6 22	18.0	2858	8002	4621	743	134	5185	5394	1098	302	"	"	"	"
29053	15.9.86	0 42	1 02	5 85	5 84	16 3	1192	3217	1778	310	51	2060	2233	418	5	"	"	"	"
29054	"	2 03	2 45	10 50	10 36	22 3	2516	8002	5144	654	146	5133	5354	1233	34	"	"	"	"
29055	"	3 01	3 47	8 47	8 46	18 2	2734	8002	4825	711	129	5220	5312	1253	28735	"	"	"	"
29056	"	3 47	4 36	7 23	6 98	17 0	2817	8002	4649	748	127	5250	5251	1211	30	"	"	"	"
29057	"	4 36	4 48	6 21	5 98	16 5	687	1905	1037	179	28	1254	1247	240	8	"	"	"	"
29058	"	~~1 37~~ 1 54	~~0 42~~ 0 44	10 49	10 72	22 9	2428	8002	5108	632	144	4979	5545	1312	43	"	"	"	"
29059	"	6 16	7 01	9 15	9 13	21 8	2633	8002	4948	685	141	5111	5270	1215	28	"	"	"	"
29060	"	7 01	7 47	7 78	7 72	18 5	2747	8002	4670	715	132	5113	5437	1158	35	"	"	"	"
29061		7 47	8 16	6 45	6 60	17 3	1650	4524	2591	429	74	2938	3054	642	26	"	"	"	"
29062	"	8 54	9 33	10 68	10 75	24 6	2355	8002	5438	672	150	4972	5154	1224	26	"	"	"	"
29063	"	9 34	10 19	9 10	9 18	21 7	2506	8002	5081	652	141	4905	4946	1250	32	"	"	"	"
29064	"	10 20	10 47	7 66	7 74	18 7	1580	4813	2887	411	77	2999	2940	712	20	"	"	"	"
29065	"	17:57	18:38	10 62	10 78	21 1	2452	8002	5273	638	134	4984	4669	1796	29	"	"	"	"
29066	"	18:39	19:24	9 08	8 41	17 3	2697	8002	4917	702	121	5123	4693	1178	37	"	"	"	"
29067	"	19:24	20:02	7 74	7 03	16 3	2233	6281	3839	587	98	3945	3792	865	23	"	"	"	"
29068	"	20:32	21:15	10 21	10 58	19 9	2522	8002	5184	655	~~130~~ 525	4990	4700	1207	27	"	"	"	"
29069	"	21:15	21:59	8 56	8 88	18 1	2647	8002	4894	687	124	5106	4694	1177	40	"	"	"	"
29070	"	22:00	22:32	7 26	7 57	17 1	1932	~~8004~~ 8000	3344	502	89	3530	3319	776	21	"	"	"	"
29071	"	23 41	23 50	~~10 32~~ 9 32	~~10 92~~ 9 92	23 0	2344	8002	5485	610	140	4976	4642	1304	30	"	"	"	"
29072	"	23 30	0 32	9 30	9 31	20 0	2490	8002	5120	648	129	5130	4662	1275	32	"	"	"	"
29073	16.9.86	0 33	1 17	7 92	7 93	18 9	2644	7208	4760	688	130	4997	4734	1170	23	"	"	"	"
29074	"	1 32	2 33	11 20	10 34	22 4	2389	8002	5358	621	139	4950	4625	1181	27	"	"	"	"
29075	"	~~2 33~~ 3 33	3 15	9 35	8 75	20 5	2503	8002	5101	631	133	5020	4613	1229	28	"	"	"	"
29076	"	3 15	3 51	8 14	7 41	18 5	2086	6315	3890	543	101	3894	3641	891	21	"	"	"	"
29077	"	4 26	5 04	11 04	11 14	23 8	2316	8002	5431	602	144	4921	4667	1236	27	"	"	"	"
29078	"	5 05	5 14	9 40	9 53	21 4	544	1840	1167	142	30	1148	1076	293	7	"	"	"	"
29079	"	5 16	5 49	9 02	9 16	20 3	1956	6202	3963	509	103	3955	3629	1001	19	"	"	"	"
29080	"	~~5 50~~ ~~7 92~~	~~6 31~~ ~~8 05~~	7 92	8 05	19 6	2458	7602	4710	640	125	4758	4457	1080	28	"	"	"	"
29081	"	7 01	7 42	10 60	11 03	21 6	2417	8002	5212	629	136	5178	5239	1314	28	"	"	"	"
29082	"	~~7 42~~ ~~8 96~~	8 25	8 96	9 36	20 4	2572	8002	4915	668	136	5192	5332	1242	33	"	"	"	"
29083	"	8 26	9 11	9 59	9 96	18 3	2142	6204	3825	557	102	4018	4072	918	20	"	"	"	"
29084	"	9 12	9 24	5 86	6 18	17 2	660	1977	1165	172	29	1232	1137	239	7	"	"	"	"

Run	$\angle L >$ $n^{\circ}\,cm^{-2}\,s^{-1}$	Bhabha $\int L dt$ nb^{-1}	$\int L dt$ nb^{-1} EXP. Energy	IBM Tape Output	At Run Start TOF [V]	At Run Start ID [mA]	Online Rej sum µ16 T_1 %	Online Rej NSO T_2 %	Σ Bhabha	Mu-had	E_{beam}	Mag. Field 1 = G	Remarks
29051	7.35	17.53	63323.66	IBM	1.3	0.2	52	43	308	6	17.500	4842	
29052	5.81	13.66	63337.32	"	1.2	0.2	52	43	240	6	17.500	4844	
29053	5.18	5.30	" 42.62	"	1.0	0.2	52	46	93	1	17.503	4844	Beam dumped
29054	10.38	21.58	" 64.20	"	1.35	0.25	51	37	379	5	17.503	4844	
29055	7.93	22.14	" 86.34	"	2.30	0.2	52	41	389	16	17.500	4844	
29056	6.17	19.53	63405.87	"	1.20	0.2	52	43	343	3	~	4844	
29057	5.24	3.24	09.11	"	0.9	0.2	52	47	57	1	~	~	beams dumped
29058	10.81	24.54	35.65	~	1.9	0.3	50	37	431	8	17.500	4844	
29059	8.67	23.74	57.39	~	1.5	0.2	51	39	417	4	~	~	
29060	6.70	17.65	75.04	~	1.3	0.2	52	43	310	3	~	~	
29061	5.52	8.66	83.70	~	1.0	0.2	53	44	152	1	17503	"	beams dumped
29062	11.62	24.83	"508.53	~	1.9	0.3	49	34	436	7	"	"	
29063	9.40	21.87	"530.40	"	1.4	0.2	48	39	384	11	"	"	
29064	8.23	11.56	541.96	"	1.0	0.2	49	43	203	6	"	"	beams lost
29065	11.48	25.80	63567.76	"	1.5	0.25	47	37	453	11	"	4847	
29066	9.87	24.19	63591.95	"	0.9	0.2	49	41	425	3	17500	"	
29067	7.61	15.26	63607.21	"	0.7	0.15	50	42	268	8	17503	"	beams dumped
29068	10.72	25.62	63632.83	"	1.2	0.2	46	37	~~4~~50	7	17.500	"	
29069	8.81	23.06	63655.89	"	0.9	0.2	48	41	405	4	17.503	"	
29070	7.04	12.87	63668.76	"	0.8	0.15	49	43	226	3	17.500	"	beams dumped
29071	12.66	29.72	63698.48	"	1.45	0.18	46	34	522	9	"	"	
29072	10.37	23.18	63721.66	"	1.1	0.1	49	38	407	6	17.503	4847	
29073	8.15	20.22	63741.88	"	0.8	0.05	49	42	355	5	"	"	beams dumped
29074	11.73	26.13	63768.01	"	1.4	0.2	46	35	459	8	17.500	"	
29075	9.53	23.41	63791.42	"	1.0	0.15	47	39	411	11	17.503	"	
29076	7.81	15.43	63806.85	"	0.83	0.1	46	41	271	4	17.503	"	beams dumped
29077	12.15	26.31	63833.16	"	1.5	0.2	46	35	462	1	"	"	
29078	10.96	5.98	63839.14	"	1.1	0.15	46	39	105	2	17.500	"	trigger hang up
29079	9.85	18.74	63857.88	"	1.0	0.1	49	38	329	2	17.503	"	—" —
29080	7.81	17.43	63875.31	"	0.95	<0.1	47	41	306	7	17.503	4846	beams dumped
29081	11.80	24.82	63900.13	"	1.6	0.15	51	36	436	6	17.500	4847	
29082	9.37	23.41	63923.54	"	1.5	0.15	52	40	411	2	17503	"	
29083	7.05	14.58	63938.12	"	1.2	0.15	51	39	256	14	"	"	
29084	6.03	4.21	63932.33	"	0.9	0.13	47	44	74	0	"	"	beams dumped

was stopped to load new records

16:00 Kado on shift
gas check done ("Kreislauf" = 9.7 mA) ← no action taken, because the duty expert will do the 2nd part of this shift
20:50 Warning on shift
beam flow readjusted 17.9 → 18.0
22:10 missing LAM for 2 or 6 leadglas ADC's
22:22 Cello wants a new fill already at >7 mA per beam, I prefer to wait ≈ 1/4 hour or so

16.9.86 0⁰⁰ Kleinert on shift
Gas check done
4⁰⁰ Smolik on shift
5¹⁵ No triggers, Pause-Continue doesn't help, start a new run.
5⁴⁸ Trigger hung up, start a new run.

8⁰⁰ Kuhlen on shift
gas check done
9⁴² ~~9⁴²~~ Histogram display did not work. It said busy, please wait. YHDISP rebuilt, no success, problem still there.
Then ZDAS rebuild, N50 reload.
10⁰⁶ ~~For a short~~ Between two fills we could look at old histograms, but now, with beams, it refuses to display histograms. It is also impossible to log on to the Vord from the Tektronix terminals
When the run is stopped, histogram display is okay.
11³⁸ Discovered a hole in the barrel LG histmap in 1046 to 1054. This was due to a cable not properly attached to the ADC input.

12⁰⁰ Hewett on Shift
1220 Gas check OK
1226 IBM TRANSFER ERROR (OCT): 000052
12³⁷ Reload N10, Rebuild ZDAS, YHDISP, YMENU : Histogram display works again J.O. (failure reason unknown)
0 1304 IBM transfer error (oct): 000052 subadr : 000000 ERR. CNT (OCT). 000000
(IBM link failed twice)

16⁰⁰ Hagemann on shift
16⁰⁸ Gas check OK
17⁰⁷ IBM transfer error (oct 52)
20⁰⁰ Diedrich on shift
20¹⁵ Noticed that J68K MOP had been reloaded at 13⁰⁹ without noting this in the Logbook.
22³³ JDAS READOUT ERROR 64 AC2099 TOF-2 Q,X missing stn=3 subaddr. 0
Reload TOF Procs. Start new Run.
22³⁸ Trigger hung up Pause/Cont doesn't help. New Run started

22⁵⁵ Total Nord Crash up Reload Nord

17.9.86
0⁰⁰ U. Schneekloth
0⁰⁰ GOS check done
0²⁷ IBM TRANSFER ERROR (OCT) = ..052
1¹³, 1¹⁶ " "
3⁴⁵ run summaries for runs 29109, 29110, 29111 not printed, histogram display also doesn't work
3⁴⁶ Vertex ch. gas failure display of old run summary during the run doesn't work
4.00 Clauke on shift
IBM-PC Inactive - but looks OK
lots of Fortran run time error 123's at address 352 (see sys.console) IBMPC – Nord Communication
Decide to Reload Nord. - did not save above. Rebuild Task YIBMPC
8:00 Darvill on shift
8-25 Informed by PETRA control that maintenance work (~2hrs) will take place before next fill
8-25 Gas check – "Kreislauf" up to 10:4 - adjusted as per instructions
8-50 JDAS readout error 33 Missing LAM branch 3 crate 2 : Muon chambers
8-50 IMBPC shows Vertex Chamber Histogram Error: Wireresp deviation > 50 %: 2 - seems OK, running normally again
10:30 FETCH68K reload (to update statistics only) J.O.
12⁰⁰ System have been regenerated, new disk backup done J.O.
12¹⁵ TASSO ring asking whether we know why the IBM is down - we received no message.
13¹⁵ IBMPC shows Wiredresp deviations > 50 % : 3 - this cleared
13²⁰ TASSO ring confirming IBM down for 5 mins and ask us to phone PETRA control to ask why their specific computer is down slightly. Ours is slightly down
13²⁶ Z chamber gas valve failure
13³⁰ Overhead monitor here now shows IBM down for ~3 mins.
14⁰⁰ IBMPC shows Wireresp deviations > 50 % : 2 cleared [recurring]
14⁰⁵ From standard histograms notice channel 51 on Z chamber wire top r. half.
14⁰⁸ Beam dumped ~ 2 secs after phoning!
15¹⁰ JDAS readout error 74 - wrong LAM branch 5 crate 1 : Beampipe Chamber
15¹⁵ JDAS readout error 33 - missing LAM branch 3 crate 4 : Z chamber part 1
15⁴⁰ JDAS readout error 64 - AC2099) TOF-2 Q,X missing stn = 3 subaddr = 0
16 h Haidt on shift

RUN	DATE	START	STOP	AT RUN START I+	AT RUN START I-	DEAD TIME [%]	TIME [sec]	RECORDS IN	RECORDS OUT	ALL * 10^6	T Ø REJ * 10^6	T_1 ACC SUM	T_2 ACC SUM	T_4 Bit 2 E_{tg} >6GeV	T_2 Bit 17 2T Eq. ≥ 2TR	PROCESSORS ON/OFF N50	MIP	TOF	FAMP
29085	16.9.86	10:08	10:43	10.65	10.68	22.1	2350	8002	5513	611	135	4952	4468	1284	34	ON	ON	ON	ON
29086	"	10:50	11:31	8.98	9.01	21.0	2439	8002	5319	634	133	5028	4559	1333	32	"	"	"	"
29087	"	" 33	12:18	7.54	7.55	18.2	2650	8002	5071	689	125	5097	4678	1229	28	"	"	"	"
29088	"	12:19	12:28	6.30	6.32	18.5	496	1501	1398	129	24	952	839	225	7	"	"	"	"
29089	"	1302	1309	11.10	11.05	24.9	384	1370	941	100	248	838	741	194	5	"	"	"	"
29090	"	13:14	13:55	10.54	10.48	20.3	2465	8002	5321	641	130	5173	4916	1349	30	"	"	"	"
29091	"	13:56	14:39	8.82	8.76	18.5	2560	8003	5150	666	123	5268	4902	1303	43	"	"	"	"
29092	"	14:40	15:26	7.34	7.29	17.6	2729	8002	4978	710	125	5300	4860	1244	29	"	"	"	"
29093	"	15:26	15:32	6.11	6.07	16.6	327	907	507	85	14	602	589	138	5	"	"	"	"
29094	"	16:05	16:43	11.09	11.11	24.3	2304	8003	5507	600	146	5132	4823	1392	29	"	"	"	"
29095	"	16:44	17:25	9.28	9.28	20.2	2476	8002	5258	644	130	5272	4792	1390	34	"	"	"	"
29096	"	17:26	18:10	7.72	7.73	18.4	2631	8002	5018	685	126	5306	4918	1330	32	"	"	"	"
29097	"	18:10	18:18	6.42	6.42	16.9	428	1266	804	111	19	842	729	216	5	"	"	"	"
29098	"	19:04	19:45	11.04	9.59	21.0	2486	8002	5193	647	136	5120	4994	1258	33	"	"	"	"
29099	"	19:46	20:31	9.36	8.01	18.9	2677	8002	4966	696	131	5187	5058	1309	31	"	"	"	"
29100	"	20:33	21:18	7.84	6.59	19.6	2630	8002	5029	684	134	4995	4620	1154	29	"	"	"	"
29101	"	21:18	21:31	6.68	5.53	19.8	737	2233	1403	191	37	1357	1265	353	4	"	"	"	"
29102	"	22:06	22:23	10.94	10.93	25.5	1337	4835	3473	347	88	3011	2718	806	23	"	"	"	"
29103	"	22:30	22:38	9.80	9.79	22.2	450	1571	1051	117	26	977	899	252	4	"	"	"	"
29104	"	22:41		9.35	9.35											"	"	"	"
29105	"	22:53	23:35	8.86	8.85	20.9	2451	8002	5377	637	133	5010	4529	1289	30	"	"	"	OFF
29106	"	23:35	0:19	7.45	7.44	19.1	2604	8002	5098	677	129	5058	4513	1220	34	"	"	"	"
29107	17.9.86	0:20	0:37	6.26	6.25	18.6	1006	2970	1833	262	49	1851	1726	387	12	"	"	"	ON
29108	"	1:11	1:49	10.95	11.29	27.3	2248	8002	5712	585	160	4819	4575	1326	32	"	"	"	"
29109	"	1:49	2:30	9.25	9.58	22.5	2398	8002	5240	624	141	5010	4722	1250	22	"	"	"	"
29110	"	2:34	3:18	7.71	8.00	20.1		8002	5123							"	"	"	"
29111	"	3:21	3:41	6.48	6.74	19.5	1172	3641	2308	305	59	2221	2099	508	14	"	"	"	"
29112	"	4:14	4:52	11.12	10.82	26.4	2262	8002	5725	583	155	4939	4484	1286	36	"	"	"	"
29113	"	4:53	5:34	9.32	9.05	21.4	2432	8002	5391	632	135	5023	4690	1297	30	"	"	"	"
29114	"	5:34	6:18	7.82	7.58	19.6	2598	8002	5121	676	133	5028	4656	1161	36	"	"	"	"
29115	"	6:18	6:44	6.58	6.35	18.8	1501	4533	2797	390	73	2807	2652	646	21	"	"	"	"
29116	"	6:50	7:00	5.85	5.64	18.0	552	1549	907	143	26	962	974	200	6	"	"	"	"
29117	"	7:37	7:44	10.66	10.19	27.8	360	1289	941	94	26	781	722	204	6	"	"	"	"
29118	"	7:46	8:25	10.26	9.84	23.8	2299	8002	5555	598	142	5103	4477	1297	38	"	"	"	"

REMARKS	$\langle L \rangle$ $10^{30}cm^{-2}s^{-1}$	Bhabha SLOT nb^{-1}	SLOT EXP. ENERGY	IBM/TAPE OUTPUT	AT RUN START TOF [V]	AT RUN START ID [mA]	ONLINE REJECT SUM MIPROC [%]	ONLINE REJECT N 50 TOTZ %	Σ Bhabha	MH	E_{beam}	MAG FIELD -1*G
	12.40	25.34	6395767	IBM	1.5	0.2	46	33	445	8	17.503	4847
	10.12	24.36	63982.23	"	1.1	0.2	46	36	428	11	17.500	"
	8.01	20.16	64002.39	"	1.0	0.15	48	39	354	6	17.503	4847.
Beams dumped	6.64	3.70	64006-09	"	0.75	0.1	47	42	65	1	17503	4847
	13.29	4.04	64010.13	"		-	43	34	71	12	17500	"
RUN STOP - IBMPC - ERROR.	11.96	26.58	64036.71	"	1.4	0.2	47	34	467	9	17500	4847
	10.23	22.21	64058.92	"	1.0	0.2	49	37	390	9	17503	4849
	8.01	19.85	64078.79	"	0.65	0.15	49	39	349	4	17.500	4847
	6.51	2.39	64081.18	"	0.65	0.15	54	46	42	1	"	4848
BEAMS DUMPED	13.37	28.19	64109.37	"	1.5	0.3	46	32	495	10	17.503	4848
	11.10	26.36	64135.73	"	1.2	0.25	48	35	463	10	17.500	4850
	8.77	22.60	6415833	"	0.9	0.2	50	38	397	4	17.500	4849
	7.25	3.36	6416169	"	0.8	0.2	48	38	59	0	17.500	4848
beams dumped	10.13	24.93	64186.62	"	1.3	0.3	47	36	438	7	17.500	4847
	8.27	21.29	64207.91	"	1.0	0.2	49	39	372	3	"	"
	6.84	17.48	64225.39	"	0.8	0.15	48	40	307	2	"	"
beams dumped	5.95	4.61	6423000	"	0.7	0.15	44	40	81	7	"	"
stopped cause of Readout Err 64 AC Tof	12.78	16.77	64246.74	"	1.4	0.2	45	30	294	4	"	"
Trigger hang up	12.63	5.69	64252.43	"	1.2	0.15	47	36	100	1	"	"
Nord hang up		~7	64259.43	"	1.1	0.15					"	"
	9.73	23.58	64283.01	"	"	"	46	35	414	5	"	"
	7.77	18.11	6430112	"	0.9	0.1	47	39	318	3	"	"
beams dumped	6.70	5.58	64306.70	"	0.8	<0.1	47	41	98	1	17.503	"
	11.86	25.28	64331.98	"	1.7	0.2	44	31	444	14	"	"
	9.49	20.56	64352.54	"	1.3	0.1	48	37	361	8	"	"
		14.91	64367.45	"	1.1	0.1					"	"
beams dumped	560	6.09	64373.54	"	0.9	<0.1	46	40	107	2	"	"
	12.67	25.39	64398.93	"	1.7	0.2	45	31	446	10	"	"
	10.46	24.14	64423.07	"	1.4	0.18	48	35	424	5	"	"
	7.85	17.08	64440.15	"	1.2	0.16	43	39	300	7	"	"
	6.09	9.39	64449.54	"	0.8	0.15	47	41	165	5	"	"
Beams dumped	5.26	2.05	64451.59	"	0.8	0.15	52	45	36	0	"	"
Run stopped to rebuild X IBM PC task	11.87	3.47	64455.06	"	1.5	0.15	47	30	61	1	17.503	4845
	12.10	26.88	64481.94	"	1.25	0.15	47	33	472	7	17.503	4845

