JADE LOGBOOK XVIII Runs 24282 – 25704

Ein Brunnen-Erzeugnis

JADE LOGBOOK

XVIII

22/2/86 continuation of T. Greenshaw & D Hardt's shift

16[10] Gas check done

20[14] Repeated missing LAM: br 4 cr 1, not JG8K but Z chamber! Pause/continue didn't help, stop run/start run did.

21[19] "JG8K error - see MOP" appears on JDAS screen, MOP screen is blank! data taking continues apparently normally however, so with fingers crossed we proceed.

23[00] Note that Forward Muon Chamber HV supply is still disconnected from the HV control box. It was briefly reconnected but HV error preventing running then reappeared, (see previous log book). Richard is on shift tomorrow and will check things then.

23/2-86 Ambrus + Heinzelmann

00[15] Note on disk crash: System Disc was corrupted at ~12[00], 22/2 and it was impossible to regenerate JDAS on it. The backup from 18/2 (Backup D) has since been copied onto the Backup A disk, and this is now serving as system disk. All files on the old, crashed disk are available and can be read. Following files have been reseved and updated on the present system disk (which otherwise has files from 18/2):
ZDAS, ZREAD, DL8JC, VTXCH, YPARA, YPAROT, YCLRTV, YTEXT, NSODAR:NORS, VTX2/60:TXLD
SET-CLOCK
Missing still (yet to be copied) are: source files for NSODAR and VTX2/60
Anyone who has files to be copied should tell me or Howard Mills soon, since the crashed disc will be reformatted and put into use again as system disc.

The above crash, as well as intermittent disk transfer errors and the NORD crash from 21/2, are believed to be caused by an uneasy, unstable 220 V net here, i.e. it can happen again at any one time...
J.O.

0[32] Gas check done

4[00] Kleinwort replaces Heinzelmann

4[31] JDAS ERROR 33 - missing LAM BR 4 CR 1 : JETC point 507

7[55] " " " " " " " " " 505

23/02/86

8^{00} Hedgecock + Hagemann on shift

8^{46} JDAS readout error 33 - missing LAM Br. 4 Cr. 1 JETC point 505
8^{02} " " " 33 - " " " " J68K bank
8^{25} " " " " " " " " JETC point 505
8^{26} " " " " " " " " J68K bank
8^{50} " " " " " " " " JETC point 706
8^{53} " " " " " " " " " " 603
8^{54} " " " " " " " " " " 505
8^{55} Message "J68K Error - See MOP" but MOP shows nothing. Data taking continues normally.
↳ was permanently => stop run => 11 processes reloaded
9^{07} run started
9^{03} JDAS readout error 33 - missing LAM Br. 4 Cr. 1 J68K bank + Message colour TV "Illegal continuation record"
9^{10} " " " " " " " " JETC point 506
9^{58} " " " " " " " " J68K bank
9^{59} " " " " " " " "
10^{05} 4x J68K bank + Illegal cont. record
10^{12} J68K bank + "
10^{14} JDAS readout error 33 - missing LAM Br. 4 Cr. 1 JETC point 505
10^{15} " " J68K bank
10^{23} " " "
10^{30} " 0000658 Subevent 0004013 -> no triggers
~~" 33 "~~ Pause -> Continue -> Pause => Nord10 hang up Level 8 ADR 13 9 7 543 10
10^{34} Nord10 restarted, try to restart JETC µP's but ready-state not reached. Call H.v.d.Schmitt, he will come.
11^{09} ready for data taking, start run # 24313
11^{57} JDAS readout error 33 - missing LAM Br. 4 Cr. 1 J68K bank 3x
13^{20} Nord10 hang up restarted
14^{47} JDAS readout error 33 - missing LAM Br. 3 Cr. 4 ; Z-ch Part 1
" " " 53 - System crate watchdog flag PARMS 000006 140204
" " " 53 - " " " " " "
=> N10 hang up Level 8
15^{20} FWD MUON ~~COUNTER~~ HV. I removed the unit and replaced it with an assumed working spare. - Net result, a similar fault to that previously experienced. - In desperation, I changed the units back to the original pattern and reset all the HV levels by hand. - Now switched back into the system. I hope it works now?? CRH

16^{00} H.Milke & H.Krehbiel on Shift - J.Olsson & H van der Schmitt also here.
16^{30} New Fill. high background - PKR are optimising without telling us.
16^{52} Z-chamber hard trip - also BPCH valve failure.
17^{02} All chambers tripped - Electrons lost. - beam instabilities not understood by PKR.
17.00 HV of TOF back to normal
HV FWFLUCNTR adapted to new values.
HV runs without errors (Checked!) B.N.

17^{55} New Fill - chambers trip before we can start run!
18^{01} Soft tripot JETC ABPCH
lots of soft-trip - No pointer switching on - PETRA has non-understood instabilities & the chambers often trip before they have run up. CELLO & MARK-J also suffering.

YSPY say Mu digitiser 36 is missing - its right - has been for last few runs. - Reported to Jan Chrin - Nextron cures itself! was there runs 24313 – 24326 incl

Fan failure in upper system crate

20^{42} Back on again at end of the fill
20^{43} BPCH wireside 228 no hits (YSPY) Hitoshi says leave it for R Ramcke (night shift).
20^{