RUN	DATE	START	STOP	AT RUNSTART I+	AT RUNSTART I-	DEAD TIME	TIME (secs)	RECORDS IN	RECORDS OUT	ALL *10^6	T_0 Rej *10^6	T_1 acc SUM	T_2 acc SUM	T_1 Bit 2 E_L6>66V	T_2 Bit 17 2 T.E4 ≥2 TR	Processors ON/OFF N50	MIP	TOF	FM
29119	17-9-86	8:26	9:06	8·59	8·20	22·7	2374	8002	5407	618	140	4914	4443	1262	36	ON	ON	ON	ON
29120	"	9:06	9:49	7·21	6·85	20·8	2526	8002 657	5191	657	136	4930	4522	1160	23	"	"	"	"
29121	"	9:49	10:03	5·76	5·44	20·1	761	2364	1510	198	39	1445	1352	362	4	"	"	"	"
29122																			
29123	"	12:15	12:56	10·71	10·14	24·1	2445	8002	5474	636	153	4869	4660	1194	35	"	"	"	"
29124	"	12:56	13:42	8·99	8·11	21·0	2519	8002	5331	656	138	4989	4677	1226	37	"	"	"	"
29125	"	13:43	14:08	7·50	6·70	19·3	1469	4606	2936	382	74	2897	2624	634	15	"	"	"	"
29126	"	14:50	15:30	10·93	10·35	24·1	2411	8002	5485	627	151	4870	4715	1175	28	"	"	"	"
29127	"	15:31	16:11	9·21	8·49	22·9	2433	8002	5385	633	144	4841	4765	1149	42	"	"	"	"
29128	"	16:12	16:18	7·78	7·12	23·0	322	1132	750	86	19	704	635	182	6	"	"	"	"
29129	"	16:19	16:55	7·56	6·91	23·2	2105	6583	4328	420	127	3565	3392	956	34	"	"	"	"
29130	"	17:36	18:19	11·28	10·46	27·4	2288	8002	5709	595	163	4782	4571	1250	38	"	"	"	"
29131	"	18:15	18:55	9·46	8·68	23·3	2394	8002	5441	622	144	4931	4534	1241	36	"	"	"	"
29132	"	18:55	19:32	7·94	7·19	21·5	2528	8002	5316	657	142	4908	4665	1147	49	"	"	"	"
29133	"	19:47	20:16	6·50	5·80	19·8	1702	5102	3229	443	88	3072	3031	702	24	"	"	"	"
29134	"	20:50	21:18	11·06	10·54	25·3	1660	5817	4123	632	169	3587	3282	895	23	"	"	"	"
29135	"																		
29136	"	21:23	21:35	9·60	8·69	24·1	682	2186	1646	178	37	1652	1306	364	14	"	"	"	"
29137	"	21:37	22:20	8·87	8·16	20·4	2583	8002	5141	672	137	5232	5005	1253	50	"	"	"	"
29138	"	22:22	22:50	7·36	6·71	20·6	1627	5095	3290	423	87	3153	2903	766	25	"	"	"	"
29139	18-9-86	09:58	10:42	8·87	8·19	18·7	2676	8002	5082	696	130	4925	4870	1069	26	"	"	"	"
29140	"	10:44	11:28	7·64	7·01	17·4	2614	7574	4779	674	118	4669	4687	1007	27	"	"	"	"
29141																			
29142	"	11:39	11:54	7·37	6·75	15·8	898	2466	1463	233	36	1618	1560	351	10	"	"	"	"
29143	"	12:43	13:20	11·12	10·68	26·3	2200	8002	5608	572	150	4847	4432	1273	38	"	"	"	"
29144	"	13:21	14:01	9·46	9,05	21·8	2405	8002	5265	625	136	4910	4696	1231	39	"	"	"	"
29145	"	14:03	14:46	7·98	7·60	20·2	2568	8002	5308	667	135	4865	4815	1149	35	"	"	"	"
29146	"	18:26	19:05	11·12	10,97	25·8	2303	8002	5541	595	153	4836	4764	1221	31	"	"	"	"
29147	"	19:06	19:47	9·29	8·96	23·6	2485	8002	5410	648	153	4539	4802	1227	28	"	"	"	"
29148	"	19.49	20.33	7.81	7.50	21.0	2612	8002	5211	679	143	4870	4990	1123	31	"	"	"	"
29149	"	20.33	21.01	6.59	6.31	19.7	1683	5008	3146	437	86	3079	3041	670	28	"	"	"	"
29150	"	21:35	22:10	11·09	11,08	27·3	2032	6452	4989	528	144	3643	4398	1196	40	"	"	"	"
29151	"	22.14	22.33	9.30	9.33	20.6	1140	3569	2342	297	61	2075	2349	596	14	"	"	"	"
29152	"	22:33	23.14	8.54	8,87	22.5	2420	8002	5355	629	141	4947	4742	1225	31	"	"	"	"
29153	"	23.14	23.58	7.21	7.24	21.9	2603	8002	5158	677	148	4949	4782	1106	30	"	"	"	"

<L> 10^30 cm^-2 s^-1	BHABHA ∫Ldt nb^-1	∫Ldt EXP ENERGY	IBM/ TAPE	AT RUNSTART TOF [V]	AT RUNSTART ID [μA]	ONLINE REJECT Sum MIPRoc T_2 %	ONLINE REJECT NORMSO T_1+T_2 %	Σ BHABHA	M/H	E BEAM	MAG FIELD -1*G	REMARKS
10·15	22·89	64504·83	"	1·15	0·15	44	35	402	6	17·503	4845	
8·02	20·26	64525·26	"	1·0	0·15	46	38	296	5	17·5	4845	
6·94	6·09	64531·18	"	0·8	0·15	48	39	107	1	17·503	4845	BEAMS DUMPED
												Started run too early - only 3 pedestal events.
10·80	23·12	64554·30	"	1,3	2→0,2	45	34	406	8	17503	4837	
8·35	20·84	64575·14	"	1·1	0·10	48	36	366	7	17·500	4837	
7·44	9·05	64584·19	"	0·9	0·40	47	39	159	6	17·503	4837	Beams dumped
10·34	22·71	64606·90	"	1·6	0·15	47	34	399	11	17·500	4838	
8·79	20·79	64627·69	"	1·3	0·20	47	35	365	3	17503	4837	
7·42	2·79	64630·48	"	1·1	0·15	48	37	45	0	17505	4837	
6·44	13·38	64643·86	"	1·0	0·10	48	38	235	6	17500	4837	Beams dumped
11·60	23·60	64667·46	"	1·6	0·20	44	31	415	5	17503	4837	
9·34	20·55	64688·01	"	1·2	0·15	47	35	361	5	17500	"	
7·28	17·14	64705·15	"	1·1	0·10	48	36	301	10	17·500	4836	
5·39	8·14	64713·29	"			46	40	143	5	17·503	"	beams dumped
11·21	18·22	64731·51	"	1·7	0·15	46	32	320	3	17·503	4835	Stopped after several JDAS 33 errors
				1·3	0·1							" " " only few each relocation !!!
10·30	6·83	64738·34	"	1·25	0·1	51	35	120	0	17·503	4837	stopped to reload TOF proc.
8·87	19·25	64757·59	"	1·15	0·1	50	37	338	8	17503	4837	reload SETC68K at run end
6·81	11·67	64769·26	"	1·0	0·1	46	38	205	2	17503	4836	beam dumped.
8·73	21·25	64791·01	"	1·2	0·25	48	39	382	6	17·503	4838	
8·03	18·39	64809·40	"	0·8	0·15	49	39	323	4	17·500	4840	Run ended due to JDAS Error 33
				0·8	0·15							Lost Due To JDAS Error 33
7·06	6·72	64816,12	"	0·8	0·1	51	42	118	4	17·503	4841	Beams lost
12·74	26·02	64842,14	"	1·3	0·2	43	32	457	8	17,500	4843	
10·91	23·75	64865,89	"	1·1	0·2	46	35	417	7	17503	4843	
8·89	20·56	64886,45	"	1·0	0·2	47	36	361	11	17,503	4841	beams dumped
12.21	25.73	64912.18	"	1·3	0·2	46	33	452	10	17.500	4840	
11.05	24.15	64936.33	"	1·3	0·2	48	35	424	9	17.503	"	
8.53	20.73	64957.06	"	1·2	0·2	48	37	364	9	"	"	
6.72	12.13	64969.19	"	1·2	0·2	49	40	213	4	17.500	4842	Beams dumped
	24,76	64993.95	"	1·8	0·15	49	25	435	(56)	17503	4841	MFR 61 No HV No Tagg lumi ---
1.27	12.18	65006.13	"	1·4	0,2	48	37	214	3	17.500	4841	" " "
9.6	21.07	65027.20	"	1,3	0,2	48	36	370	5	17500	4840	MFR 61 on again.
7.52	17.48	65048.27	"	1·2	0.15	48	38	307	8	17.503	4840	

20 00 Stoplen a shift

21 15 # 29134 JDAS R/O error 33 Missing LAM branch 4 crate 1 - J68K Sat x 6
29135 x 4

21 20 reload JETC 68K

21 23 next run # 29136

21 30 JDAS R/O 64 AC 2099 TOF-2 0 x missing stn 16 subaddr=3
Stop run reload AC 2099 ToF proc.

21 50 Sundik appears (doing JETC checks) and would like JETC 68 reloaded after present run - there is a "spike" in TRIP display.

22 20 Run # 29137 ends JETC 68K reloaded next run # 29138

23 45 ~ approx 1hr after beam dump still no currents etc in read file so Ask PKR - they have a problem with one of the transmitter which they are trying to sort out but are not yet prepared to say how long it will take. Inform other Expts

23 47 "Short Break" appears.

18/9/86 0 00 Bethke on shift. Gas check done, ok.

0 30 Magnet down to 2000 A (Sender ausfall)

1 45 PKR phoned. No beam tonight, repair of Sender possible only this morning (after eight).
Run down magnet to 0. Reset and isolator off. Informed other exp's.

2 15 checked all temperatures. Informed P. Steffen that he does not need to come at 4 00.
Going home.

08 00 O Davies on shift (+ M. Atkinson) - still no beam

08 20 Gas check OK

08 40 call PKR - to see what is wrong and how long - Transmitter failure - maybe 10.00 - if we keep our fingers crossed.

09 45 Magnet raised - current to 7,500A

10 00 JDAS readout error 33 Missing LAM branch 3 crate 4 Z chamber part 1

11 04 ZBM - PC - WIRE MAP DEVIATIONS >50% - 2 - (Z-CHAMBER BZW 50)

11 28 JDAS ERROR 33, RELOAD JETC (J68K) (TWICE, 1ST ATTEMPT GAVE JDAS 32 ERROR)

12 00 Zimmer on shift

14 45 no beam for 30 mins due to replacing of a power supply

15 54 Short break - synchrotron problem - restart ca 18 00 - Magnet down to 500 A.

16 00 Becker

Gas check done

20.00 Clarke Run 29150-1 without Tagging HV on MFR 61
Switching MFR 61 on was not enough. Using (NAR) TOFHV, various options, suddenly worked wonder, probably when "read DVM" was used.' Derek Darvill is investigating.-- J.O.

19 Sept 86 Stoplen

00 05 Gas check OK. (Kreisluft 9.7)

1.04 100% Dead can't care except by stopping run # 29155.

1.08 JDAS error 4H DMA timeout branch 4 crate 1 : J68K Bank. came immediately after IBM transfer error.

2 55 ID & Vtec HV trips

3 09 Beam dumped - go & gas house Kreisluft still low so increase Ätha from 17.7 → 17.9.

4 00 Hagemann on shift

4 40 IBM transfer error (oct.) 52 177774 3 0 7x 177777

5 03 JDAS error 33 - missing LAM br. 4 cr. 1 : JETC point 605 0 30 000036 5 002000 177777 177777 5474 177772
xtimes " " 32 - " " " at FEP ready
Have to stop run, Reload J68K-system (# 29160) 5:09

5 49 IBM transfer error (oct.) 52

7 05 VTEC + ID + ZC bad trips

7 38 JDAS error 64 - AC 2099 TOF-2 0,1 x missing stn = 3 subaddr. 0

8 00 Ambrees on shift

8 05 gas check O.K.

12 00 Olsson (for Bartel) | Noticed that z-chamber histograms show large deviations around n=50, has been so since noon 17/9. Have asked to tell D Clarke to investigate.
replaced by Bartel

15 42 switch off FADP in order to test influence on dead time

16 00 Sundik on shift

16 45 Gascheck done

20 00 R. Menke on shift.

record Lumi in run 29179 : $\langle L \rangle = 13.60\ 10^{30}\ cm^{-2} s^{-1}$

22 43 problem to switch on L64; overcurrent in leadglass barrel supply; switched off and on Sokay

23:30 I don't understand why flatt is so small for given $\langle L \rangle$, something must be wrong
standard histograms seem to be okay?

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME %	Time (Secs)	RECORDS IN	RECORDS OUT	ALL $*10^6$	$T\phi$ Rej $*10^6$	T_1 Acc Sum	T_2 Acc Sum	T_{1BIT2} $E_{LG}>66GeV$	T_{2BIT2} 2T.EA. $\geq$2TR	PROCESSORS ON/OFF NSO	MIP	TOF	FAM
29154	19.9.86	23.59	0.16	6.08	6.10	18.5	1025	3079	1926	267	49	1907	1855	419	7	ON	ON	ON	ON
29155	"	0.54	1.04	11.03	10.65	30.0	563	2108	1479	146	44	1268	1278	321	9	"	"	"	"
29156	"	1.06	1.45	10.43	10.06	24.2	2298	8002	5595	598	145	4893	4838	1282	29	"	"	"	"
29157	"	1.45	2.26	8.78	8.44	22.5	2438	8002	5345	634	142	4893	4900	1251	35	"	"	"	"
29158	"	2.26	3.09	7.40	7.08	19.8	2384	7347	4793	620	123	4496	4451	1056	29	"	"	"	"
29159	"	3.47	4.24	10.53	10.55	27.7	2219	8002	5575	578	160	4816	4922	1258	41	"	"	"	"
29160	"	4.25	5.03	8.87	8.88	23.7	2279	7670	5169	593	141	4655	4765	1150	36	"	"	"	"
29161	"	5.10	5.52	7.31	7.31	19.3	2487	7436	4675	647	125	4841	4941	1152	33	"	"	"	"
29162	"	6.29	7.12	10.35	10.06	24.6	2373	8002	5425	617	152	4987	5473	1276	29	"	"	"	"
29163	"	7.12	7.55	8.52	8.24	21.2	2570	8002	5187	669	141	5174	5508	1249	41	"	"	"	"
29164	"	7.56	8.31	7.16	6.90	19.0	2101	6221	3816	547	104	4010	4292	941	23	"	"	"	"
29165	"	9.04	9.46	10.56	10.67	26.4	2348	8002	5439	611	161	4975	5372	1307	29	"	"	"	"
29166	"	9.48	10.30	8.69	8.78	21.8	2523	8002	5180	656	143	5183	5246	1340	42	"	"	"	"
29167	"							8002								"	"	"	"
29168	"	11.16	11.17	6.08	6.14	17.8	40	142	89	10	2	77	80	15	1	"	"	"	"
29169	"	11.47	12.26	10.70	10.56	27.6	2336	8002	5478	607	168	5010	5037	1383	49	"	"	"	"
29170	"	12.26	13.08	8.96	8.83	24.7	2437	8002	5183	634	156	4997	5140	1303	37	"	"	"	"
29171	"	13.08	13.53	7.53	7.41	20.8	2702	8002	4871	703	146	5066	5336	1168	35	"	"	"	"
29172	"	13.54	13.55	6.33	6.21	18.4	37	176	104										
29173	"	14.31	15.11	10.42	10.37	26.4	2386	8002	5374	620	164	4843	5233	1319	37	"	"	"	"
29174	"	15.12	15.54	8.63	8.56	21.8	2505	8002	5109	652	142	5028	5145	1297	37	"	"	"	OFF
29175	"	15.55	16.38	7.20	7.13	20.9	2489	7572	4625	648	135	4721	4886	1156	33	"	"	"	OFF
29176	"	17.12	17.51	10.74	10.07	24.9	2333	8002	5279	607	151	4854	5036	1279	36	"	"	"	OFF
29177	"	17.53	18.37	8.97	8.32	19.3	2568	8002	5132	668	129	5271	4981	1299	35	"	"	"	"
29178	"	18.37	19.21	7.48	6.93	17.4	2585	7392	4471	672	117	4851	4799	1096	26	"	"	"	"
29179	"	19.55	20.32	11.31	11.07	22.4	2255	8002	5556	587	131	5200	4736	1413	34	"	"	"	#1
29180	"	20.33	21.14	9.48	9.27	19.6	2442	8002	5203	635	125	5327	4754	1339	32	"	"	"	"
29181	"	21.14	21.58	7.93	7.74	16.6	2631	8002	5017	684	127	5313	4861	1279	33	"	"	"	"
29182	"	21.59	22.00	6.61	6.44	16.2	19	115	82	5	1	68	36	14	0	"	"	"	"
29183	"	22.46	23.29	10.96	10.17	19.3	2589	8002	5371	673	130	5013	5349	1276	39	"	"	"	#1
29184	"	23.31	0.18	9.00	8.38	17.1	2830	8002	5034	736	126	5099	5321	1256	49	"	"	"	"
29185	20.9.86	0.25	0.47	7.20	6.65	15.6	1300	3404	2095	338	53	2173	2247	473	21	"	"	"	"
29186	"	1.01	1.08	6.26	5.75	16.9	372	1105	652	97	16	741	653	149	5	"	"	"	"
29187	"	1.59	2.40	9.98	9.65	20.3	2469	8002	5312	642	130	5302	4946	1334	49	"	"	"	"
29188	"	2.40	3.25	8.34	8.04	18.8	2636	8002	5020	686	129	5188	5055	1232	29	"	"	"	"

$\langle L \rangle$ 10^{31} cm^{-2} s^{-1}	BHABHA $\int L dt$ nb^{-1}	$\int L dt$ Exp. ENERGY	IBM TAPE OUTPUT	AT RUN START TOF LV	AT RUN START ID [μA]	ONLINE REJ SUM Nrec % T_2 %	ONLINE REJ NORSO % T_1 %	Σ Bhabha	M/H	E Beam	Mag Field	REMARKS
6.55	6.32	65054.59	IBM	1.0	0.1	49	40	111	0	17503	4841	Beam dumped
13.31	6.95	65061.54	"	1.9	0.25	46	32	122	3	17500	4841	Stopped because of 100% dead time
12.34	24.82	65086.36	"	1.85	0.25	47	32	436	7	17500	4841	
9.89	23.00	65109.36	"	1.45	0.2	48	36	404	5	17500	4841	
7.74	17.25	65126.61	"	1.20	0.2	48	37	303	5	17503	4841	beams dumped
12.45	22.32	65148.93	"	1.9	0.25	48	33	392	9	17500	4841	
10.05	21.40	65170.33	"	1.6	0.25	49	35	376	4	17500	4841	stopped due to DISK problem
7.82	17.54	65187.87	"	1.3	0.2	52	38	308	6	17503	4841	beams dumped
11.74	25.62	65213.49	"	2.1	0.3	50	33	450	6	17500	4840	
9.22	22.37	65235.86	"	1.7	0.3	53	36	393	2	17500	4840	
6.86	12.98	65248.84	"	1.5	0.2	53	40	228	3	17503	4841	beams dumped
12.12	26.76	65275.60	"	2.0	0.3	49	33	470	7	17500	4841	
9.93	26.02	65301.62	"	1.6	0.4	51	36	457	4	"	4840	
	≈21	65322.62	"	1.4	0.4							no run summary
5.93	0.34	65322.96	"	1.3	0.3	39	42	6	0	17503	4841	beams dumped
12.16	27.10	65350.06	"	1.9	0.4	47	33	476	12	17503	4841	
9.65	23.51	65373.57	"	1.4	0.5	47	36	413	6	"	"	
7.16	17.37	65390.94	"	1.4	0.5	50	40	305	5	17500	4840	
5.89	0.23	65391.17	"					4	0	"	"	Beams dumped.
12.04	27.79	418.96	"	1.8	0.5	46	34	488	6	"	4841	
9.97	24.03	442.99	"	1.3	0.5	47	37	422	5	"	"	
7.50	17.19	65460.18	"	1.3	0.6	48	40	302	6	"	"	beams dumped
12.01	25.30	65496.08	"	1.55	0.45	43	35	455	7	"	"	
9.70	22.27	65518.35	"	1.25	0.35	50	37	391	1	17503	"	
7.12	16.17	65534.52	"	1.05	0.2	51	41	284	5	17503	"	beams dumped
13.60	29.37	65563.89	"	1.6	0.25	48	31	516	9	17500	4840	
11.14	24.87	65588.26	"	1.2	0.2	49	36	428	6	17503	4841	
8.63	21.80	65610.06	"	1.0	0.2	50	38	383	4	17500	"	
7.76	1.28	65610.34	"	1.0	0.2	"	33	5	0	"	"	beams dumped
12.83	12.24	65622.58	"	1.5	0.2	49	34	215	4	"	4841	#1 $\int L dt$?? #1
10.03	11.28	65633.86	"	1.0	0.2	50	38	198	4	17503	4840	Leadglass EC HV Error
7.64	3.19	65637.05	"	1.0	0.12	51	40	56	7	17500	"	Bad $(Bha)^2$ Lumi
~~4.77~~ 6.60	1.77	65638.82	"			50	42	31	2	17503	4840	beams dumped
10.95	25.74	65664.56	"	1.3	0.12	50	35	452	6	"	4838	
8.89	20.55	65685.11	"	1.1	0.07	49	38	361	6	17500	4840	

24⁰⁰ Kvehbiel on shift.
Problem of Lumi etc. tackled. Phone calls to Magnussen and Navoska.
Histogram of LG EC Hit Map looked more ragged in his right part than before.
PETRA at midnight no faulty condition. Too few # EC (Bha)^{2}s! # Under
instruction (via phone) from F22NAR the Program R1-HB was run to reset Distributor
voltages. Under direction of Magnussen Program TESTHV Rings 32-33 showed no
errors. In the next fill conditions seem o.k. But: the 2nd time.
HV Power supply LG Barrel 3 (I hope, no tag, but in the flush) tripped twice shortly after
HV up with over current. Just for the night current limit increased from 9.20 To 9.30.

20/9/86

4⁰⁰ Matsumura on shift
4¹⁰ Gas check done
4⁵³ LG HV Supply #9 overcurrent #2
6³² JDAS Read Out Error System Crate watchdog flag Term = 000002 177777 (oct)

8⁰⁰ Kleinert on shift 12⁰⁰ Raincke
9⁰⁵ At start of fill/run continuous overcurrent trips of LG HV Supply #9. Called Magnussen. He will come in
13¹⁰ I have been trying to locate the overcurrent in Distr. # 4 or 5 for the last 4½ h. I have narrowed it down to 16 channels in Distr. # 4 at which stage the electronic (archaic electric is maybe better) starts to defy logic. So maybe the distributor itself is broken. I will try to get a spare and replace it soon. Until then we are running with these 16 channels disconnected (from Run # 29188 onwards). Now I go and take my breakfeast! NN.
14³⁰ Beam again: still LG HV problems Norbert Magnussen is coming!
Runs 29195 - 29197 lost due to LG HV problem
14 ⁴⁵ System console: YSPI cannot open constant file
15⁰⁰ Darvill on shift - Gas check done o.k.
16⁵⁷ VTX chamber gas alarm valve failure
20¹⁰ The overcurrent seems to be no overcurrent at all, but a broken main supply.
After all sensible combinations of disconnected PM's we (J.O. arrived in the meantime) tested the main supplies and the conclusion is that Main # 2 (st. from Ø) can't provide enough current.
20⁴⁰ Main #2 exchanged, we are running OK again.
Channel 13-7-4 (bl. nr 556) is now dead, draws too much current, cannot be set anymore, from R 29202
2¹⁵⁸ Finally remembered to rebuild YSPY which had a file error message since afternoon.
23⁵⁰ Reboot MOP, it had crashed, produced only nice check patterns running over screen. (Ctrl C, Uwe Zimmer: Ok)

24⁰⁰ Suddenly much higher current in ID than normal (1 μA), but TOF normal (~1). Call PKR, they find a "Beule". ID current down to <0,2 at once! Deadtime from 30 - 20 %!
00⁰⁰ Haidt, Gascheck done.
JDAS Read out error 33 - missing LAM branch 3 crate 4 : Z-chamber part 1
Vertex chamber gas alarm : valve failure
0330 F Foster here also
0406 beam dumped at CELLO request
0510 New fill established
0519 JDAS error 33 missing LAM branch 2 crate 3 TOF1 counters.
0530 Restart plotter paper.
0553 TASSO call to complain about bad "dead time" - ~~it~~ everything O.K. here - I suggest we wait & see how things go.... they get better
0647 μ - crate missing part: 13 permit Reset.
0656 JDAS error 33 Missing LAM branch 3 crate 2 Muon chambers.
0730 beams dumped - VTX chamber gas error — reset "valve failure" - reset OK.
0800 Davies on shift - gas check OK,
1010 Gas failure VTX chamber, valve reset OK.
1046 JDAS ERROR 32 - MZSSZNG LAM at FEP READY (JETCH), (REPEATED - RUN STOPPED).
RELOAD JETC (J68H) - OK.
1106 IBM-PC WIRE MAP DEVIATIONS.
1127 MUON CRATE MZSSZNG PART 12 RESET OK.
1132 JDAS READOUT ERROR 33 - MZSSZNG LAM BRANCH 3 CRATE 2: (MUON CHAMBERS (MUON CRATE 5 MZSSZNG ON TEP)
1136 RELOAD JETC (J68H) — ?
ERROR REPEATED
12.00 Clarke
Reset μ crate 2 - now OK.
Notice FAMP is OFF - no reason given, so turn back on again
15.15 Beampipe (evacuator) & Jetch pdt trip
16⁰⁰ Becker
Gas check done
16¹² STOP RUN : YRUNSUM: SAVED SUMMARY FILE (D-F) RUNSM-77: SYMBERR 28
→ No run summary run # 29226
20⁰⁰ Ambrus
21¹¹ no response from MOP-console → RELOAD JETC(J68H) → OK! ; next run: 29233
23³⁰ Gas check done M Porter.

Run	Date	Start	Stop	At Run IT	Start IT	Dead Time	Tim (secs)	Rec. in	Rec. out	Bhabha	TQ	T_1 Acc Sum	T_2 Acc Sum	Tibit2 E16>6 GeV	T_2 bit17 TRG 7/8	Proc ON	cosm ON/OFF TOP	on/off Pm
29189	20/9/86	3:24	4:11	6.97	6.70	18.2	2715	8002	4865	707	128	5374	4985	1219	34	ON	ON	ON
29190	"	4:12	4:21	5.84	5.60	15.7	549	1509	1124	143	22	1015	905	223	5	"	"	"
29191	"	4:51	5:34	10.34	10.31	20.9	2435	8002	5394	633	133	5233	4933	1355	26	"	"	"
29192	"	5:35	6:17	8.59	8.56	19.2	2501	8002	5240	661	127	5362	4783	1360	39	"	"	"
29193	"	6:18	7:04	7.18	7.15	17.9	2735	8002	4891	712	127	5264	5137	1252	42	"	"	"
29194	"	7:04	7:17	6.00	5.98	16.6	742	2086	1198	193	32	1380	1302	305	9	"	"	"
29198	"	14:43	15:27	9.82	9.95	25.8	2316	8002	5275	602	143	5896	5266	1271	31	"	"	"
29199	"	15:28	16:56	8.18	8.29	22.5	324	1240	808	76	22	769	807	187	6	"	"	"
29200	"	20:05	20:12	7.43	6.59	20.8	361	1185	800	94	20	782	734	194	4	"	"	"
29201	"	20:43	21:18	10.24	10.39	25.4	1907	6730	4623	496	196	4304	4345	1069	30	"	"	"
29202	"	21:18	21:58	8.91	9.05	22.8	2354	8002	8267	612	140	5192	5058	1207	36	"	"	"
29203	"	21:59	22:41	7.55	7.68	21.9	2474	8002	5176	644	141	5196	5837	1231	29	"	"	"
29204	"	22:42	22:43	6.43	6.55	22.1	60	238	155	15	3	129	131	99	2	"	"	"
29205	"	23:20	23:59	10.40	10.30	33.5	2263	8002	5264	588	197	5709	5140	1163	27	"	"	"
29206	"	23:59	0:49	8.83	8.74	22.3	2458	8002	5147	639	144	5152	5858	1249	42	"	"	"
29207	21/9/86	0:49	1:31	7.48	7.39	18.2	2384	7131	4505	620	112	4651	4410	1102	44	"	"	"
29208	"	1:58	2:38	10.24	10.44	20.1	2399	8002	5369	624	125	5332	4675	1313	23	"	"	"
29209	"	2:38	3:13	8.63	8.81	17.8	2612	8002	5091	679	120	5375	4837	1256	26	"	"	"
29210	"	3:23	4:05	7.24	7.42	16.5	2523	7401	4411	657	108	4988	4354	1093	21	"	"	"
29211	"	5:10	5:59	10.66	10.61	20.3	2361	8002	5402	614	125	5520	4314	1360	35	"	"	"
29212	"	6:02	6:44	8.64	8.58	17.8	2572	8002	5003	669	119	5458	4581	1217	27	"	"	"
29213	"	6:45	7:31	7.29	7.24	16.1	2749	7735	4645	715	115	5213	4707	1145	27	"	"	"
29214	"	8:02	8:42	9.14	9.23	20.1	2367	8002	5331	615	123	5412	4583	1319	37	"	"	"
29215	"	8:42	9:25	7.68	7.76	18.5	2528	8002	5095	657	121	5391	4733	1281	31	"	"	"
29216	"	9:25	10:10	6.05	5.96	17.7	2641	7930	4955	687	121	5293	4863	1179	43	"	"	"
29217	"	10:45	10:46	10.91	10.84	26.6	14	94	76	3	0	57	27	16	0	"	"	"
29218	"	10:52	11:26	10.57	10.50	29.5	2025	8002	5697	526	321	5137	4836	1129	24	"	"	"
29219	"																	
29220	"	11:36	11:36	8.77	8.72			30	27									
29221	"	11:59	12:36	8.01	7.96	23.1	2239	7865	5181	582	134	5231	4782	1185	44	"	"	"
29222	"	12:37	13:18	6.90	6.86	22.3	2442	8002	7766	634	141	5351	4938	1163	38	"	"	"
29223	"	13:52	14:28	10.68	10.74	27.9	2142	8002	5578	557	155	5274	4835	1262	32	"	"	"
29224	"	14:28	15:05	9.14	9.20	26.1	2177	8002	5401	566	148	5417	4635	1139	39	"	"	"
29225	"	15:06	15:48	7.84	7.90	23.7	2335	8002	5306	607	144	5300	5010	1146	32	"	"	"
29226	"	15:48	16:12	6.62	6.68					no	vrun	summary						

OFF
ON

$\mathcal{L}$ 10^{30} cm^{-2}s^{-1}	Bhabha $\int L dt$ nb^{-1}	$\int L dt$ on Energy	BM/Tape	At Run TOF (ns)	Start ID (mm)	Online rej Sample	Online rej Noise	Σ Bhabha	MU had	Ebeam	Maxel Field	Remarks
6.97	19.07	65704.78	IBM	0.9	0.03	57	40	335	9	17.500	4839	1 DAY/MONTH ZERO IN HEAD Bank !
5.89	2.68	65706.86	"	0.8	0.02	52	40	47	0	"	4840	beams dumped
11.17	26.88	65733.74	"	1.4	0.1	49	34	472	6	17503	"	
9.58	20.79	65754.53	"	1.2	0.05	50	36	365	7	"	4839	
7.19	19.53	65775.06	"	1.0	0.05	51	39	343	5	"	"	
5.94	3.88	65779.04	"	0.8	0.03	51	44	70	0	17500	4840	beams dumped
10.77	25.79	65804.83	"	1.2	0.5	50	35	453	4	17.500	4843	
10.17	3.53	65808.36	"			49	36	62	2	17.500	4843	beams dumped.
7.77	3.54	65811.95	"	1.3	?	50	34	63	0	17503	4841	beams dumped
10,67	20,96	65832.91	"	2,1	0,35	50	32	368	6	"	4841	Stopped for clearing histograms.
9,22	19,93	65852.84	"	1,8	0,3	49	35	350	7	"	"	
7,56	18,05	65870.89	"	1,6	0,25	51	36	317	2	"	"	
6,91	0.51	65871.40	"	1,5	0,25	34	39	9	0	"	"	Beams dumped.
9,83	20,66	65892.06	"	2,1	0,45	42	36	363	7	17500	4841	Bad background
9.31	20.27	65912.33	"	2,2	1.0	47	37	356	9	17500	4841	
7.56	17.54	65929.87	"	1.1	0.2	50	38	308	2	17503	4840	Beams dumped
11.81	27.68	65957.55	"	1.3	0.2	48	34	486	5	"	4841	
9.26	22.20	65979.75	"	0.9	0.1	51	87	390	13	17500	"	
7.09	19.19	65998.94	"	0.8	0.1	49	33	337	3	17500	4840	Beams dumped.
11.36	27.21	66026.15	"	1.2	0.2	48	33	478	11	17503	4841	
9.04	22.15	66048.30	"	0.9	0.1	49	38	389	6	17.500	4841	
6.74	18.33	66066.63	"	0.8	0.1	51	41	322	4	17.500	4840	Beams dumped.
12.01	27.28	66093.91	"	1.25	0.15	49	34	481	9	17.503	4841	
9.96	21.63	66115.54	"	1.0	0.15	49	37	380	3	17.500	4840	
7.25	12.43	66132.97	"	0.75	0.15	51	39	306	4	17.503	4840	BEAMS DUMPED
12.39	0.34	66133.31	"	—	—	22	23	6	0	17.503	4841	RUN STOPPED JDAS ERROR 32.
10.53	18.10	66151.41		2.4	0.4	47	30	318	5	17.5	4840	
—				2.0	0.4							JDAS ERROR 33 - RUN
—	0,17	66151.58	"	1.6	.18							
7.38	17.77	66169.35	"	1.6	.16	50	35	312	6	17.503	4841	Stopped to turn AMPon.
5.80	14.69	66184.04	"	1.45	.13	51	36	253	1	17.503	4842	Beams dumped
10.22	21.23	66205.27	"	2.0	.2	49	31	373	10	17.500	4847	
8.55	17.20	66222.47	"	0.95	.18	49	33	302	4	17.503	4847	
6.85	15.88	66238.35	"	1.7	.15	51	35	278	2	17.500	"	
			"	1.7	.15					17.500	"	no vrun summary + 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	T1 Bit 2 E_LG>666	T2 Bit A 2T.EA+2ZTR	Processors ON/OFF NSO	MIP	TOF	FM
29227	21.9.86	16:48	17:25	10.81	10.81	27.2	2228	8002	5376	579	158	5120	4916	1285	38	ON	ON	ON	ON
29228	"	17:30	18:10	8.95	8.83	22.4	2346	8002	5174	610	136	5247	4767	1243	24	"	"	"	"
29229	"	18:12	18:55	7.53	7.46	18.6	2551	8002	4540	664	130	5350	4711	1150	28	"	"	"	"
29230	"	18:59	19:10	6.25	6.20	17.6	636	1873	1208	165	29	1280	1150	303	10	"	"	"	"
29231	"	19:44	20,23	10,47	10,61	27,3	2233	8002	5439	582	159	5169	4818	1265	33	"	"	"	"
29232	"	20:23	21,06	8.78	8,90	22,2	2432	8002	5296	633	140	5278	4896	1290	33	"	"	"	"
29233	"	21:11	21:53	7,22	7,34	20,9	2534	8002	5072	659	138	5207	5009	1199	22	"	"	"	"
29234	"	21:54	22:04	6,12	6,23	20,3	569	1788	1113	148	30	1153	1128	236	13	"	"	"	"
29235	"	22:36	23:12	11,32	10,83	30,5	2199	8002	5557	572	175	5069	4924	1281	36	"	"	"	"
29236	"	23:13	23:51	9.61	9.18	25.7	2251	8002	5328	585	151	5215	4723	1206	22	"	"	"	"
29237	"	23:57	0:31	8.01	7.61	22	1670	5545	3505	435	97	3529	3428	846	18	"	"	"	"
29238	22/9/86	00:36	01:03	6.94	6.57	21	1690	5266	3286	440	93	3389	3261	775	20	"	"	"	"
29239	"	01:48	02:26	10.53	10.57	27	2301	8002	5445	598	162	5082	4902	1235	28	"	"	"	"
29240	"	02:26	03:08	8.89	8.95	23	2612	8002	5192	627	146	5120	5055	1271	30	"	"	"	"
29241	"	03:09	03:52	7.51	7.57	22	2539	8002	4901	660	147	5085	5163	1224	27	"	"	"	"
29242	"	03:53	4:16	6.35	6.43	19.9	1372	4905	2536	357	71	2703	2667	615	24	"	"	"	"
29243	"	4:42	5:23	10.96	11.08	27.2	2347	8002	5300	610	135	5307	4908	1321	29	"	"	"	OFF
29244	"	5:23	5:36	9,16	9,16	19,3	497	1619	1033	129	25	1068	1011	257	4	"	"	"	"
29245	"	5:43	6:28	8,42	8,43	18,2	2649	8002	5141	690	125	5351	4964	1299	38	"	"	"	"
29246	"	6:38	6:47	6,97	6,99	17.6	1034	3115	1912	269	47	2111	1909	474	10	"	"	"	"
29247	"	7:37	8:16	10.09	10,19	22.9	2286	8002	5442	594	136	5308	4880	1280	34	"	"	"	"
29248	"	8:16	8:53	8.44	8.54	19.9	2462	8002	5749	640	127	5331	4886	1266	31	"	"	"	"
29249	"	8:59	9:32	7.06	7.16	19.1	1935	5855	3665	503	96	3947	3621	930	23	"	"	"	"
29250	"	11:34	12:11	10.93	10.87	24.7	2749	8002	5645	558	138	5292	4857	1263	37	"	"	"	"
29251	"	12:13	12:51	9.20	9.13	22.4	2289	8002	5356	595	133	5392	4809	1190	30	"	"	"	"
29252	"	12:55	13:40	7.58	7.52	18.5	2598	8002	5130	676	124	5402	4838	1139	35	"	"	"	"
29253	"	13:39	13:48	6.43	6.39	18.3	473	1503	969	123	22	1019	823	238	10	"	"	"	"
29254	"	14:24	15:01	10.73	10.82	25.1	2173	8002	5523	565	141	5384	4566	1246	26	"	"	"	"
29255	"	15:01	15.40	9.06	9.09	23.7	2264	8002	5282	589	139	5285	4742	1105	30	"	"	"	"
29256	"	15:40	16,18	7.54	7.45	22,6	2132	7318	4808	570	128	4799	4488	1075	29	"	"	"	"
29257	"	16:55	[illegible]	2		L	G	pedestal events.											
29258	"	16:56	[illegible]	10,37	10,42	22,4	2394	8002	5213	622	139	5132	4987	1198	48	"	"	"	"
29259	"	17:37	18:20	8,80	8,81	20p	2548	8002	5048	662	132	5194	5052	1205	34	"	"	"	"
29260	"	18:21	19:07	7,49	7,49	18,2	2726	8002	4772	709	128	5247	5028	1162	47	"	"	"	"
29261	"	19:08	19:13	6,38	6,38	16,5	293	890	526	76	12	573	509	136	4	"	"	"	"

<L> $10^{3}cm^{-2}s^{-1}$	Bhabha ∫Ldt nb^{-1}	∫Ldt Exp. Energy	IBM/ TAPE	At Run Start TOF [V]	At Run Start ID [μA]	On-line Reject Sum MIPRac T_2 %	On-line Reject NoRoSo T_1+T_2 %	Σ Bhabha	M/H	E Beam	Mag Field -I * G	Remarks.
10.41	24.02	66 262.37	IBM	1.5	0.4	47	34	422	7	17.500	4847	
8.48	18.62	66 280.99	"	1.4	0.4	48	36	327	2	17.503	4845	
7.05	16.05	66297.04	"	1.3	0.4	50	39	282	5	17.501	4844	
5.86	3.33	66301.03	"	1.2	0.3	48	40	70	1	17.503	"	beams dumped.
10,65	22,49	66323.52	"	2.0	0.6	47	33	395	6	"	4845	
8.61	21,29	66344.81	"	1,6	0.4	49	35	374	6	17500	"	
6,51	14,12	66358.93	"	1,3	0,3	49	38	248	4	"	4844	Hloud DETC(7684)
5,46	2,79	66361.72	"	1,2	0,3	50	39	49	1	"	"	beam dumped
10,73	22,77	66384.49	"	2.3	0,8	46	32	400	7	"	"	
9.07	20.04	66406.53	"	1.4	0.4	47	34	352	2	17.500	4844	
7.23	11.05	66415.58	"	1.4	0.4	47	38	194	2	17.508	4846	Stop run JOBS error 32 reported.
5.79	9.91	66425.49	"	1.4	0.4	48	39	174	2	17.503	4846	beams dumped
9.92	19.64	66445.13	"	2.1	0.8	46	33	345	6	17.500	4843	
8.53	19.82	66466.95	"	1.6	0.5	48	36	368	5	17.503	4846	
6.54	16.29	66481.24	"	1.4	0.4	48	40	286	4	17.503	4844	
5.40	8,31	66489.55	"	1.2	0.4	49	41	146	5	"	"	Beams dumped.
10,88	24.31	66513.86	"	2,2	0,75	50	35	427	3	17.500	"	Bad background at begin of fill.
9,26	3,87	66517.73	"	1,4	0,15	51	37	68	0	"	"	Stopped for LG HV trip.
8,10	20,67	66538.40	"	1,2	0,15	51	37	363	7	17503	"	Distrib. 5 LG off!
6,70	7,06	66545.46	"	1,1	0,15	52	40	194	6	"	"	Beams dumped
10.41	23.06	66568.52	"	1,7	0,2	50	33	405	4	"	"	Distr. 5 on again
8.44	19.70	66588.22	"	1.3	0.2	50	37	346	6	17.500	"	
6.64	12.53	66600.75	"	1.2	0.2	52	35	220	8	17.503	4844	beams dumped
10.31	23.17	66623.92	"	1.8	0.2	50	30	407	6	17.500	4844	
8.86	19.87	66643.79	"	2.2	0.2	51	34	349	6	17.500	"	
6.90	19.36	66663.15	"	1.1	0.15	51	37	340	8	"	"	
6.34	2.90	66666.05	"	0.9	0.1	48	37	51	1	"	"	beam dumped
10.50	21.92	66687.97	"	2.0	0.4	48	32	385	4	"	"	
7.87	15.72	66703.69	"	1.7	0.4	48	35	275	2	"	"	
5,98	12,58	66727,27	"	1.5	0.3	49	36	221	4	"	4845	beams dumped.
				2,1	0,2							total dog error run stopped
8,19	18,00	66745,27	"	2,1	0,2	48	36	316	3	17503	4844	
6,84	16,40	66761,67	"	1,4	0,2	49	38	288	7	17503	"	
5,52	13,67	66775,28	"	1,0	0,2	50	42	239	5	17503	"	
5,43	2,76	66777,44	"	0,7	0,1	45	43	38	0	17503	"	beams dumped.

00:00 23/9/86 F Foster here (gas check (Ok)). but Kreislauf low (9.7) so increase flow slightly (17.9 → 18.1)
IBM PC INACTIVE restart automatic.
00:25 JDAS Readout error 32 Missing LAM at FEP Ready (JETCH)
Repeated Stop run.
00:50 IBM PC indicates an error — but histograms look O.K.
01:45 New fill established.
02:27 Muon crate missing part 14 - reset
02:36 JDAS Error 53 System crate watchdog flag PARMS = 00002 177777 (oct).
04:00 Olsson
04:40 New fill, switch FAMP off, since Dead time seems to be better without it (it was on since 16 hours, generally 27-30% deadtime at begin of fill
04:50 Complain to PKR about high background, after a while it improves but not much. (Doch, a factor 2!)
05:30 Sudden LG HV alarm, but only "flickering", no real trip. ~~Nothing suspicious to see at HV~~ Just after LG HV supply 3 at half Voltage and sparking. Switch off.
it is distributor nr 5 that is the cause, disconnect it. I believe there is no spare, 5 was suspicious already on saturday. Will call Norbert M. soon, continue datataking without distr 5 R 29245 - 246
06:10 Call Norbert. He says the spare distributor is OK, must be exchanged, 5 damaged since saturday.
06:30 Calling for new fill, nobody answers at Mark I
07:40 Exchanged distr. # 5 for the "spare" (This one was believed to cause Readout problems once in while)
Running with all LG channels again. Run # 29247 →

08:00 Kuhlen on shift
Gas check done by J. Olsson. Seidel will adjust Kreislauf
12:15 PETRA had optimized for TASSO, who had 60% deadtime. Now they are satisfied, but our background conditions are worse than before. PETRA tried to do something, but no success.
12:20 Disconnect on shift.

16:00 Still on shift.
Gas check done - OK.
16:15 Ask for new fill.

16:55 Start run 29257 after 2 events gets
'JDAS Readout error 53 System crate watchdog flags parms = 00000 177777'
and run is automatically terminated. Try again. Run 29258 starts OK, but 2 LG channels are > 500 (#492, #486)

08:00 Still at 9.7 so increase to 18.3 ??

18:00 take std. histograms. Deviations in Zcl plots still there. (Don Clarke knows about it).
18:00 YSPY detected error but no further information on YSPY terminal. Time on terminal is 11.27
- Switched terminal off and back on again
20:00 Davies on shift.
22:00 JET CHAMBER - GAS VALVE FAILURE - RESET. - OK

0:00 Kuhlen on shift again gas check done

4:00 Becker

7:34 JDAS err 33 - Missing LAM br. 3 cr. 2 : μ chambers

08:00 Tues. 23/9/86 Mike Atkinson & Fred Loebinger

08:00 Gas check done O.K.
09:14 Vertex chamber: Wiremap deviations > 50% : 1 Bins 50,51 Z chamber wiremap : Cleared
09:32 Run summary sheet shows 0 records out - display shows 3730
System console shows 'Fortran run time error 000100 at address 127073
Error 29 in 35013 at 151063 ' File system error
File error no. 100
10:07 Jet chamber, Z chamber hard trip. Gas valve failure. Reset.
10:55 Rebuild YRUNSM due to recurring error in 35013 - reported on systems console
10:44 Run stopped as no tagging luminosity on colour TV
Fault traced to HV power supply on tagging system (MFR 61) - reset manually.
11:30 NORD crash while searching for old histograms
12:00 System Disc corrupt, copy BACKUP-C onto system All changes since 17/9-86 lost
12:40 NORD now up, new beams in PETRA start run 29284 writing to IBM AND tape JDAS16.
12.42 H.V. error Tagging MFR61 ch 0 was 0.036 should be 1.386 — reset to correct value by hand
15:45 Gas valve failure Reset OK

16:00 Kleinwort (replacing Ramcke being at the dentist)
Gas check done
17:02 Ramcke
17:38 Reset trips all chambers

RUN	DATE	START	STOP	RUN I	START I	DEAD TIME (%)	TIME SECS	RECORDS IN	RECORDS OUT	ALL *10⁶	TØ Req *10⁶	T1 ACC SUM	T2 ACC SUM	T1 Bit 2 Eig. Ø Req	T1 Last rec. ev. # 27.	PROCESSORS ON/OFF NSO	M.P.	TOF	STAR
29262	24/9/88	19·49	20·29	10·71	10·42	22·3	2336	8002	5366	608	135	5283	4819	1233	89	ON	ON	ON	OFF
29263	"	20·29	21·10	9·11	8·79	22	2410	8002	5103	626	137	5275	4876	1080	28	"	"	"	"
29264	"	21·10	21·53	7·81	7·49	20·3	2558	8002	5069	664	134	5369	4950	1103	26	"	"	"	"
29265	"	21·54	22·01	6·55	6·25	19·7	389	1267	762	101	19	819	738	152	6	"	"	"	"
29266	"	22·33	23·12	10·73	10·52	23·2	2308	8002	5307	599	138	5199	5027	1250	44	"	"	"	"
29267	"	23·13	23·54	9·08	8·79	22	2452	8002	5258	637	140	5313	5111	1345	41	"	"	"	"
29268	"	23·54	0·36	7·71	7·45	20·5	2580	8002	5016	649	135	5355	4989	1247	40	"	"	"	"
29269	25/9/88	0·37	0·44	6·58	6·33	19·4	408	1302	811	106	20	889	767	196	5	"	"	"	"
29270	"	1·11	1·50	10·98	10·46	25·0	2243	8002	5388	583	145	5197	4893	1325	27	"	"	"	"
29271	"	1·51	2·30	9·32	8·85	22·6	2338	8002	5306	608	137	5388	4772	1302	32	"	"	"	"
29272	"	2·31	3·13	7·93	7·49	20·6	2534	8002	5090	659	135	5310	4871	1279	32	"	"	"	"
29273	"	3·15	3·32	6·73	6·33	19·6	1030	3202	1912	268	52	2075	1873	505	16	"	"	"	"
29274	"	3·57	4·36	11·26	11·01	25·1	2281	8002	5374	586	150	5113	4985	1253	35	"	"	"	"
29275	"	4·40	5·20	9·42	9·06	22·9	2415	8002	5137	628	144	5222	4882	1313	40	"	"	"	"
29276	"	5·21	6·04	7·89	7·63	21·3	2536	8002	5039	660	141	5268	4947	1221	30	"	"	"	"
29277	"	6·08	6·48	6·75	6·43	20·2	580	1773	1081	151	31	1141	1131	65	8	"	"	"	"
29278	"	6·50	7·28	11·14	10·82	25·8	2230	8002	5539	580	150	5193	4937 5453	1298	38	"	"	"	"
29279	"	7·30	8·10	9·38	9·15	22·3	2404	8002	5268	625	140	5242	4873	1343	46	"	"	"	"
29280	"	8·11	8·53	7·99	7·78	21·0	2512	8002	5021	653	137	5343	4733	1293	34	"	"	"	"
29281	"	8·54	9·31	6·80	6·60	16·2	2203	6239	3730	573	93	4205	3676	951	24	"	"	"	"
29282	"	10·15	10·44	9·38	8·91	19·6	1712	5075	4909	445	87	3193	3359	909	35	"	"	"	"
29283	"	11·07	11·30	7·59	7·15	18·3		3799	2354			2571	2275			"	"	"	"
29284	"	12·40	13·18	10·76	10·51	21·7	2282	8002	5492	594	129	5411	4490	1402	29	"	"	"	"
29285	"	13·19	13·51	9·09	8·85	19·8	1873	6208	4055	487	97	4165	3546	1058	27	"	"	"	"
29286	"	13·51	14·10	7·93	7·71	18·9	1103	3559	2290	287	54	2377	2058	580	12	"	"	"	"
29287	"	14·13	14·59	7·29	7·06	17·1	2722	8002	4948	709	121	5413	4659	1319	31	"	"	"	"
29288	"	15·00	15·36	6·07	5·88	15·5	2151	6002	3460	560	86	4095	3534	911	19	"	"	"	"
29289	"	15·36	15·42	5·32	5·15	14·2	330	897	499	86	12	595	524	136	4	"	"	"	"
29290	"	16·12	16·51	10·59	10·60	20·9	2317	8002	5362	603	126	5440	4487	1334	35	"	"	"	"
29291	"	16·52	17·14	8·91	8,78	19,0	1936	6280	4155	503	96	4288	3534	1118	31	"	"	"	"
29292	"	17·29	18·16	7·61	7·48	17,9	2602	8002	4983	678	121	5477	4676	1348	43	"	"	"	"
29293	"	18·17	18·41	6,26	6,14	16,1	1420	4078	2444	370	59	2790	2469	633	14	"	"	"	"
29294	"	19·19	19·58	10·57	10,40	20,4	2420	8002	5316	628	128	5346	4662	1345	28	"	"	"	"
29295	"	19·59	20·41	8,74	8,67	18,8	2464	8002	5149	641	120	5439	4588	1293	33	"	"	"	"

LL7 10^{20} cm^{-2} s^{-1}	BEAM Stat Nb	Stat Sup. Energy	IBM TAPE OUTPUT	RUN START TOF CW	RUN START TO-CHAT	ONLINE Reject SEM HADRON T+R %	ONLINE Reject NSO T+R %	Σ BEAMS	MH.	Edean	MAG FIELD +1 -1 ANG	REMARKS.
9·54	20·66	6679810	IBM	1,5	0,25	49	34	363	4	17·500	4·844	
7·31	16·05	6681415	"	1·5	0·25	51	37	282	4	17·500	4·844	
5·62	14·80	6682895	"	1·4	0·4	52	38	260	3	17·500	4·844	
4·89	1·88	6683083	"	1·25	0·25	46	41	33	0	17·503	4·844	BEAMS DUMPED
9·29	21·12	6685195	"	2·1	0·2	49	35	371	4	17·500	4·844	
8·22	17·25	6686920	"	1·6	0·15	52	35	303	8	17·503	4·844	
6.26	14.97	6688417	"	1·4	0·1	51	38	263	2	17.500	"	
5.42	2.33	6688650	"	1.2	0.1	53	39	41	0	"	"	beams dumped
10.97	22.94	6690944	"	2.0	0.2	48	34	403	4	"	"	
8.98	20.72	6693016	"	1.5	0.2	49	35	364	5	"	"	
6.87	16.91	6694707	"	1.25	0.2	50	38	297	9	17503	"	
5.44	5.69	6695226	"	1.1	0.1	51	40	106	3	17.500	"	beams dumped
10.48	18.49	6697155	"	1.5	0.3	47	34	330	5	"	"	
8.09	18.36	6699091	"	1.5	0.3	48	37	340	4	17.503	"	
6.33	14.64	67005.55	"	1.3	0.2	48	38	257	5	"	"	
5.15	3.02	67008.57	"	1.2	0.2	50	40	53	0	"	"	beams dumped
11.03	23.52	67032.09	"	1.8	0.3	47	32	413	5	17.503	"	
8.89	20.27	67052.36	"	1.4.	0.2	49	35	356	7	17.503	"	
6.96	17.31	67069.67	"	1.2	0.2	49	38	304	7	"	"	
5.91	12.70	67082.37	"	1.0	0.2	49	41	223	7	"	"	beams dumped.
?	14.86	67097.23	"	1.4	0.2	49	40	261	2	17.500	"	stopped - no toggle luminosity shown on TV
8.04	9.28	67106.51	"	0.9	0.1							NORD crash / Beam dumped
12·53	27.79	67134·30	IBM + TAPE (JOAS 19)	1.3	0.2	48	32	488	8	17.503	"	
10.48	18.00	67152.30	IBM + TAPE (JOAS 19)	1.1	0.15	48	36	316	4	"	4845	
9.26	9.68	67161.98	IBM	0.9	0.1	48	37	170	3	"	"	
7·52	18.85	67180.83	TAPE JOAS 17	0.8	0.1	49	39	331	2	"	4846	
5·83	13.61	67194.44	TAPE JOAS 17	0.7	0.1	51	43	239	3	"	4847	
5.10	1.42	67195.86	TAPE JOAS 17	0.6	0.05	49	46	25	0	"	"	beams dumped
11.64	25.50	67221.36	TAPE JOAS 18	1.3	0.2	48	34	448	10	17.500	"	
10.58	19.53	67240.89	TAPE JOAS 18	1.0	0.15	49	35	343	11	"	"	
7.76	20.79	67261.68	TAPE JOAS 19	1.0	0.1	50	39	365	6	17.503	"	
6.31	8.25	67269.93	TAPE JOAS 19	0.7	<0.1	52	41	145	2	17.500	"	beams dumped
11.18	25.74	67295.67	IBM	1.2	0.2	48	35	452	10	17.503	4845	
9,60	20,84	67316,51	"	1.0	0.15	49	37	366	4	"	4844	

23/09/86 20⁰⁰ Ambrus on shift

21⁰⁴ JOAS READOUT ERROR 33 - MISSING LAM branch 4 crate 1 : JETC point 701

24/09/86 0:00 Matsumura on shift

0:00 Gas check done
0 49 Read Out Error 33 Missing LAM Branch 3 crate 2 Muon chambers
2 35 " 64 AC 2099 TOF 2 QX Missing N=3 A=8
3 58 MOP Exception $02 at user address $0002B916. Aborted.
06.00 F Foster here.
06 30 New fill established.
06 06 I/O VTX chamber soft trip followed by beam loss.
06.37 New fill established
06 45 VII Vertex chamber trip - reset.
06 54 Read out error 64 AC 2099 TOF-2 Q, X missing stn = 3 subdd. = 0
07 31 Again " " " " " " " "

8⁰⁰ Kleinat on shift

Gas check done
9²⁰ short break due to "Sendeausfall" , Magnet down to 1000A
10¹⁰ Magnet up again to 7500 A after request from PKR
10⁴⁵ new beams ready, but ID-current 0.8-0.9 μA/cell -> asked PKR for optimization -> ID-curr. down to 0.4
11 38 JOAS ERR 53: watchdog flag DARMS = 000002 177777
13 30 Warning late on shift, sorry I forgot about it
14²² Valve failure
Neutron flow readjusted 17.7 → 17.9
14³⁰ again valve failure
histograms checked. all OK except one very noisy channel in Z-chamber
no one in the RAL-office answers the phone - try later again

16⁰⁰ Hill on shift.
16⁰⁰ Gas check done OK.
17⁰⁰ beams lost at the start of the new fill.
17³² Eventually "Short break" appears. PKR say they are having problems with a vacuum pump but hope we will be running again in approx 30 mins. (I've heard that one before!)

18¹¹ Injection.
19⁰¹ luminosity.
20.00 Naroska
everything smooth and quiet 20.59 valve failure (coffee dump)
23.00 Petra lifetime is somewhat short.
Phone PKR about it, they will try to do something
No refill possible because of Linac problems (Modulators)
23.35 beams dumped → valve failure.
The faulty modulator has been taken out of linac I which runs without less now. The bad one is going to be repaired soon hopefully.

0.00 THURSDAY 25/9/86 Fred Loebinger

0.00 Gas check done.
1.55 Soft trip I.D & VTX.ch.
2.20 " " "
4⁰⁰ Ramcke
7⁰⁵ Magnet trip reason: "Vordruck Brunnenwasser <" reset
7¹⁵ Magnet up again
8⁰³ ID-current >2 μA/cell asked RKR for optimization
8⁰⁰ G. Kuies (Ambrus on call)
Gas check done
Bruch an einem ~~Hydr~~ Wasserversorgungsrohr auf DESY Gelände letzte Nacht war Ursache für Wasserdruckprobleme am Magneten. Reparatur kein Wasser auf den Klos bis heute mittag.
9⁰⁵ LG Test run, 15 evts (29336, Data not written)
10⁰⁴ Readout Error 64 - AC 2099 TOF-2 Q, x missing stn 14, subadder = 3 . PAUSE/CONTINE → o.k.
10⁰⁰ Gas Alarm, Valve failure
10¹⁵ Run stopped, Rimbach a. Matsumura are tampering with some thresholds
10³⁰ Petra cannot fill, since the Synchrotron is down; we continue to run with low currents
12⁰⁰ K. Ambrus on shift
13⁰⁰ beams dumped → new fill
14⁵⁰ JOAS READOUT ERROR 64 - AC 2099 TOF-2 Q, X missing stn = 15 subadders = 3
15⁵⁷ " " " " " 16 " 3
16.00 F. Spitzer
Gas OK.

Run	Date	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME %	TIME (sec)	RECORDS IN	RECORDS OUT	ALC $\times 10^6$	TB REJ. $\times 10^6$	T1 ACC SUM	T2 ACC SUM	T1 BIT 2 $E_{16}>6$GeV	T2 BIT 17 2T·E4 ≥2TR	PROCESSORS ON/OFF NSU	MIP	TOF	FAN
29296	23/9/86	20:41	21:27	7,37	7,30	16,3	2759	8002	4931	717	117	5449	4692	1219	38	ON	ON	ON	OFF
29297	"	21:28	21:55	6,18	6,11	16,2	1589	4626	2760	413	67	3195	2669	683	15	"	"	"	"
29298	"	22:40	23:17	10,54	10,58	23,3	2224	8002	5477	578	135	5322	4436	1295	38	"	"	"	"
29299	"	23:17	23:57	8.89	8.96	20.5	2393	8002	5234	622	128	5330	4542	1284	38	"	"	"	"
29300	23/9/86	23:58	0:42	7.49	7.54	19.4	2611	8002	4984	680	132	5300	4685	1285	37	"	"	"	"
29301	24/9/86	0:44	1:00	6.26	6.30	29.7	736	1906	1137	191	57	1268	1104	264	10	"	"	"	"
29302	"	1:41	2:18	11.21	10.95	23.6	2226	8002	5604	579	136	5342	4516	1347	37	"	"	"	"
29303	"	2:19	3:00	9.31	8.73	19.2	2471	8002	5108	643	123	5416	4611	1315	31	"	"	"	"
29304	"	3:01	3:46	7.86	7.25	17.8	2677	8002	5040	697	125	5400	4811	1238	52	"	"	"	"
29305	"	3:47	4:00	6.60	6.04	16.9	~~8765~~	~~2713~~ 3137	1280	194	33	1442	1258	315	8	"	"	"	"
29306	"	04:32	05:09	11.31	10.83	26	2160	8002	5473	562	144	5289	4434	1323	38	"	"	"	"
29307	"	05:10	05:48	9.52	9.11	23	2282	8002	5421	594	134	5373	4360	1262	32	"	"	"	"
29308	"	05:49	05:59	7.88	7.15	22	545	1884	1256	142	31	1248	1019	305	8	"	"	"	"
29309	"	06:38	07:19	10.91	10.71	26	2188	8002	5554	569	149	5261	4408	1252	28	"	"	"	"
29310	"	07:19	07:58	9.16	8.54	23	2310	8002	5286	601	139	5339	4536	1244	37	"	"	"	"
29311	"	07:59	8:41	7.79	7.22	20.1	2526	8002	5124	658	132	5285	4610	1179	29	"	"	"	"
29312	"	10:50	11:30	10.64	9.06	22.8	2374	8002	5327	618	141	5092	4701	1219	31	"	"	"	"
29313	"	11:30	12:14	8.91	7.42	19.3	2611	8002	5051	679	131	5320	4749	1240	37	"	"	"	"
29314	"	12:14	13:01	7.48	6.11	17.4	2766	8002	4728	719	125	5233	4853	1114	41	"	"	"	"
29315	"	13:01	13:15	6.39	5.13	15.6	838	2372	1354	218	34	1563	1421	341	7	"	"	"	"
29316	"	14:05	14:45	10.26	10.03	22.7	2338	8002	5437	608	138	5297	4696	1304	34	"	"	"	"
29317	"	14:45	15:27	8.54	8.31	19.8	2481	8002	5242	646	128	5345	4649	1283	44	"	"	"	"
29318	"	15:28	16:14	7.06	6.84	17.8	2738	8002	4943	712	126	5271	4976	1210	42	"	"	"	"
29319	"	16:15	16:21	5.81	5.61	16.0	359	1040	629	93	16	679	632	155	5	"	"	"	"
29320	"	19:08	19:43	9.58	9.58	28.3	2282	8002	5525	593	168	5058	4609	1210	54	"	"	"	"
29321	"	19:44	20:25	8.03	8.02	22.3	2446	8002	5243	636	141	5235	4694	1268	41	"	"	"	"
29322	"	20:25	20:59	6.70	6.68	19.2	2020	7755	3837	525	101	3971	3745	916	21	"	"	"	"
29323	"	21:30	22:08	10.83	10.22	25.6	2222	8002	5590	577	147	5709	4480	1387	43	"	"	"	"
29324	"	22:08	22:48	9.08	8.51	23.8	2367	8002	5458	615	146	5269	4568	1297	42	"	"	"	"
29325	"	22:48	23:30	7.57	7.05	23.0	2494	8002	5235	648	149	5244	4814	1307	48	"	"	"	"
29326	"	23:31	23:37	6.30	5.87	20.6	318	1016	635	82	17	654	604	164	4	"	"	"	"
29327	25/9/86	0:12	0:50	10.35	10.30	26.7	2283	8002	5424	594	159	5141	4642	1241	34	"	"	"	"
29328	"	0:51	1:30	8.67	8.62	23.5	2360	8002	5237	614	144	5174	4666	1151	52	"	"	"	"
29329	"	1:30	2:14	7.28	7.23	24.8	2434	8002	5220	633	157	5008	4936	1144	40	"	"	"	"

$\mathcal{L}$ > 10^{30} cm^{-2}s^{-1}	BHABHA $\int \mathcal{L}dt$ nb^{-1}	$\int \mathcal{L}dt$ EXP. ENERGY	IBM/TAPE OUTPUT	AT RUN START TOF [V]	AT RUN START ID [mA]	OVLIVE RESET SUM MUBBC T2 %	OVLIVE RESET NORDSTR T1+T2 %	Σ BHABHA	MH	E_{BEAM}	MAG FIELD −VG	REMARKS
7,38	17,88	67334,39	IBM	0,9	0,1	50	39	314	6	17503	4,844	
5,94	9,62	67344,01	"	0,7	0,05	51	41	169	2	"	"	beams dumped
11,66	26,58	67370,59	"	1,4	0,2	45	33	467	7	17500	"	
9,83	22,49	67393,08	"	1,2	0,3	47	36	395	4	17503	"	
7,66	20,56	67413,64	"	0,9	0,2	48	39	361	4	"	"	
5,37	3,93	67417,57	"	0,8	0,2	48	42	69	2	17500	"	beams dumped
12,14	26,99	67444,56	"	1,5	0,3	47	31	474	8	17503	"	
9,01	21,30	67465,86	"	1,2	0,2	49	37	374	6	"	"	
7,36	20,72	67486,58	"	0,9	0,1	50	38	369	6	17500	"	
6,71	4,33	67490,91	"	0,9	0,1	50	41	76	1	17500	4846	beams dumped
11,90	25,17	67516,08	"	1,6	0,2	45	33	442	8	17503	4846	
9,83	20,21	67536,29	"	1,2	0,4	45	33	355	10	17500	4844	
7,94	4,21	67540,50	"	1,1	0,3	45	35	74	0	17503	4846	beams lost.
10,01	23,46	67563,96	"	1,5	0,2	46	32	412	11	17503	4843	
8,83	18,90	67582,86	"	1,3	0,3	47	35	3437	6	17500	4843	
7,32	16,34	67599,20	"	1,5	0,2	47	37	287	1	"	"	beams dumped
10,13	23,58	67622,78	"	1,4	0,8	44	35	414	10	17503	4847	
8,26	20,84	67643,62	"	1,0	0,25	49	38	366	4	"	"	
6,20	15,31	67658,93	"	0,8	0,2	48	42	269	7	17500	"	
5,01	4,50	67663,43	"	0,7	0,2	48	44	75	3	"	"	beams dumped
11,30	24,77	67688,20	"	1,5	0,22	48	33	435	10	17503	4838	
9,03	22,27	67710,47	"	1,2	0,2	47	35	391	1	"	4840	
6,73	17,76	67728,23	"	1,0	0,17	50	39	312	9	17500	4839	
5,28	1,88	67730,11	"	0,75	0,1	49	41	33	0	17503	4839	beams ~~dumped~~ dumped,
9,58	21,63	67751,74	"	1,8	0,5	43	32	380	6	17500	4838	
8,62	21,87	7733,61	"	1,2	0,3	46	34	384	5	"	"	
6,98	12,76	786,37	"	1,0	0,2	47	39	224	3	"	"	dump
11,55	26,25	812,62	"	1,6	0,3	44	31	461	6	"	"	
9,26	21,98	834,60	"	1,3	0,25	46	33	386	6	"	"	
6,93	18,16	852,76	"	1,1	0,21	49	36	319	7	"	"	
6,29	2,45	6785,21	"	—	—	46	39	43	0	"	"	dump
10,30	22,89	67878,10	"	1,7	0,8	45	33	402	7	17503	4837	
8,54	18,96	67897,06	"	1,3	0,4	45	36	333	6	17500	"	
6,48	14,91	67911,97	"	1,2	0,4	46	36	262	5	"	4838	

Run	DATE	START	STOP	Run Start I+	Run Start I−	Dead time (%)	TIME (SECS)	RECORDS IN	RECORDS OUT	All ·10⁶	Tφ REF	T1 ACC SUM	T2 ACC SUM	T1 Bit2	T2 Bit 17	N 50	MUP	TOF	HMS
29330	25/9/84	2.15	2.48	6.04	6.00	23.7	1584	5137	3232	412	98	3200	3057	661	23	ON	ON	ON	OFF
29331	"	4:03	4:43	9.87	9.60	23.3	2357	8002	5425	614	143	5261	4745	1132	46	"	"	"	"
29332	"	4:44	5:25	8.29	8.05	21.1	2498	8002	5236	650	137	5129	4919	1039	978	"	"	"	"
29333	"	5:26	6:10	6.95	6.74	20.0	2611	8002	5074	680	136	5278	4835	1069	30	"	"	"	"
29334	"	6:11	6:22	5.83	5.64	19.5	598	1829	1135	156	30	1215	1068	238	11	"	"	"	"
29335	"	8:19	9:02	8.66	8.10	21.7	2524	8002	5229	657	142	5174	4900	1137	30	"	"	"	"
29336	"	9:06	9:48	7,10	6,58	25.6	2477	8002	5240	645	165	5143	4940	1091	42	"	"	"	"
29337	"	9:49	10:17	6.05	5.57	22.3	1571	4875	3019	409	91	3112	3055	661	23	"	"	"	"
29338	"	10:35	11:26	5.20	4.78	16.5	3017	8002	4650	785	129	5345	5095	1025	46	"	"	"	"
29339	"	11:44	12:41	4,14	3,77	13,2	3390	8002	4144	881	117	5389	5144	913	43	"	"	"	"
29340	"	12:41	13:01	3,44	3,13	12,3	1145	2644	1316	298	37	1768	1742	288	13	"	"	"	"
29341	"	13:43	14:22	10.19	10,20	20,8	2367	8002	5373	616	128	5390	4584	1262	30	"	"	"	"
29342	"	14:23	15:05	8.47	8,48	19,3	2514	8002	5056	654	126	5404	4637	1213	36	"	"	"	"
29343	"	15:06	15:51	6,98	6.99	17,8	2696	8002	4947	701	249	5402	4869	1153	46	"	"	"	"
29344	"	15:51	16:22	5.74	5.75	16.8	1858	5209	3063	483	81	3465	3158	687	23	"	"	"	"
29345	"	17:17	17:55	10.73	10.54	22.6	2294	8002	5504	596	134	5226	4719	1317	47	"	"	"	"
29346	"	17:56	18:37	8.78	8.76	19.7	2460	8002	5256	639	116	5375	4725	1226	37	"	"	"	"
29347	"	18.37	19:21	7.24	7.22	19	2603	8002	5010	677	127	5400	4845	1212	46	"	"	"	"
29348	"	19:22	20:08	5.96	5.94	17	2781	87897	4738	724	121	5299	4869	1131	40	"	"	"	"
29349	"	21:11	21:52	9.78	9.56	21	2478	8002	5445	644	133	5295	4797	1229	38	"	"	"	"
29350	"	21:53	22:36	8.12	7.93	20	2538	8002	5167	660	130	5340	4752	1201	43	"	"	"	"
29351	"	22:37	22:55	6.77	6.59	19	1090	3262	2129	284	55	2131	2033	457	19	"	"	"	"
29352	"	22:59	23:27	6.18	6.02	18	1623	4729	2870	422	77	3157	2938	642	24	"	"	"	"
29353	26/9	0:47	1:31	8.63	8.52	19.4	2562	8002	5186	666	129	5325	4808	1727	40	"	"	"	"
29354	"	1:32	2:18	7.19	7.09	17.8	2765	8002	5032	719	128	5320	4941	1773	49	"	"	"	"
29355	"	2:18	2:50	5.97	5.88	16.5	1814	4975	2940	471	78	3377	3061	702	26	"	"	"	"
29356	"	3:49	4:32	9.37	9.29	19.8	2522	8002	5273	656	130	5391	4772	1274	38	"	"	"	"
29357	"	4:32	5:16	7.80	7.74	19.3	2634	8002	5153	685	132	5378	4820	1237	45	"	"	"	"
29358	"	5:16	6:03	6.51	6.45	17.3	2747	7776	4535	715	124	5234	4834	1108	46	"	"	"	"
29359	"	6:33	7:15	9.91	9.71	21.1	2489	8002	5334	647	137	5290	4801	1181	51	"	"	"	"
29360	"	7:15	7:58	8.32	8.15	21.7	2531	8002	5224	659	143	5232	4947	1219	43	"	"	"	"
29361	"	7:58	8:39	6.86	6.71	23.0	2451	8002	5197	637	146	5194	5018	1161	59	"	"	"	"
29362	"	8:40	8:52	5.52	5.39	20.7	669	2061	1306	173	36	1363	1265	290	19	"	"	"	"
29363	"	11.58	12.35	10.96	9.62	19.3	2215	6991	4479	576	111	4562	4340	998	32	"	"	"	"

<L>	Bha SLdt	SL dt Exp	IBM TAPE	TOF	ID	SUM Mipr. T2 %	N50 T1+T2 %	Σ Bhabha	MH	E beam	Mag Field x −1	REMARKS
4.82	6.60	67918,57	IBM	1.2	0.5	44	39	116	3	17.500	4.836	Beam dumped
9.30	19.87	67938.44	"	1,7	0,4	48	37	349	3	17.505	4837	
7.64	17.25	67955.69	"	1.3	0.2	46	36	303	6	17.500	"	
5.71	13.72	67968.41	"	1.2	0.2	49	38	241	5	17.503	"	
4.73	2.62	67971.03	"	1.0	0.2	49	39	46	0	12.000	"	Beams dumped
7.30	17.42	67988.45	"	1.2	0.4	47	36	306	1	"	4846	
4.93	10.70	67999.10	"	1.1	0.3	48	36	188	1	"	4847	
3.31	4.67	68003.77	"	1.5	0.3	48	40	82	2	"	"	
3.25	9.74	68013.51	"	1.2	<.1	52	43	171	2	17.503	"	
2,41	6,15	68019,66	"	0,8	<.1	53	50	108	3	"	"	
1,98	2,45	68022.11	"	0,5	<.1	54	52	43	1	"	"	beams dumped
10,45	21,97	68044.08	"	1,4	0,1	48	34	386	7	17.500	4844	
8.61	20,44	68064.52	"	1,7	<.1	49	38	359	8	"	4848	
6,57	14,98	68079.50	"	1,0	<.1	51	39	263	4	17.503	4847	
5.14	9.23	68088.73	"	0	"	50	42	162	4	"	"	beams dumped
10.92	23.40	68112.13	"	1.6	0.2	49	32	411	11	17.500	"	
9.10	20.72	68132.85	"	1.4	0.1	47	35	364	5	"	"	
7.00	17.37	68150.22	"	1.4	0.1	51	38	305	3	17503	4847	
5.06	12.58	68162.80	"	1.3	0.1	51	41	221	3	17.500	4847	beams dumped.
9.29	21.30	68184.10	"	1,6	0.1	48	33	374	5	17503	4847	
7.40	16.00	68200.10	"	1.3	<0.1	49	37	281	3	17.500	4847.	
5.91	5.87	68205.97	"	1.1	<0.1	50	36	103	0	17503	4847.	
5.50	7.29	68213.26	"	1.0	<0.1	51	41	128	4	17.500	4847	beams dumped.
8.55	18.34	68231.60	"	1.45	0.1	49	36	322	6	17503	4846	Filling begins with low currents
6.80	17.02	68248.62	"	1.00	0.05	50	38	299	2	17.500	"	
5.16	8.25	68256.87	"	0.85	0.02	53	42	145	2	"	"	beams dumped
9.96	23.17	68280.04	"	1.4	0.07	50	35	407	7	"	"	
7.84	18.39	68298.43	"	1,2	<0.1	50	37	323	6	17.503	4847	
5.72	14.86	68313.29	"	1.0	"	52	42	261	3	17.500	"	beams dumped
8.84	20.32	68333.61	"	1.55	0,1	49	34	357	11	"	4838	
6.81	14.18	68347.79	"	1.2	0.08	49	36	245	2	17503	"	
5.52	13.55	68361.34	"	1.4	0.1	49	36	238	1	17.500	4839	
4.57	2.68	68364.02	"	1.25	0.05	50	38	47	0	17.500	4840	BEAMS DUMPED
8.75	19.08	68384.10	"	1.5	0.1	49	37	335	4	17503	4.840	

25/09/86

17.25 JDAS R. ERROR 64 - AC2099 TOF-2 Q,X missing stn=3 subaddr=4

20.00 FOSTER here - ask for new fill.

20.08 Run down high voltage - get simultaneous Vertex chamber trip (valve failure). Reset O.K.

20.40 Seem to be having problems with beams ---

21.10 New fill established.

21.52 Muon rate missing - faulty part 2 permit - reset OK.

22.55 I/O + VTX chamber soft trips / reset.

23.26 another VTX chamber trip as I ramp down H.T. - Valve failure - reset O.K.

22.36 Beam dump
New fill 23.26 ?

26.9.86 0.00 Kuhlich on shift. Gas check done

2.30 PKR says: "Filling conditions bad. Filling takes long and reaches no more than 9 mA / beam for reason(s) unknown."

4.00 Warning on shift

5.35 JDAS readout error 33 - misc; LAM bit 3 or 4 (Z-ch?)

6.44 JDAS readout error 64 - AC2099 TOF-2 Q,X missing stn=16 subaddr=1
histograms checked - all OK except the one known noisy channel in the Z-chamber
everything was running smoothly tonight
this was my very last shift for JADE ! (and hopefully the last nightshift of my life as well).
good bye good old grave yard !!

8.00 O DAVIES ON SHIFT
GAS CHECK OK.

11.00 NO BEAM FOR 2 HOURS - PKR HAVE INJECTION PROBLEMS.

12.00 Fred Huebinger on shift.

12.00. No tagging with an MFR 61. Reset OK by hand.

13.22 JDAS READOUT ERROR 32 - MISSING LAM AT FEP. (RUN 29364 written to tape JDAS 05 on IBM down for ½ hour)
JETC processors reloaded

14.15 Tried to start new run, got: JDAS error 53 . System crate watchdog flag PARMS = 000050 177777
Restart new run O.K.

14.55 VTX ch valve failure on run down of H.V.

16.00 Kuhlen on shift, gas check okay

16.23 J68K error after starting run 29368. Run stopped after pedestal events, processors reloaded, again I got "missing LAM at FEP ready (FETCH)" for a test run. Tried ~~to~~ to reload from MOP terminal, which said "failing DC300 crate, crate #28". Heidelberg expert will come.
Run 29368 without events.

16:30 Herr Rieberg exchanged FAK, we are running

19:35 Key "L" of IB11 - terminal defect. IB11 operator informed.

19:58 IBMPC complains about deviation >50% in wiremap. There is a spike visible

20.00 Atkinson on shift

20.45 IBMPC complains (again) wiremap deviation in vertex chamber - histogram looks OK

21.20 Energy jumps - up to 17.532 from 17.500!
Back down to 17.519 - luminosity run again. - back down to 17.500

22.02 Beam dumped - gas valve failure

22.50 YSPY error: TOF TDC no hits 15
Histograms show low counts in bin 15 (TOF mean TDC II) - disappears with greater stats

23.19 Barn goes Gould printer whilst printing run summary. INTLK displayed. Opening shutter ~10 times cures the problem.

0.00 Hill on shift

Gas check done - OK

0.24 Beam pipe chamber trip Reset OK

0.48 Beam pipe ch + ID soft trip.

0.59 Ask PKR for a new fill. They say they have problems with the „Synchrotron ad ac magnet not sure when they will be able to fill PETRA.

1.07 Beam pipe ch + ID soft trip.

2.30 New fill ready - luminosity

4.00 Feet on shift

5.30 Wire failure VTX chamber

7.00 Beams dumped to clean the PETRA ring for wishes
switched magnet off and go home

8:00 Kado on shift — Today is TAG DER OFFENEN TÜR

8:10 gas check done

8:40 playing around with "PLAY-BACK" and "RESTORE-EVENT" → sometimes the play-back hung with YPLAY error 117 ?! → not always on same event, so tape seems to be OK.

9.22 Haidt

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 Res $*10^6$	T_1 Acc Sum	T_2 Acc Sum	T_1 Bit2 E_{16}>66eV	T_2 Bit2 2T. E4 2TR	Processors On/Off NSO	MIP	TOF	Fast
29364	26/9/86	12.37	13.22	9.56	8.33	17.0	2715	7971	5011	706	120	5302	4885	1117	25	ON	ON	ON	OFF
29365	"	13.26	14.14	8.00	6.89	17.1	2844	8002	4899	740	126	5113	4833	1008	42	"	"	"	"
29366	——	ABORT	——																
29367	"	14.16	14.53	6.76	5.76	17.0	2199	6147	3671	572	97	3890	3670	767	23	"	"	"	"
29369	"	16:31	~~17:57~~ 17:43	9.55	9.17	19.4	2460	8002	5238	639	123	5199	4462	1191	21	"	"	"	"
29370	"	17:13	17:57	8.07	7.73	17.9	2591	8002	5021	673	120	5241	4342	1170	39	"	"	"	"
29371	"	17:57	18:44	6.83	6.57	16.9	2777	8002	4863	722	121	5132	4692	1024	29	"	"	"	"
29372	"	18:45	18:57	5.76	5.47	15.8	698	1936	1184	181	28	1233	1170	244	10	"	"	"	"
29373	"	19:41	20:21	10.63	10.36	22.2	2318	8002	5556	603	134	5030	4426	1177	26	"	"	"	"
29374	"	20 21	21:03	9.03	8.79	19.6	2513	8002	5300	653	128	5164	4498	1216	43	"	"	"	"
29375	"	21:04	21:49	7.63	7.40	18.7	2635	8002	5093	685	128	5049	4587	1151	45	"	"	"	"
29376	"	21 49	22:02	6.37	6.17	16.4	746	2114	1309	194	32	1310	1290	266	9	"	"	"	"
29377	"	22.40	23.19	10.28	10.66	21.5	2344	8002	5513	610	131	5206	4406	1189	32	"	"	"	"
29378	"	23.20	0.01	8.68	9.04	19.7	2450	8002	5256	637	125	5229	4363	1191	19	"	"	"	"
29379	27/9/86	0,01	0,45	7,35	7,68	19,1	2581	8002	5007	671	128	5103	4601	1077	33	"	"	"	"
29380	"	0,45	1,37	6,22	6,52	18,2	2703	8002	5048	703	128	5045	4571	1071	39	"	"	"	"
29381	"	1,38	1,56	5,10	5,38	16,5	1076	3086	1846	280	46	1925	1778	382	9	"	"	"	"
29382	"	2,38	3,20	8,88	8,77	20,2	2474	8002	5312	643	129	5155	4483	1098	47	"	"	"	"
29383	"	3^{20}	4^{03}	7.54	7.45	18.8	2580	8002	5117	671	126	5161	4564	1121	36	"	"	"	"
29384	"	4^{04}	4^{32}	6.40	6.22	18.5	1639	4954	3152	426	78	3176	2797	574	19	"	"	"	"
29385	"	5^{33}	6^{22}	9.11	9.13	19.0	2570	8002	5255	668	126	5146	4595	1093	35	"	"	"	
29386	"	6^{23}	6^{57}	7.64	7.66	17.8	1964	5940	3775	511	91	3522	3185	828	30	"	"	"	"
29387	28/9/86	1:54	2:35	9.78	9.74	20.7	2427	8002	5392	630	130	5060	4628	1125	29	"	"	"	"
29388	"	2:36 GMT SUMMER TIME	3:19	8.32	8.35	18.4	2580	8002	5419	670	123	5102	4609	1127	30	"	"	"	"
29389	"	3:20	4:06	7.03	7.08	16.2	2773	8002	4993	721	117	5178	4590	1032	35	"	"	"	"
29390	"	4:07	4:57	5.88	5.94	14.9	3011	8002	4660	783	116	5076	4826	1000	41	"	"	"	"
29391	"	4:57	5:12	4.93	4.99	13.3	895	2148	1209	219	29	1401	1195	257	12	"	"	"	"
29392	"	7:26	8:22	6.53	6.98	16.8	2741	8002	4750	713	119	5145	4591	1145	44	"	"	"	"
29393	"	8:23	9:12	6.57	6.96	15.6	2938	8002	4877	765	119	5116	4680	1068	35	"	"	"	"
29394	"	9:13	10:05	5.45	5.86	14.1	3105	8002	4547	808	114	5141	4773	972	29	"	"	"	"
29395	"	12.49	13.31	~~10.22~~ 10.22	~~11.46~~ 11.46	20.4	2479	8002	5281	642	131	5056	4592	1119	37	"	"	"	"
29396	"	13.31	14.16	6.13	6.54	19.3	2689	8002	5104	699	135	4895	4719	1039	40	"	"	"	OFF
29397	"	14.17	14.42	5.18	5.55	19.9	1520	4490	2805	345	79	2743	2702	579	34	"	"	"	"
29398	"	0.25	16.12	6.90	8.36	17.2	2775	~~8002~~ 8003	5031	722	124	5028	4780	1022	23	"	"	"	"
29399	"	16.12	16.32	5.53	6.93	17.2	1195	~~3483~~ 3483	2162	311	54	2173	2001	413	16	"	"	"	"

$\langle L \rangle$ $10^{30}\,cm^{-2}s^{-1}$	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 Reject Sum Mipacc T_2 %	Online Reject Nord 50 T_1+T_2 %	Σ Bhabha	M/H	E_{Beam}	Mag Field −1 G	Remarks
8.06	19.07	68403.17	TAPE JDAS #5	1.1	0.05	50	38	335	3	17500	4840	
6.23	15.20	68418.37	IBM	0.9	0.05	51	41	267	9	"	"	
5.82	12.07	68430.44	"	0.8	~0	49	43	212	2	17505	4841	Beam dumped
9.94	23.01	68453.45	"	1.0	0.05	47	36	404	3	"	4840	run 29368 stopped after pedvals (7684 error)
8.23	20.55	68474.00	"	0.8	0.05	48	40	361	6	17.500	4841	
6.29	17.02	68491.02	"	0.25	<0.05	49	41	299	6	"	4840	
5.15	3.25	68434.27	"	0.7	"	50	41	57	1	17.503	"	beams dumped
10.75	23.46	68517.73	"	1.5	0.1	45	33	412	4	17.503	4840	
8.79	20.21	68537.94	"	1.15	0.1	48	36	355	2	17.500	"	
6.99	18 16	68556.10	"	0.95	0.05	47	39	319	5	"	4839	energy varies
5.80	4.27	68560.37	"	0.85	<.05	48	41	75	1	17.503	4838	beams dumped
10.65	21.30	68581.67	"	1.45	0.1	48	33	374	9	17.503	4839	
8.68	23.23	6860490	"	1.1	0.1	47	36	408	9	17.500	4838	
6.77	16,12	686 21,02	"	0.9	<.05	48	40	283	5	17503	4840	
5,24	13,21	686 34,23	"	0,85	<0,05	48	40	232	6	17505	4838	
4,50	4,33	68638,56	"	0,75	<0,05	47	43	76	2	17506	4838	beams dumped.
8.36	17.70	68656.26	"	1.5	0.05	48	36	311	7	17500	4839	
6.73	16,24	672.54	"	1.0	0.05	49	38	286	2	"	"	
5.71	9.36	681.90	"	0,8	0,05	49	39	132	1	17503	"	beams dumped
8.53	21.18	703.08	"	1.5	0.05	49	36	372	3	17500	4838	
7.01	13.38	68716.46	"	0.9	0.05	49	40	235	4	"	"	beams dumped
10.46	23.91	68740.37	"	1.5	0.2	47	35	420	7	"	4835	
9.01	22.72	68763.09	"	1.0	0.2	47	38	339	4	17503	"	
7.56	19.70	68782.79	"	0.8	0.1	49	41	346	2	"	"	
5.75	15.88	68798.67	"	0.6	0.05	49	44	279	5	17500	"	
4.55	3.42	68802.09	"	0.5	~0	49	46	60	0	17505	"	beam dumped
8.41	21.13	68823.22	"	1.0	0.2	48	38	371	5	"	"	
6.88	19.82	68843.10	"	0.7	0.05	49	41	348	5	"	"	
4.87	15.83	68858.93	"	0.5	<0.05	50	46	288	2	17500	"	beams dumped for refill
9.55	23.06	68881.99	"	1.3	0.2	47	36	405	4	"	"	
5.50	14.52	68896.51	"	0.87	0.1	47	39	255	5	17.503	4845	
4.41	6.72	68903.23	"	0.8	0.1	49	41	118	6	17.500	4846	beams dumped
6.83	16.28	68919.51	"	0.95	0.15	49	40	285	8	17.532	4845	Beam energy!
5.66	7.06	68926.57	"			47	41	124	3	17.500	4846	

9:30 in order to get people into the JADE hall we opened the big door. Therefor:
* all windows closed
* all 4 "Dachlüfter" switched off* (44)

*remember to switch them ON again, when data taking starts in the evening / DONE

16.00 Bartel & Laebinger (and many others) on shift
17.00 Gas check done — O.K.
20:00 Smolik is here, he informs us that a decision has been taken by the Heidelberg groups on Friday to postpone the cosmic run to a later date.
21:00 Injection starts
NORD hang up nothing works when hitting the keys
restart Nord
run up magnet
23.00 e^+ are stored problems with e^- PKR says may take longer
run down magnet to 1000 A

28/9/86 0:00 F. Gribar
Gas ok
3:30 Run magnet up, for request of PKR.
3:40 MOP: Exception 6#3 at user address 1100 Aborted; run zimmon helped
8:22 Gould refuses to work, looks like an ilk.

8.00 (winter time = Central European Time) G Ulbert
8.30 gas o.k.
8.45 Gould plotter works again (Bartel fixed it!)

9.20 Please note, that Nord Compiler is still on Summer Time; either Jan or Howard ought to reset it!
10.50 Call PKR: What is the matter? Answer: Difficulty with e^- injection, but experts are here!

1200 P. Murphy.
1330 Gould printer jammed. On instruction from W. Bartel, this was fixed by opening Gould from front and unfolding the paper.
1450 Vertex gas refill fourth.
1530 Same again.

Run 29398 gives beam energy = 17.532 GeV, but the other run in this fill is 17.500.

16^{00} Atkinson on shift. Gas check OK
Gould printer rethreaded - seems to be better
17^{05} Test run produced known YPARA 24 error
17^{16} Beams again. – YRARA error again at run start
17^{22} Run stopped due to logging luminosity zero - system console shows MFR=61 errors
Reset - test run seems OK
Soft trip, vertex chamber and beampipe chamber.
Reset channels 0 → 10 manually! Try run again
System console only prints out channels in batches on 10! Isn't there a list somewhere?
Paul Murphy in to help. Change Le Croy power supply
Reset all 24 channels by hand after advice from expert Paul Will ← Advice was to use TOPAV to reset voltages i.e. not a Spaist! PW
Colour TV no response – reload NORD – runs 29403 → 29405 leak.
Run 29406 stopped after pedestal events due to watch dog error. – can't obtain any run summary
19^{24} Seems to be OK again. 20^{00} Feet
20^{00} Checked HV settings with program, seem O.K. But the run of the new LeCroy monitor makes some noise. Please inform P. Will tomorrow morning about it
← Nicely soon metal spills hitting gas - easily stopped + made noiseless i.w.
21^{45} Read plan problem >20 in the last 1000 events, started new run
22^{30} e^+ timing test. Histograms of Run 29409 show structure see histograms, inform H. Kreßel on monday morning. Look O.K. Run 29410

29/9/86 000 Walther on shift
1^{10} PKR have problems keeping beams (again)
1^{45} Luminosity at last!
3^{00} Gould plotter changing up again

4^{00} Schmitt on shift.
Gould Plotter is not working (INTLK). The specific run numbers are taken from the screen CMN 34

8:00 Bartel & Davis on shift
gas check ok
8 35 Gould Plotter working, runs 29415 - 29419 printed, however YRUNSM: CANNOT FIND SUMMARY FOR 29419
Histograms for 29419 available. Run summary from the screen

RUN	DATE	START	STOP	AT RUN START I+	AT RUN START I−	DEAD TIME %	TIME (SECS)	RECORDS IN	RECORDS OUT	ALL x10⁶	ToREJ x10⁶	TIACC SUM	T2ACC SUM	TIBIT2 E_LAB>6GEV	T2BIT17 2 CLU 2 2TR	PROCESSORS ON/OFF NSO	MIP	TOF	FAMP	REMARKS
29400	28/9/86	18·19	18·22	10·01	10·35	19·2	126	405	287	33	6	230	334	65	0	ON	ON	ON	OFF	stopped - no trigger luminosity
29401	" - WTIME	18·31	18·33	9·55	9·88	16·1	142	419	258	37	6	241	255	67	2	"	"	"	"	stopped - no trigger luminosity
29402	"	19·40	19·43	7·12	7·42	17·8	149	489	313	39	7	295	268	63	1	"	"	"	"	stopped after further trigger errors
29403→29406																				lost due to NORD crash
29407	28/9/86	20·24	20·42	5·94	6·22	18·3	1072	3022	1859	279	51	1914	1783	416	9	"	"	"	"	beams dumped.
29408	"	22^15	22^47	10·51	10·44	21·0	1645	5619	3812	427	89	4509	4154	848	23	"	"	"	"	run stopped because >20 Bad plan bits/evt
29409	"	22^48	23^31	9·11	9·06	18·7	2620	8002	5748	681	127	5745	4601	1150	35	"	"	"	"	
29410	"	23^23	0^20	7·55	7·52	16·6	2783	8002	4928	723	119	5227	4550	1114	33	"	"	"	"	
29411	"	0^21	1^01	6·28	6·26	16·4	2358	6593	4007	613	100	4227	3805	870	25	"	"	"	"	Beams dumped
29412	29/9/86	2.50	3.29	11·23	11·23	22·7	2262	8002	5612	588	133	5153	4346	1297	48	"	"	"	"	
29413	"	3.29	4.10	9·35	9·43	19·9	2420	8002	5305	629	125	5285	4039	1340	37	"	"	"	"	
29414	"	4.12	4.56	7·74	7·81	18·3	2625	8002	5164	683	125	5204	4450	1332	22	"	"	"	"	
29415	"	4.59	5.46	6·37	6·45	17·0	2789	8002	4839	726	124	5052	4664	1080	33	"	"	"	"	Beams dumped.
29416	"	6·42	7·21	10·78	10·84	21·5	2313	8002	5553	602	129	5143	4385	1281	43	"	"	"	"	
29417	"	7·22	8·05	8·94	9·10	18·7	2518	8002	5268	654	122	5182	4387	1257	33	"	"	"	"	
29418	"	8·05	8·43	7·44	7·60	17·7	2631	8002	5059	685	121	5118	4417	1193	30	"	"	"	"	
29419	"	8·50	9·20	6·19	6·33	15·8		6037	2911											
29420	"	9·57	9·58	10·48	10·67	26	33	146	102	8	2	78	73	21	1	"	"	"	"	BEAMS DUMPED NO RUN SUMMARY ON LOST.
29421	"	10·05	10·13	10·34	10·30	20·2	414	1404	939	107	22	945	755	206	10	"	"	"	"	BEAMS LOST
29422	"	10·21	11·08	9·27	9·68	?	?	8002	5076	683	121	?	4725	1254	27	"	"	"	"	WINTER TIME
29423	"	11·09	11·55	7·67	8·05	?	?	8002	4979	713	118	?	4663	1219	34	"	"	"	"	Run summary program destroyed
29424	"	12·52	13·34	10·50	10·23	18·9	2490	8002	5257	647	122	5421	4663	1400	28	"	"	"	"	
29425	"	13·34	14·19	8·77	8·53	16·8	2670	8002	4899	694	116	5519	4595	1310	33	"	"	"	"	
29426	"	14·20	15·06	7·3	7·1	16·2	2754	7686	4547	716	116	5156	4653	1188	37	"	"	"	"	
29427	"	15·08	15·31	6·12	5·93	14·6	1375	3615	2125	357	52	2404	3260	571	13	"	"	"	"	BEAMS DUMPED
29428	"																			only 13 events - no run summary
29429	"	16^52	17^21	11·86	11·17	22·1	2335	8002	5443	607	134	5337	4655	1442	48	"	"	"	"	
29430	"	17^21	18^54	9·80	9·42	18·3	2549	8002	5038	663	121	5387	4693	1253	33	"	"	"	"	
29431	"	18^54	1859	8·20	7·88	17·4	2673	8002	4898	696	121	5444	4661	1279	40	"	"	"	"	
29432	"	1958	1939	6·87	6·58	16·8	2346	6744	4098	611	103	4583	4020	1105	29	"	"	"	"	
29433	"	2012	2014	11·70	11·69	25·9	17	82	63											
29434	"	2210	2259	11·65	11·26	20·8	2428	8002	5406	631	131	5328	4740	1315	33	"	"	"	"	
29435	"	2300	2318	8·195	8·45	18·3	1045	3477	2259	285	52	2343	2036	508	19	"	"	"	"	
29437	"	23^41	2350	7·42	6·98	17·1	321	1010	615	83	14	672	571	1411	5	"	"	"	"	

RUN	⟨L⟩ 10³⁰ cm⁻² s⁻¹	RHABHA SLUM nb⁻¹	SLUM EXP. ENERGY	IBM TAPE OUTPUT	AT RUN START TOV [V]	AT RUN START ID [mA]	ONLINE REJECT SUM MIP 1.25	ONLINE REJECT NORD50 T+T 2%	Σ RHABHA	MH	E_BEAM	MAG FIELD	REMARKS
29400	?	1·08	68927·65	IBM	1·25	0·2	44	33	19	0	17503	4845	stopped - no trigger luminosity
29401	?	0·97	68928·62	"	1·20	0·2	45	42	17	0	17500	4846	stopped - no trigger luminosity
29402	2·94	0·97	68929·59	"	0·95	0·15	43	39	17	0	"	4845	stopped after further trigger errors
29403→29406													lost due to NORD crash
29407	4·83	5·69	68935·28	"	0·80	0·15	50	41	100	3	17503	4844	beams dumped.
29408	8·64	16·96	952,24	"	1·4	0.2	46	34	298	5	17.500	4843	run stopped because >20 Bad plan bits/evt
29409	7·39	20.66	972,90	"	1·1	0·1	48	38	363	4	17.500	"	
29410	5·89	19.19	992.09	"	0·8	0,05	49	41	337	7	"	"	
29411	4·59	12·92	69005.01	"	0·7	0·05	48	42	227	3	"	"	Beams dumped
29412	10.33	28·12	69033.13	"	1·5	0·2	46	32	494	7	"	4844	
29413	9·42	28·36	69061.49	"	0·95	0.2	47	36	498	9	17.503	"	
29414	7,26	23,52	69085.01	"	0·75	0·15	48	38	413	3	"	"	
29415	5.16	14,41	69099.42	"	0,7	0,1	48	42	253	5	"	"	Beams dumped.
29416	10·66	26.13	69125.55	"	1,3	0,2	45	32	459	7	17.500	"	
29417	8,30	23.80	69149.35	"	0.9	0,18	46	36	418	8	"	"	
29418	6.42	21.07	69170.42	"	0,75	0,15	46	38	370	11	17.503	"	
29419	5·08	10·71	69131·13	"	0.65	0,1							
29420	8.08	0·4	69131·53	"	1·2	0·1	37	35	7	0	17·5	4844	BEAMS LOST
29421	9.87	4,21	69135,74	"	1·2	0·15		35	24	1	"	4845	WINTER TIME
29422	8.18	25.46	69161,20	"	1.0	0,1	50	38	447	7	"	"	Run summary program destroyed
29423	6.92	23.80	69185.00	"	0·7	0,1	51	39	418	8	"	"	
29424	4·56	28·18	69213·18	"	1·2	0·1	49	35	495	7	17.500	4846	
29425	7·15	23.58	69236.76	"	0·75	0·1	51	40	414	12	17.503	4847	
29426	5·33	19·87	69256·63	"	0·75	0·05	51	42	349	7	17.500	4847	
29427	4·15	7·23	69263·86	"	0·7	0·02	51	42	127	0	17.500	4847	BEAMS DUMPED
29428													only 13 events - no run summary
29429	10.87	17.50	69291.36	"	1.2	0.15	50	33	483	12	17.500	4847	
29430	8.15	23.00	69314.36	"	1.1	0.10	49	38	404	5	"	"	
29431	6·40	20.27	69334·63	"	0.8	0.05	50	40	356	6	"	"	
29432	5·88	15.26	69349·89	"			51	40	268	8	"	4846	
29433	13·60	0·11	69350·00	"					2	0	17.503	4846	Beams lost.
29434	8·68	23·69	69373·69	"	1·5	0·15	49	33	416	7	17.503	4846	
29435	8·77	11·39	69385·08	"	0·09	0·1	49	36	200	2	17.500	"	← 29436 : only 7 triggers; no run summary
29437	7·08	2.62	69387.70	"	0·75	0·02	48	41	46	0	"	"	← 29438 : only 14 " "

0554 Beams lost - Jet chamber → trip - reset.
0926 CAMAC Clock set back 1 hour : wintertime J.O.
1017 Hard Trip ~~#~~ inner detator and jet chamber + VTX + 2 chambers close to beam loss
11[20] to room a on is asking for an old run summary, the NORD complains: FORTRAN-RUN-TIME-ERROR 000410 AT 127122
I guess the NORD does not like the winter time
12[00] Y. Olsson comes in to nurse the NORD.
Run summary program broken, also other programs, rebuild doesn't work. Copy BackUP-C (from 17/9) to System Disc. Note, all program changes since 17/9-86 are lost. J.O.
15[00] Hard Trip Z[0] Chamber, Gas Valve Failure - Jetch,
1530 Gas Valve Failure - Reset - ~~Red~~ Green To Red, Valve Failed Red To Green Ok.
16 h Haidt on shift
Run 35428 hangs up after 13 events. Reload NOP, clear gas failure. Shortly after, beams lost.
JADDUMP submitted, but apparently not executed. Now 92% full. Fortunately at 94% the job ran.
2000 P. Murphy.
2014 Beams lost: Hard trip.
2110 New fill. On running up HV get alarm on LCo. — LCo HVsupplies "LB travel 10" and "LCo endcap" indicated "overcurrent".
2117 ~~Before~~ PETRA has to go off because of a fire alarm. Rivelaire suggested switching off ron; it worked.
2210 Back on again. ↑ false alarm
Tagging HV's off: MFR 63. Switch it on manually.
2225 Hard trip.
2320 "JOAS readout error 32 - missing ZAM at FEP ready (JETCH)" repeatedly.
Stop; start new run 29436. Same fault.
Fault is in crate 9. On telephone instruction from Ho. Eberz see that unit 10.1-146/147 has -5V light off. Switch off crate, remove that unit. Switch on.
Reload JETC Motorola. "Loading successfully completed"!
Test run: seems OK. Start a real run.
Eberz arrives; he replaces the suspect unit.
2356 Run 29435 aborts itself: "error 50 in 34611 at 107260". Rebuild OK.

30/9/86 0[00] Klein not on shift
Gas check done
3[45] YVOLTS: TAG-MFR 56 CHANNEL 23, HV = 2431, SHOULD BE 2430

4[00] Eckerlin on shift
4[47] soft trip JETC and BPCH
6[54] 4) YSPY detected error Muon Crate missing faulty part: 3
Muon digitisers 26, 27, .. 36 missing
Run stopped and next run started → ok

8[00] Cutmight on shift

11[30] At third attempt finally get ~~Gmbh~~ Gmbh to print with a run summary for run 29451
11[40] At about fifth attempt (after taking out ~~the~~ paper stuck & rethreading it) extract standard histograms.
12:00 Matsumura
15.00 Beams lost short Break
16.00 Rivelaire Gas Check done
17.18 All chambers tripped

20[00] Hill on shift
22[24] ID + Bpch. soft trip.
24[00] Davies on shift. 1 Oct 1986
Gas check Ok.
01[00] Petra unable to produce new fill, continue with present fill.
03[50] RELOAD DL300 - OK
0400 Murphy.
Going into 8th hour of present fill.
0635 Beam current is now too low to continue - red lights is on. Cello are finding out what is going on; filling is still impossible.
Run rolls down.
0730 Starts to fill.
8[00] Haidt on shift
gas check done
945 VV30 Power Supply 6V (channel 3) exchanged R
10[10] Down 70 pb^{-1}
12[30] Walked on shift.
14[06] PLR have problems with Linac II ⇒ keep still for ~~two~~ 10 mins.
15[06] Missing ~~sign~~ bx. 2 en. 3: TOF 1 counters

RUN	DATE	START	END	AT RUN START I+	AT RUN START I−	DEAD TIME %	TIME (SECS)	RECORDS IN	RECORDS OUT	ALL ×10⁶	Te Req. ×10⁶	T1 Acc SUM	T2 Acc SUM	T1 Bit2 E_LAB 766eV	T2 Bit17 2T·E_LAB ≥ 27R	PROCESSORS ON/OFF NSO	MIP	TOF	FANA	<L> 10³² cm⁻² s⁻¹	BHABHA SLdt nb⁻¹	∫L dt EXP. ENERGY	IBM TAPE OUTPUT	AT RUN START 70F [V]	AT RUN START ID [mA]	ONLINE REJECT SUM MIPDEC T2 %	ONLINE REJECT NORDSO T1+T2 %	Σ BHABHA	Multa	E_BEAM	MAG FIELD -1×G	REMARKS
29439	30/9/86	23:58	0:45	7.01	6.59	16.1	2801	8002	4877	729	118	5333	4769	1293	45	ON	ON	ON	OFF	5.80	18.62	69406.32	IBM	0.7	≈0	49	40	327	2	17503	4844	
29440	"	0:47	1:32	5.81	5.44	15.1	2677	7183	4109	697	105	4846	4339	1081	37	"	"	"	"	4.20	13.44	69419.76	"	0.6	"	51	44	236	3	"	"	beams dumped
29441	"	2:13	2:53	12.35	11.32	19.7	2393	8002	5379	622	122	5296	4715	1318	30	"	"	"	"	9.92	25.73	69445.49	"	1.1	0.15	48	34	452	10	17500	"	
29442	"	2:54	3:38	8.61	9.52	16.8	2666	8002	4929	694	116	5427	4692	1318	33	"	"	"	"	7.89	24.03	69469.52	"	1.0	<0.05	49	39	422	5	17503	"	
29443	"	3:34	4:25	7.08	7.51	17.0	2768	8002	4893	720	122	5360	4844	1250	50	"	"	"	"	6.06	19.48	69489.00	"	0.75	≈0	50	40	342	8	17503	"	
29444	"	4:26	5:19	5.82	6.57	15.9	2975	8002	4670	774	123	5316	5006	1164	44	"	"	"	"	4.37	15.26	69504.26	"	0.70	≈0	51	43	268	5	17500	"	
29445	"	5:22	5:24	4.35	4.98	15.3	134	400	227	36	6	269	218	56	1	"	"	"	"	3.17	0.85	69505.11	"	0.60	≈0	50	46	15	0	17503	"	beams dumped
29446	"	6:08	6:47	11.55	10.77	21.2	2334	8002	5435	607	129	5300	4763	1305	34	"	"	"	"	10.30	26.47	69531.58	"	1.6	.10	48	33	465	3	17.500	"	
29447	"	6:47	7:04	9.61	8.93	18.6	1019	3333	2178	265	49	2269	1877	536	10	"	"	"	"	9.38	11.39	69542.97	"	1.1	.05	49	36	200	2	17.500	"	
29448	"	7:05	7:49	8.88	8.23	17.1	2623	8002	5117	682	117	5496	4648	1330	38	"	"	"	"	7.96	22.21	69565.18	"	0.9	<.05	51	37	380	4	17.503	"	
29449	"	7:49	8:34	7.34	6.77	16.5	2683	7696	4711	698	115	5276	4588	1308	43	"	"	"	"	6.33	19.07	69584.25	"	0.8	0	52	40	335	4	17.500	"	Beams dumped
29450	"	9:53	10:34	10.18	10.59	19.7	2434	8002	5367	633	125	5353	4588	1323	32	"	"	"	"	10.49	27.21	69611.46	"	1.3	0.1	48	34	478	15	17.500	"	
29451	"	10:34	11:19	8.53	8.84	16.6	2686	8002	5050	699	116	5430	4686	1361	33	"	"	"	"	8.43	26.65	69638.11	"	0.85	0.05	50	38	468	3	17.503	"	
29452	"	11:20	12:08	6.95	7.24	15.9	2866	8002	4837	745	119	5476	4762	1254	43	"	"	"	"	5.96	19.87	69657.98	"	0.7	<0.05	52	41	349	4	17500	"	
29453	"	12:08	12:22	5.72	5.98	15.5	847	2276	1340	220	34	1510	1423	360	14	"	"	"	"	4.89	5.29	69663.27	"	0.65	"	52	42	93	2	"	4845	Beams dumped
29454	"	13:56	14:37	10.41	10.47	19.4	2421	8002	5331	630	122	5381	4568	1332	32	"	"	"	"	9.92	26.94	69690.21	"	1.3	0.1	48	34	473	10	17503	4844	
29455	"	14:37	14:58	8.71	8.79	17.4	1252	3863	2481	326	57	2569	2367	644	16	"	"	"	"	8.72	12.47	69702.68	"	0.9	0.05	50	37	219	3	17500	"	Beam lost
29456	"	17:07	17:49	11.47	11.55	22.6	2311	8002	5452	607	135	5389	4610	1354	34	"	"	"	"	10.71	28.73	69730.81	"	1.65	0.15	48	33	494	11	17503	4845	
29457	"	17:57	18:36	9.30	9.45	17.8	2662	8002	4898	693	123	5396	4842	1280	29	"	"	"	"	7.87	22.49	69753.30	"	1.25	0.09	51	40	395	5	"	4844	
29458	"	18:36	19:23	7.67	7.82	16.9	2769	8002	4837	720	121	5438	4729	1308	33	"	"	"	"	6.95	22.94	69776.24	"	0.74	0.04	50	41	403	5	17500	4845	
29459	"	19:23	20:12	6.31	6.46	15.9	2850	7857	4652	741	118	5254	4854	1178	30	"	"	"	"	5.28	18.34	69794.58	"	0.68	≈0	50	42	322	5	17503	4844	Beams dumped
29460	"	21,01	21:37	12,41	12,37	25,9	2110	8002	5680	5~~48~~	141	5290	4509	1424	35	"	"	"	"	12,06	31,42	69826,00	"	1,75	0,15	46	30	551	10	17500	4844	
29461	"	21:37	22:17	10,46	10,44	20,4	2366	8002	5270	614	125	5371	4542	1437	34	"	"	"	"	10,02	27,56	69853,56	"	1,25	0,1	48	35	484	10	17503	"	
29462	"	22:18	23:04	8,71	8,70	17,9	2603	8002	~~5245~~ 5134	676	120	5445	4602	1328	38	"	"	"	"	8,33	23,41	69876,97	"	1,8	0,05	49	37	411	5	"	"	
29463	"	23:05	23:52	7,06	7,05	15,8	2848	8002	4729	740	117	5467	4505	1263	37	"	"	"	"	5,95	19,98	69896,95	"	0,75	≈0	50	42	351	7	17500	4844	PETRA UNABLE TO REFILL.
29464	"	23:55	0:44	5.80	5.79	14.7	3050	8002	4485	793	116	5407	4967	1163	28	"	"	"	"	4.29	14.63	69911.58	"	0.6	≈0	52	45	257	3	17.500	4844	
29465	1/10/86	0:45	01:40	4.76	4.76	13.4	3276	8002	4232	852	114	5456	4957	1143	27	"	"	"	"	3.04	11.33	69922.91	"	0.58	≈0	53	48	199	3	17.500	4844	
29466	"	1:41	2:38	3.93	3.92	12.7	3436	8002	4163	894	113	5359	5229	1032	35	"	"	"	"	2.17	7.51	69930.42	"	0.5	≈0	54	50	132	2	17.500	4844	
29467	"	2:39	3:39	3.18	3.18	12.0	3566	8002	3920	927	111	5335	5249	941	28	"	"	"	"	1.46	6.43	69936.85	"	0.5	≈0	53	52	113	1	17.503	4844	
29468	"	03:39	0443	2.58	2.58	10.9	3794	8002	3723	987	108	5445	5257	944	21	"	"	"	"	0.98	4.90	69941.75	"	0.45	≈0	55	55	86	3	"	"	
29469	"	0443	0550	2.10	2.10	9.8	4004	8002	3437	1042	102	5454	5305	841	29	"	"	"	"	0.61	3.53	69945.28	"	0.35	0	55	58	62	1	"	4843	
29470	"	0551	0631	1.71	1.72	9.1	2332	4580	1828	607	55	3145	2983	424	13	"	"	"	"	0.43	1.37	69946.65	"	0.30	0	55	61	24	0	17.500	4844	Beams too weak
29471	"	8:02	8:43	10.52	10.90	20.0	2412	8002	5325	647	127	5337	4754	1310	37	"	"	"	"	9.55	24.85	69971.54	"	1.4	0.2	49	34	437	4	17.503	4844	
29472	"	8:43	9:23	8.63	8.97	25.2	2622	8002	5217	632	122	5349	4504	1326	42	"	"	"	"	6.79	20.55	69992.09	"	1.2	0.2	52	36	361	5	17.500	"	

RUN	DATE	START	STOP	AT RUN START I⁺	AT RUN START I⁻	DEAD TIME %	TIME sec	RECORDS IN	RECORDS OUT	ALL ×10⁶	T₀ REJ % ×10	T₁ ACC SUM	T₁ ACC SUM	T₁ BIT 2 E_LG > 6 GeV	T₂ BIT 17 2T.EW 2 2TR	PROCESSORS ON/OFF NSO	MIP	TOF	FAM
29473	1/10/86	9^19	9^24	7.01	7.31	25.9	225	765	515	58	15	489	419	133	2	ON	ON	ON	OFF
29474	"	9^50	10^17	6.39	6.67	19.0	2717	8002	4930	706	134	5277	5150	1168	32	"	"	"	"
29475	"	10^37		5.25	5.50	17.8	504	1442	885	130	23	944	947	218	6	"	"	"	"
29476	"	11^34	12^15	10.85	11.05	21.8	2360	8002	5335	613	133	5200	4959	1273	40	"	"	"	"
29477	"	12^15	12^53	8.90	9.00	19.6	2550	8002	5125	662	130	5287	4955	1249	33	"	"	"	"
29478	"	12^59	13^45	7.30	7.39	17.5	2731	8002	4879 5341	716	124	5350	4987	1250	26	"	"	"	"
29479	"	13^45	14^05	5.98	6.07	17.8	1177	3434	1948	306	54	2289	2141	540	24	"	"	"	"
29480	"	14^10	14^20	5.39	5.47	17.0	569	1617	927	148	25	1029	1050	224	14	"	"	"	"
29481	"	15^02	15^40	10.56	10.43	24.5	2257	8002	5514	587	143	5228	4906	1406	30	"	"	"	"
29482	"	15^41	16^26	8.64	8.51	23.1	2462	8002	5213	482	148	5084	5233	1248	34	"	"	"	"
29483	"	16^27	17^15	6.84	6.83	22.5	2548	8002	4869	513	149	5186	5088	1224	47	"	"	"	"
29484	"	17^16	17^27	5.47	5.38	21.9	458	1488	831	119	26	837	825	211	7	"	"	"	"
29485	"	18^02	18^51	10.55	10.48	33.7	2438	8002	5666	634	214	5108	5071	1256	47	"	"	"	"
29486	"	19^51	20^30	8.01	7.92	27.3	2301	8002	5449	599	164	5202	4938	1340	45	"	"	"	"
29487	"	20^30	20^53	6.59	6.51	27.6	1272	4407	2874	331	91	2868	2694	704	34	"	"	"	"
29488	"	20^57	21^37	5.80	5.74	25.4	2385	7699	5116	621	157	4872	5080	1124	73	"	"	"	"
29489	"	22^45	23^10	10.30	11.07	24.2	1494	5200	3617	388	94	3454	3174	870	26	"	"	"	"
29490	"	23^52	0^29	11.23	11.61	24.7	2215	8002	5602	576	142	5281	4728	1342	34	"	"	"	"
29491	2.10.86	0^30	1^10	9.01	9.36	21.3	2407	8002	5303	626	133	5345	4759	1327	40	"	"	"	"
29492	"	1^11	1^55	7.16	7.45	20.1	2610	8002	5092	679	137	5289	5066	1255	40	"	"	"	"
29493	"	1^56	2^21	5.59	5.85	18.8	1473	4409	2660	383	72	2925	2744	660	25	"	"	"	"
29494	"	2^27	2^37	4.75	4.99	17.2	536	1550	940	140	24	1035	930	244	8	"	"	"	"
29495	"	3^36	4^13	11.48	11.30	24.9	2193	8002	5552	570	142	5249	4797	1270	35	"	"	"	"
29496	"	4^22	5^36	8.77	8.52	23.8	2635	8002	5036	685	163	5218	5046	1209	60	"	"	"	"
29497	"	16:32	17:17	7.61	7.11	18.3	2678	8002	4997	637	132	5266	4948	1159	38	"	"	"	"
29498	"	17:18	17:53	6.40	5.95	17.6	2441	6483	3749	636	112	4151	4533	855	38	"	"	"	"
29499	"	18:57	18:57	9.48	9.57	28.7	14	78	57	4	1	38	35	7	0	"	"	"	"
29500	"	21:41	22:28	9.52	9.45	23.0	2454	8002	5260	638	147	5140	4933	1246	35	"	"	"	"
29501	"	22:27	23:14	7.83	7.74	17.4	2750	8002	5114	715	124	5403	4847	1344	34	"	"	"	"
29502	"	23:14	23:47	6.37	6.30	16.1	1892	5928	3098	492	79	3595	3928	780	23	"	"	"	"
29503	3/10/86	0:38	1:21	10.22	9.34	19.3	2563	8002	5334	667	128	5353	4811	1326	37	"	"	"	"
29504	"	1:22	2:07	8.32	7.54	17.3	2719	8002	4947	707	122	5410	4909	1244	33	"	"	"	"
29505	"	2:08	2:45	6.80	6.12	16.1	2217	6061	3609	577	93	4050	3738	908	22	"	"	"	"

⟨L⟩ 10³⁰ cm⁻² sec⁻¹	BHABHA ∫Ldt nb⁻¹	∫Ldt EXP ENERGY	IBM/TAPE OUTPUT	AT RUN START TOF [V]	AT RUN START ID [mA]	ONLINE REJECT Σ MIPROC T₁ %	ONLINE REJECT NOISO T₁·T₂ %	Σ BHABHA	MH	E_BEAM	MAG FIELD −1×6	REMARKS
5.56	1.71	69 993.80	IBM	1.2	0.15	45	35	30	0	17.500	4.844	
4.43	14.17	70 007.97	"	1.1	0.10	52	40	249	4	"	"	
3.65	1.83	70 009.85	"	1.1	0.10	53	40	33	1	17503	"	Beams dumped
8.95	23.62	70033.47	"	1.7	0.20	49	34	415	7	17.500	4847	
6.76	20.15	70053.62	"	1.3	0.15	50	37	354	3	17.500	4847	
5.18	14.97	70068.59	"	1.1	0.1	51	40	263	6	"	"	
4.20	5.67	70074.46	"	1.0	0.1	51	44	103	3	17.503	"	
3.55	2.45	70076.91	"	0.95	0.1	49	44	43	0	"	"	Beams dumped
9.31	24.76	70101.67	"	1.9	0.25	49	32	435	9	17.500	"	
5.47	15.26	70116.93	"	1.7	0.2	50	36	268	4	"	4848	
3.56	8.85	70126.78	"	1.3	0.2	50	38	173	5	17.503	"	
2.71	1.84	70128.72	"	1.2	0.18	47	40	34	0	"	4850	Beams dumped
6.53	16.51	70145.29	"	1.8	0.25	48	30	291	6	17.503	4847	
4.96	14.46	70159.75	"	1.8	0.2	49	33	254	2	"	"	
3.86	5.41	70165.16	"	1.6	0.15	48	36	95	1	"	"	
2.91	7.23	70172.39	"	1.55	0.15	49	35	127	1	"	4846	Beams dumped
8.42	17.14	70189.53	"	1.8	0.20	50	31	301	1	17.500	4846	Beams Lost
10.63	25.68	70215.21	"	2.0	0.15	48	31	451	6	17.503	4844	
8.12	23.34	70238.55	"	1.45	0.10	49	35	410	4	17.500	4844	
5.73	15.60	70254.15	"	1.2	0.07	50	37	274	0	17.503	4844	
4.51	8.37	70262.52	"	1.05	0.05	51	41	147	4	17.503	4844	Stopped by DL300 error
3.81	2.56	70265.08	"	0.95	<0.05	51	41	45	1	17.500	4844	Beams dumped
9.57	24.65	70289.73	"	2.1	0.1	48	32	433	4	"	4843	
5.01	15.49	70305.22	"	1.4	0.1	50	38	272	5	17503	"	Beams lost, after ma complete
5.63	17.48	70322.70	"	1.0	<0,05	50	39	307	9	17503	4838	
2.48	6.66	70329.36	"	1.0	<0.05	53	44	117	1	17503	4840	Beams dumped
4.41	.17	70329.53	"	2.4		37	35	3	0	17503	"	Beams lost
6.78	19,36	70348,89	"	3.0	0,25	48	36	340	9	17500	4838	
6,91	24,54	70373,43	"	1,0	0,05	51	37	431	3	17503	4839	
5.42	10,76	70384,19	"	0.8	0.05	52	42	189	5	"	4838	Beams dumped.
8.53	26.13	70410.32	"	1.35	0.1	50	34	459	13	17500	4837	
6.46	20.49	70430.81	"	1.05	0.05	52	39	360	7	"	4838	
4.87	12.02	70442.83	"	0.90	<.05	51	42	211	2	17503	4837	Beams dumped

1 10/86 3rd BP - JETC soft trip.

16:00 Schmidt on shift

15:55 Gas check done: ok
16:40 HOP loaded from HOP-Console
16:41 JDAS READ OUT ERROR 32 - Missing LAM at FEP Ready
16:52 soft trip JETC + VTXC
16:58 READ OUT ERROR 64 - ATC2093 TOF - 2 Bi, X missing stn = 3 subaddr = 1
17:23 soft trip JETC + VTXC
19:25 JDAS ~~ERROR~~ READOUT ERROR 65 - TIMEOUT whilst reading 3 68K processors.
19:35 JDAS READ OUT ERROR 32 - Missing LAM at FEP Ready (ERR) ~20 times. Could only be reserved by loading HOP from the HOP-Console

20:00 Atkinson on shift

20 53 JDAS readout error 52 - run stopped with beampipe and inner detector trips.
21 17 IBMPC shows vertex chamber hist. error: wire map dev. >50% - Looks OK.
21 37 Beams dumped - gas valve failure
23 10 Gas valve failure as beams Lost

2 Oct. 1986

0 00 Rieseberg on shift
Gas check done
1 10 Standard histograms taken. Last printout was 26 hours ago.
Optimization of background over one hour did some good to the beam: Higher luminosity (back to ~ normal), lower deadtime.
1 39 High TOF rate for 20 sec
1 41 JDAS Readout Error 53 - System crate watchdog flag PARMS = 000002 177777 (oct) followed by
" " " 33 Missing LAM JETC point 603.
2 14 VTXC-Error: Wire map deviation >50% :2
2 22 JDAS Readout Error 33, Missing LAM Jetc point 701 followed by
" " " 32, Missing LAM at FEP ready (many)

Test run:
JDAS Readout Error 37, Wrong Answer at FEP ready → JETC 68K load necessary
2 37 Stop for refilling. Another JETC 68K load, there was a spike on FEP14
3 35 New filling ready. Two LG pedestals wrong, I forgot the gymnastics for Run 29495

4 00 G. Kuiles on shift
4 42 JDAS Readout error 33 Missing LAM branch 5 crate 4 ch. post 1
5 00 Beam loss, several alarms
5 31 BP chamber ~~soft~~ soft trip
5 45 beams lost; there are vacuum problems in PETRA
6 25 PKR terminates attempts to inject. Bogus of PETRA repair and machine
6 35 Magnet current to 100 Amp. to be raised at request by PKR, from shift crew to all morning shift crew: PKR expects 1 person with beeper (2563) for magnet pumping
6 45 I go to my office, since everything is down.
6 55 Magnet up, High Voltages on for Cosmics
When I am just about to start a Cosmic Run I get a call from PKR: Access time for vacuum etc.-repair is postponed to 9 00 or 9 30 Rbg
7 20 PKR does not need the magnet for the injection studies, → Magnet to 100 A

8 00 Kleinwort on shift
Gas check done
8 10 Magnet off, "Solenoid off"
12 h Haidt on shift
16 00 Eckerlin on shift
magnet up
Gas check done
16 24 after 5 LG-Testruns LG-ATC # 510,492,486 still sleeping
16 30 new fill ready: shit run with wrong pedestal for LG-ATC's (510,492,486)
18 00 valve failure while HV runs down
18 50 new fill ready but due to undergrounds problems HV remains down
18 57 hard trip of all 3 chambers just after run start; beams lost
20 00 Olsson
21 30 Beam at last, but impossible background. (5≥10V)
23 10 Zimmani has crashed. Its restart (Run Zimmani) aborts with "FEP00 output record too long". Will reload the lot in next fill. (soon) Reload 23 40, successful.

3 October 1986

0 00 Atkinson on shift. - gas check OK
3 16 'Short break' appears after failure to fill.
3 35 Telephone CELLO - who ask PKR problem. They are having problems with a quadropole in the lower synchrotron - could be 5 mins or 5 hours. Fun isn't it?

Run	Date	Start	Stop	At Run Start: I^+	At Run Start: I^-	Dead Time %	Time (Secs)	Records In	Records Out	ALL $\times 10^6$	TQ Rej $\times 10^6$	T_1 Acc Sum	T_2 Acc Sum	T_1 bit 2 $E_{ec} > 6$GeV	T_2 bit 17 2T Ec. ≥ 2Tr	Processors on/off: NSO	Mip	Tof	EBM
29506	3.10.84	6^{05}	6^{48}	10.37	10.42	19	2603	8002	5200	677	128	5240	5109	1248	35	in	in	in	off
29507	"	6^{50}	7^{34}	8.57	8.60	18.5	2643	8002	5019	688	127	5220	5057	1243	35	"	"	"	"
29508	"	7.34	8.20	7.10	7.13	18.3	2758	8002	4869	717	131	5193	5248	1154	53	"	"	"	"
29509	"	8.21	9.10	5.86	5.89	16.4	2963	8002	4651	771	126	5206	5283	1029	39	"	"	"	"
29511	"	9.16	9.16	4.72	4.75	0	0	60	43	0	0	40	0	5	1	"	"	"	"
29512-519	"																		
29520	"								1503										
29521	"								23										
29522	"	14.43	15.24	9.95	10.21	20.5	2483	8002	4246	646	133	5259	4973	1229	32	"	"	"	"
29523	"	15.25	16.09	7.98	8.23	19.7	2601	8002	5018	676	133	5223	5161	1189	47	"	"	"	"
29524	"	16.09	16.37	6.37	6.59	19.6	1669	4917	3069	434	85	3105	3345	742	30	"	"	"	"
29525	"	17.19	17.58	10.30	9.86	25.6	2301	8002	5526	599	153	5089	5184	1311	40	"	"	"	"
29526	"	17.58	18.39	8.09	7.75	23.7	2437	8002	5313	634	150	5132	5170	1276	41	"	"	"	"
29527	"	18.39	19.05	6.39	6.10	22.0	1506	4706	2997	391	86	3061	3053	713	23	"	"	"	"
29528	"	19:39	20:18	10.3	10.48	23.1	2315	8002	5391	602	139	5219	5125	1279	33	"	"	"	"
29529	"	20:18	21:00	8.11	8.27	21.0	2472	8002	5155	645	135	5249	5065	1276	45	"	"	"	"
29530	"	21:00	21:30	6.36	6.50	19.8	1737	5289	3245	452	90	3480	3390	772	36	"	"	"	"
29531	"	22:29	23:11	9.46	9.77	20.0	2523	8002	5238	656	131	5257	4986	1299	47	"	"	"	"
29532	"	23:11	23:57	7.74	7.58	19.2	2715	8002	4954	706	135	5279	5006	1207	80	"	"	"	"
29533	"	23:58	0:08	5.98	5.85	20.6	630	1738	1037	164	33	1122	1084	235	13	"	"	"	"
29534	4/10/84	1.14	1.52	9.83	9.88	26.4	2281	8002	5419	593	156	4952	4909	1226	42	"	"	"	"
29535	"	1.53	2.54	7.82	7.86	23.8	2530	8002	5117	658	156	5007	5029	1171	45	"	"	"	"
29536	"	2.54	3.02	5.53	5.55	20.2	444	1401	860	115	23	910	862	181	5	"	"	"	"
29537	"	4.06	4.48	9.72	9.75	21.2	2474	8002	5268	644	137	5224	4945	1292	33	"	"	"	"
29538	"	4.48	5.33	7.55	7.55	19.3	2651	8002	5109	690	133	5252	4997	1228	56	"	"	"	"
29539	"	5.33	5.56	5.91	5.93	18.2	1351	3374	2323	352	64	2469	2491	111	21	"	"	"	"
29540	"	6.40	7.21	9.97	9.41	23.6	2421	8002	5245	630	148	5087	5201	1181	35	"	"	"	"
29541	"	7.22	8.06	7.72	7.27	21.4	2602	8002	5093	677	145	5112	5320	1158	39	"	"	"	"
29542	"	8.06	8.16	5.99	5.63	21.0	567	1668	1034	147	31	1089	1066	236	9	"	"	"	"
29543		9.04	9.46	10.18	10.25	21	2413	8002	5355	628	132	5266	4842	1284	38	"	"	"	"
29544	"	9.46	10.32	7.89	7.92	18.3	2710	8002	4990	705	129	5238	5007	1186	40	"	"	"	"
29545	"	10.32	10.59	6.08	6.11	17.7	1410	4026	2428	367	65	2636	2510	591	15	"	"	"	"
29546	"	11.36	12.18	9.46	9.74	21.7	2441	8002	5287	487	138	5222	4886	1312	31	"	"	"	"
29547	"	12.18	13.04	7.31	7.51	18.4	2703	8002	4980	703	129	5272	4831	1191	36	"	"	"	"

$\langle L \rangle$ 10^{30} cm^{-2} s^{-1}	Bhabha SLdt nb^{-1}	SL dt Exp. Energy	IBM/Tape Output	At Run Start: TOF TVT	At Run Start: TD LmAT	Online Reject: Sample %	Online Reject: NSO T1 T2 %	Σ Bhabha	Muhad	E_{beam}	Mag Field -1×G-	Remarks
7.61	22.61	70465.44	IBM	1.3	0.1	51	36	387	7	17.503	4848	
6.53	20.10	70485.54	"	1.2	0.1	50	38	353	8	"	"	
5.12	15.89	70501.43	"	1.1	0.1	51	40	279	4	"	"	
3.76	12.36	70513.79	"	1.1	0.1	51	43	217	8	"	"	
0	0.06	70513.85	"	0.8	0.05	0	42	1	0	"	"	beams dumped
												junk
												*cosmics with reduced U_p
												* " " U_p
8.07 ~~8.24~~	22.61	70536.46	"	1.52	0.2	50	36	397	10	17.500	4844	
6.50	19.30	70555.76	"	1.1	0.2	51	38	339	9	17.503	"	
4.87	9.23	70564.99	"	1.2	0.2	51	39	162	4	"	4846	Beams dumped
8.53	23.28	70588.27	"	1.8	0.2	49	32	409	11	17.500	4844	
6.49	19.81	70608.08	"	1.6	0.25	50	35	348	5	"	"	
4.98	9.00	70617.08	"	1.4	0.2	51	37	158	2	17.503	"	Beams dumped
8.99	24.48	70641.56	"	1.9	0.3	50	34	430	6	17.500	4843	
6.71	19.70	70661.26	"	1.5	0.2	50	37	346	6	17.503	4844	
4.76	9.23	70670.49	"	1.3	0.2	51	39	162	2	"	"	beams dumped
8.04	24.32	70694.81	"	1.75	0.25	50	36	427	7	17.503	4842	
5,57	18,50	70713,81	"	1.2	0.2	51	39	325	6	17.500	"	
3,88	3,70	70717,01	"	?	?	50	42	65	1	"	4841	beams dumped
7,37	20,61	70737,62	"	1,75	0,25	44	33	362	5	"	4840	
4,58	15,65	70753,27	"	1,5	0,16	47	37	275	4	"	4841	
3,56	1,89	70754,86	"	1,1	0,4	49	40	28	0	"	4840	
7.22	21.70	70776,56	"	1.55	0.2	49	35	381	12	17.503	4839	
4.34	16.29	70792.85	"	1.2	0.15	50	37	286	4	17.503	4838	
3.30	5.18	70798.03	"	1.0	0.1	49	41	91	3	17.500	4840	beams dumped
7.38	20.10	70818.13	"	2.3	0.35	49	36	353	5	17.503	"	
4.96	15.37	70833.44	"	1.5	0.3	51	38	269	3	17.500	"	
3.75	2.50	70835.94	"	1.3	0.25	52	40	44	0	"	"	Beams dumped
8.32	22.43	70858.37	"	2.1	0.25	48	34	394	9	"	"	
5.79	18.22	70876.59	"	1.1	0.15	50	39	320	6	"	4841	
4.03	6.26	70882.85	"	0.95	0.08	50	41	170	0	"	4840	Beams dumped
7.89	21.63	70903.48	"	1.5	0.2	48	35	380	10	"	4844	
5,28	16,79	70920,27	"	1.0	0,15	49	39	295	9	"	"	

3.10.86

4:00 Feist on shift still short beam magnet → 2000 A
5:05 magnet → 7500 A
6:05 New Filmiy ready
8:00 Matsumura on shift
Gas check done
9:10 JDAS Read Out Error 53
System crate watchdog flag PARMS = 000000 177777 (oct)
Run 29510 Terminated No Run Summary
10:10 Run 29512, 29513 Test Run
10:30 Magnet → 500 A / Restart about 13 Uhr
Different tests to get going Cosmic Runs without T2 trigger. Runs 29512-519 junk J.O. + Rog
12:23 Cosmic Run # 29520 with reduced Up of ID

13:00 P. Weber on shift
13:55 'injection on TV monitor'
15:00 VTX CH. gas alarm; went in gas house, JDAS read out error 74 - wrong LAM branch 3 crate 1: beam pipe chamber

16:00 Bowdoy on shift
17:00 Beams dumped. Gas check done
18:25 Missing LAM BR 3 CR 4 Z chamber part 1

PETRA has bad vacuum → short beam lifetimes. No fix likely until Monday.

This is probably my last shift for JADE. Sadly I don't think I will be here before the 3rd November (I'm going to miss the party!) Farewell JADE hardware!

20:00 R. Kleinke on shift
21:18 Jobs error 64 - AC 2099 TOF-2 Q,X missing, stn 8 subaddr. 0

4/10/86

0:00 Hill on shift.
Gas check done - all OK.
2:02 Bp ch. + jet ch soft trip.
2:45 I have just attempted for the past 40 mins to convince the bp-ch plot to do its job ie PLOT!

New paper has been added but it refuses to do anything. ⇦ The reason for this trouble was: the paper was loaded upside down, therefor the pen recorder started writing from the end! FK
4:00 Smolik on shift
4:10 Bp. chamber trips hard, the bp-chamber plotter is working again. but not correct
8:08 Ikeibiel on shift
9:10 - 9:30 Extended "Background option" really gave an improvement. TOF-Rate 1.3, ID-Curr 1.5 μA @ 2.9 mA Beam.
10:13 MOP crashed: exaption 0B at 28F06
10:45 Chamber soft trip
11:00 Schmidt on shift.
Gas check done
11:41 JDAS READOUT ERROR 33 missing LAM branch 3 crate 4 : Z-Chamber Part 1
15:05 Soft trip ID + VTXC.
16:00 DAVIES ON SHIFT.
20h Hardt on shift
23:35 Hard trip, shortly later beam lost
5/10/86
0:00 Horvath & Meyer on Shift
0:00 Gas check done.
0:55 JDAS Readout error 33 - Missing LAM branch 3 crate 2 : Muon Chambers.
3:21 Hard trip, shortly after beams lost.
Looking at standard histograms, there appeared to be an unusually large peak in one of the channels. : Muon chamber timing map
4:44 System crate watchdog flag
6:29 MOP crashed. Doesn't react to CTRL-C. Stopped run to reload 168K-Processor.
7:30 System crate watchdog flag
7:39 ——— " ———
8:00 Pfeiffer on shift
Gas check done
12:00 Eckerlin on shift
14:21 No message from YSPY after runstart. Switching YSPY-Terminal OFF and ON again (BLOCK=OFF, LINE=ON)
15:15 Still no message from YSPY → YSPY probably corrupt → try to rebuild it during next injectionperiod

16:00 Kuhlen on shift, gas check done
16:25 YSPY rebuilt
17:30 Still no messages from YSPY. But YSPY-LUN was not operational, one could not log on. Terminal switched it off/on. Now logon is possible. Will YSPY say hello at the next run start?
17:42 JDAS readout error 64 - AC2099 TOF-2 Q,X missing stn=3 subaddr=0

RUN	DATE	START	STOP	At Run Start I^+	At Run Start I^-	DEAD TIME	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TB REJ $\times 10^6$	T_1 Acc SUM	T_2 Acc SUM	T_4 bit 2 $E_{cal} > 660$	T_5 bit 7 $2.7 < E_{cal} < 2.27$	PROCESSORS ON/OFF NSD	BIP	TOF	FIA
29548	4.10.86	13:05	13:20	5.60	5.82	16.7	904	2516	1528	235	38	1648	1616	362	10	ON	ON	ON	OFF
29549	"	13:49	14:32	10.18	10.18	20.2	2537	8002	5094	660	139	5215	5171	1237	28	"	"	"	"
29550	"	14:32	15:22	7.85	7.86	18.7	2732	8002	4732	726	136	5208	5322	1180	35	"	"	"	"
29551	"	15:22	15:36	5.87	5.98	17.5	781	2270	1304	203	36	1469	1446	334	9	"	"	"	"
29552	"	16:26	17:08	9.70	9.95	21.2	2460	8002	5332	640	135	5216	5202	1287	46	"	"	"	"
29553	"	17:08	17:53	7.47	7.69	20.1	2671	8002	5046	694	139	5240	5270	1176	46	"	"	"	"
29554	"	17:54	17:59	5.72	5.91	19.7	283	894	556	73	14	540	590	114	1	"	"	"	"
29555	"	18:33	19:15	9.73	9.99	21.3	2466	8002	5226	641	136	5223	4875	1217	29	"	"	"	"
29556	"	19^{15}	20^{21}	7.48	7.67	18.8	2729	8002	4960	710	133	5222	5135	1177	32	"	"	"	"
29557	"	20^{02}	20^{08}	5.73	5.91	17.7	337	1008	585	87	15	660	624	132	2	"	"	"	"
29558	"	20^{46}	21^{29}	10.00	10.00	20.4	2466	8002	5186	640	130	5257	4827	1202	33	"	"	"	"
29559	"	21^{29}	22^{12}	7.72	7.72	17.8	2533	7329	4405	659	117	4861	4675	1056	24	"	"	"	"
29560	"	22^{43}	23^{32}	10.32	10.32	20.2	2572	8002	7767	669	135	5370	4940	1269	30	"	"	"	"
29561	5.10.86	0.00	0.43	10.27	10.51	20.9	2463	8002	5294	640	134	5317	4853	1289	40	"	"	"	"
29562	"	0.42	1.29	7.93	8.14	17.4	2700	8002	5015	702	136	5150	5226	1166	37	"	"	"	"
29563	"	1.28	1.49	6.10	6.28	18.0	1163	3378	2129	303	577	2192	2199	478	15	"	"	"	"
29564	"	2.26	3.09	9.96	10.18	20.1	2480	8002	5158	645	129	5246	4904	1170	46	"	"	"	"
29565	"	3.08	3.11	7.73	7.92	17.8	100	360	223	259	46	232	175	42	1	"	"	"	"
29566	"	3.51 / 4.06	4:29	10.06	9.88	32.6	2228	8002	5610	579	188	4999	5320	1208	49	"	"	"	"
29567	"	4:30	5:09	8.00	7.88	29.2	2337	8002	5350	607	177	5088	5309	1165	55	"	"	"	"
29568	"	5:10	5:41	6.40	6.31	22.4	1854	5774	3693	482	108	3748	3782	798	34	"	"	"	"
29569	"	6:12	6:29	10.39	10.45	21.7	879	3129	2175	229	63	1986	2054	508	20	"	"	"	"
29570	"	6:31	7:11	9.19	9.22	23.4	2382	8002	5436	619	144	5182	5766	1261	41	"	"	"	"
29571	"	7:12	7:54	7.20	7.23	20.9	2549	8002	5085	663	138	5206	5760	1160	43	"	"	"	"
29572	"	7:55	8:00	5.63	5.67	18.8	325	926	551	65	16	592	634	123	4	"	"	"	"
29573	"	9:14	9:56	10.14	10.32	20.2	2450	8002	5322	638	129	5251	4878	1195	39	"	"	"	"
29574	"	9:55	10:42	7.83	7.93	18.7	2704	8002	4961	703	131	5269	5120	1183	20	"	"	"	"
29575	"	10:42	11:01	6.04	6.12	18.0	1082	3140	1865	282	51	2052	1932	416	15	"	"	"	"
29576	"	11:46	11:50	9.41	10.16	23.7	48	176	112	13	3	87	131	15	2	"	"	"	"
29577	"	12:13	13:01	9.93	10.21	20.4	2484	8002	5169	646	132	5165	5002	1157	38	"	"	"	"
29578	"	13:01	13:46	7.60	7.89	19.1	2679	8002	4855	697	133	5156	5157	1169	54	"	"	"	"
29579	"	13:47	13:58	5.83	6.09	17.1	669	1950	1163	174	30	1260	1200	286	13	"	"	"	"
29580	"	14:33	15:14	10.31	10.28	21.0	2432	8002	5185	633	133	5268	4923	1182	44	"	"	"	"
29581	"	15:14	15:59	7.96	7.95	13.3	2693	8002	4938	5276	135	5270	5002	1188	42	"	"	"	"

LL7 $\times 10^{-25}$	BHABHA SLdt mb^{-1}	SLdt EXP. ENERGY	IBM/TAPE OUTPUT	ATLAS START TOF LVJ	ATLAS START ID LAAJ	ONLINE REJECT SAM HiProc T_2 %	ONLINE REJECT VERDSO $T_1 T_2$ %	Σ BHABHA	MH	E_{beam}	MAG FIELD -1.46	REMARKS
41.89	5.18	70925.45	IBM	0.9	0.1	52	41	81	1	17.500	4844	beams dumped
7.14	20.66	70946.11	"	1.8	0.2	51	37	363	9	"	"	
4.20	15.54	70961.65	"	1.3	0.15	52	42	273	6	"	4843	
3.57	3.08	70964.73	"	1.9	0.1	50	44	54	0	17.503	4841	beams dumped
8.09	23.97	70988.70	"	1.8	0.2	51	34	421	4	17.500	4842	
5.14	15.83	71004.53	"	1.5	0.15	52	38	278	4	17.503	4843	
4.26	1.03	71005.56	"	1.5	0.15	47	40	18	0	17.503	4842	Beams Dumped
7.37	21.58	71027.14	"	1.5	0.2	49	36	379	15	17.503	4844	
4.84	15.65	71042.79	"	1.1	0.1	50	39	275	4	17.500	"	
3.75	0.57	71043.36	"	1.0	0.1	51	44	17	0	17.503	"	Beams dumped
7.76	21.75	71065.51	"	1.5	0.1	48	36	382	9	"	4843	
4.37	12.75	71078.26	"	1.1	0.1	51	37	224	2	17.500	4842	Beams dumped
7.04	21.58	71099.84	"	1.4	0.1	52	37	379	9	17.503	4841	Beams lost
7.08	23.63	71123.47	"	1.5	0.1	50	35	415	6	17.503	4841	
5.18	15.14	71138.61	"	1.3	0.1	56	38	266	9	17.500	4842	
7.70	4.27	71142.88	"	1.0	0.1	52	38	75	3	17.503	4842	Beams dumped (paired supply problem)
7.56	21.35	71164.23	"	1.6	0.1	49	37	375	6	17.500	4841	
5.58	0.68	71164.91	"	1.3	0.1	40	41	12	0	17.503	4841	Beams ~~dumped~~ lost
6.20	15.31	71196.22	"	2.0	0.1	50	31	269	3	17.500	4840	
4.31	12.36	71208.58	"	2.0	0.1	51	34	217	2	17.503	4840	
3.41	6.95	71215.53	"	2.2	0.2	52	37	122	4	17.500	4844	Beams dumped
7.71	8.66	71224.19	"	3.0	0.25	50	32	152	2	17.503	4844	stopped to reload J68K processor
6.94	19.81	71244.00	"	2.0	0.15	50	33	378	5	17.500	4845	
4.90	16.22	71260.22	"	1.6	0.1	51	38	285	5	"	4844	
3.79	1.23	71261.45	"	1.4	0.1	53	42	23	—	"	4845	beams dumped
8.18	20.05	71281.50	"	1.7	.15	48	34	378	9	17.503	4847	
5.74	16.24	71297.79	"	1.3	0.1	51	39	286	6	"	"	
4.12	4.61	71302.40	"	1.1	0.1	49	42	81	—	"	"	beams dumped
9.01	.23	71302.63	"	1.55	0.2	47	41	4	—	"	4846	beam lost
7.81	20.16	71322.79	"	1.6	0.25	48	37	354	6	"	"	
5.41	17.77	71340.56	"	1.1	0.20	50	40	312	3	"	4847	
3.98	3.19	71343.75	"	0.9	0.20	49	42	56	3	17.500	"	beams dumped
7.41	22.54	71366.29	"	1.55	0.25	50	36	386	5	"	"	
5.46	15.26	71381.55	"	1.20	0.20	51	40	268	~~25~~ 5	"	"	

RUN	DATE	START	STOP	AT RUN START I+	AT RUN START I-	DEAD TIME %	TIME (SEC)	RECORDS IN	RECORDS OUT	ALL *10^6	T0 Rej *10^6	T1 Acc SUM	T2 Acc SUM	T1 Bit2 E>66	T1 Bit7 2T-E 2TR	PROCESSORS ON/OFF N50	MIP ON	TOF ON	FITH OFF
29582	5.10.86	16:00	16:19	6.08	6.08	18.5	948	2725	1653	246	45	1759	1766	374	10	ON	ON	ON	OFF
29583	"	17:00	17:42	9.56	9.89	20.8	2513	8002	5212	653	136	5217	5189	1275	43	"	"	"	"
29584	"	17:43	18:28	7.27	7.55	19.9	2683	8002	4896	698	138	5193	5236	1187	43	"	"	"	"
29585	"	18:29	18:32	5.58	5.82	21.6	168	517	312	43	9	334	342	79	2	"	"	"	"
29586	"	19:07	19:52	9.13	9.33	20.2	2620	8002	5107	681	137	5174	5225	1145	37	"	"	"	"
29587	"	19:52	20:39	6.96	7.12	18.9	2756	8002	4854	717	135	5150	5229	1147	37	"	"	"	"
29588	"	20:39	21:30	5.37	5.51	16.9	3006	8002	4549	782	182	5094	5418	997	42	"	"	"	"
29589	"	21:30	22:09	4.12	4.24	15.1	2306	5865	3144	600	90	3805	3814	706	27	"	"	"	"
29591	"	22:38	23:21	9.49	9.62	20.1	2509	8002	5090	652	131	5315	4880	1256	28	"	"	"	"
29592	"	23:21	0:07	7.33	7.11	18.3	2733	8002	4825	717	130	5298	4942	1202	37	"	"	"	"
29593	6/10/86	0:08	0:10	5.64	5.45	16.4	89	289	167	23	4	186	153	38	2	"	"	"	"
29594	"	0:42	1:24	10.27	10.39	22.7	2454	8002	5226	639	145	5165	5062	1258	41	"	"	"	"
29595	"	1:24	2:07	7.95	8.06	23.1	2545	8002	5021	662	153	5106	5270	1137	53	"	"	"	"
29596	"	2:07	2:24	6.24	6.34	20.0	991	2937	1779	258	52	1892	1941	470	17	"	"	"	"
29597	"	2:55	3:37	10.12	9.99	25.2	2382	8002	5271	619	156	5024	5295	1208	37	"	"	"	"
29598	"	3:38	4:20	7.78	7.67	22.4	2519	8002	4975	655	147	5058	5207	1211	30	"	"	"	"
29599	"	4:20	4:21	6.01	6.01	20.6	1239	3838	2339	322	66	2445	2509	514	23	"	"	"	"
29600	"	5:23	6:05	9.29	8.94	23.2	2516	8002	5171	655	152	5065	5188	1163	34	"	"	"	"
29601	"	6:06	6:51	7.24	6.96	19.6	2666	7963	4971	694	136	5312	5086	1222	40	"	"	"	"
29602	"	7:31	8:12	10.46	10.27	21.6	2430	8002	5276	632	136	5280	4916	1344	32	"	"	"	"
29603	"	8:12	9:00	8.11	8.18	26.9	2771	8002	5035	721	183	5294	4870	1268	44	"	"	"	"
29604	"	9:01	9:32	6.12	6.19	25.0	1734	4887	3070	466	116	3183	3104	709	31	"	"	"	"
29605	"	17:30	17:32	∅	∅	18	100	77	77										
29606	"	18:29	19:12	10.13	10.32	19.8	2495	8002	5308	649	129	5224	4854	1227	36	"	"	"	"
29607	"	19:11	19:58	8.26	8.36	17.2	2724	8002	5065	709	122	5288	4870	1146	43	"	"	"	"
29608	"	19:57	20:35	6.86	6.95	16.5	2605	7359	4441	677	112	4700	4411	1096	31	"	"	"	"
29609	"	21:19	21:20	10.13	10.56	22.1	75	306	207	19	4	262	137	54	2	"	"	"	"
29610	"	21:21	22:04	10.01	10.33	18.2	2813	8002	5791	669	121	5379	4700	1283	34	"	"	"	"
29611	"	22:05	22:24	8.34	8.73	16.1	1135	3307	2048	295	47	2234	1935	571	16	"	"	"	"
29612	7/10/86	0:11	1:00	8.89	9.76	16.4	2770	8002	5010	721	118	5334	4877	1210	33	"	"	"	"
29613	"	0:58	1:20	7.45	8.25	16.9	1757	3355	2058	300	51	2272	2043	500	14	"	"	"	"
29614	"	2:07	2:52	10.25	10.14	18.5	2569	8002	5100	668	124	5273	4877	1215	34	"	"	"	"
29615	"	2:51	3:28	8.70	8.60	18.6	1932	5932	3620	503	94	3911	3678	836	23	"	"	"	"
29616	"	4:05	4:50	10.34	10.43	20.2	2444	8002	5138	635	128	5390	4804	1309	31	"	"	"	"

∫L dt 10^{30} cm^{-2}s^{-1}	RATE nb^{-1}	∫Ldt nb^{-1}	EXP. ENERGY	IBM TAPE OUTPUT	AT RUN START TOF [V]	AT RUN START IO [mA]	ONLINE REJECT SUM MIPROC T_0 %	ONLINE REJECT NOROC T_0 %	Σ RATE	M/H	E_{BEAM}	MAG FIELD -1×G	REMARKS
3.68	4.10	71385.65	1811	1.0	0.20	51	41	72	3	17.503	4848	beams dumped	
7.48	23.00	71408.65	"	1.5	0.25	51	36	404	6	17.500	4847		
4.86	16.51	71425.16	"	1.3	0.2	51	40	290	6	17.503	"		
4.00	0.91	71426.07	"	1.2	0.2	55	42	16	0	"	"	beams dumped	
6.00	17.42	71443.49	"	1.5	0.25	51	37	306	4	17.500	"		
4.13	15.09	71458.58	"	1.2	0.2	51	41	265	2	-"-	4847		
2.56	8.65	71467.23	"	1.0	0.2	51	44	152	2	17.500	4837		
1.71	5.30	71472.53	"	0.8	0.15	51	48	93	2	-"-	-"-		
7.07	22.66	71495.19	"	1.4	0.25	50	37	398	7	"	"	24590 LOST DURING PEDESTAL DUE TO OPERATOR ERROR.	
4.73	16.91	71512.10	"	1.05	0.2	51	41	297	5	17.503	4838		
3.99	0.57	71512.67	"	0.9	0.15	47	46	10	0	17.500	4837	beams dumped.	
7.31	22.83	71535.50	"	1.9	0.40	49	36	401	7	17.500	4838		
4.69	15.88	71551.38	"	1.55	0.40	51	39	279	5	"	4837		
3.57	4.33	71555.71	"	1.35	0.30	51	41	76	0	17.503	"	beams dumped	
7.16	19.02	71574.73	"	2.30	0.30	49	35	334	1	"	"		
4.95	14.63	71589.36	"	1.55	0.40	49	39	257	2	17.500	"		
3.64	5.18	71594.54	"	1.30	0.30	50	41	91	1	"	4838	beams dumped	
6.33	19.53	71614.07	"	2.00	0.60	49	37	348	3	"	4838		
4.56	15.72	71629.79	"	1.20	0.20	52	39	276	3	"	4837	beams dumped	
1.22	25.39	71 655.18	"	1.40	0.30	50	35	446	6	"	"		
5.26	17.88	673.06	"	1.20	0.20	51	38	314	4	"	"		
3.76	0.88	681.94	"	1.10	0.15	51	38	156	4	"	"	Beam dumped	
												Cosmics run!!	
8.41	23.75	71705.69	"	1.4	0.20	49	35	417	5	17.503	4841		
6.86	22.03	71727.72	"	0.9	0.15	49	38	387	7	17.500	4841		
5.17	17.53	71745.25	"	0.7	0.15	50	41	308	5	"	"	Beams dumped	
9.91	0.91	71746.16	"	1.2	0.2	40	35	16	—	"	"	Stopped to work on ADC's	
8.95	26.53	71772.69	"	1.0	0.15	49	36	466	12	"	4840		
7.80	9.75	71782.14	"	0.8	0.10	50	39	166	1	17.503	4840	Beams lost	
7.87	23.68	71805.82	"	0.85	0.18	50	38	418	6	17.500	4839		
6.78	9.11	71814.93	"	0.65	0.07	52	40	160	2	17.503	4839	Beams lost.	
7.87	24.25	71839.18	"	1.0	0.43	49	37	426	7	17500	4840		
6.42	14.63	71853.81		0.9	0.1	51	40	257	4	"	"	Beams lost	
8.74	24.33	11879.14	"	1.0	0.2	51	37	445	8	"	"		

17:44 XSPY back to life

19:43 PF-keys at IBM-terminal incorrectly connected (fumbonder not agree with label). I called the IBM operator, and he informed me very unpolitely, that he were not responsible. Maybe he had to leave the TV to answer my call. I now prepared a note concerning the fault for the computer centre.

20^{00} The spike on the z-chamber is caused by an oscillating amplifier. I have no means of switching it off completely but switching of the DC supply to all the cards and then back a stops it at least for a limited period. We will have to live with it as it is a fact to say!! Ah I'll look again and perhaps disconnect the o/p from the effected wire.

JOBS ERROR 64 AC2099 TOF 2 CP, X MISSING STATION = 3 SUBERR = 0. ??

6/10/86

0^{00} Atkinson on shift. Gas check OK.

2^{08} 'IBMPC inactive' shown on colour TV and error 14 in 35503 on system console - communication problem as IBMPC is working. Will rebuild when beams dumped (5 mins)

2^{24} Gas valve failure as HV run down

2^{24} YIBMPC successfully rebuilt.

3^{20} Reloaded JETC microprocessors after error message 368K error - see MOP appears on colour TV - loaded from MOP console.

4^{00} Elsen on shift

4^{46} BP-ch. wire map deviation > 50%

5^{-35} BPCH trip.

7^{32} BPCH wire map deviation > 50% due to noisier beam?

7^{50} Call from Celle: PKR want to take the machine for studies at ≈10.00 this morning. They estimate 1-2hrs.

8^{00} Bethke, Feist on shift

gas check done

8^{30} continuous missing Cam Chance 3 wire 2 : Drift Chamber, went away after touching various connections

9^{20} same thing happened again

9^{35} beams dumped to start the leak search on PETRA, magnet → 500A

14^{15} short break (pumps being switched on and off) magnet isolator switched off

16.00 Hanke on Shift

16.30 Gas check done.

17:30 We do a test for cosmic run and hope PKR will not start too early to inject; they think about 1/2 hour.

17:32 It happened: just mixing Cosmics for 3 minutes, they want us to switch off. Leave the magnet on. Runs 26905 were cosmics!!

20^{00} Hagnussen on shift

22^{35} Beams lost ; 'Short break' appears on screen

0.11 Beams up again. (Hellich on shift)

1.22 Beams lost for no obvious reason. (slowly dipping out of PETRA.) HV down. However Linac II down.

1.30 Short break, 1.40 Injection, 2^{00} Beams up.

3.15 VTXCh hard trip. JETC soft Tr.

3.27 Jackpot Hit! All chambers hard trip. Beams lost.

4.00 Barkel on shift

This is the end of the log book

continuation Vol. XXI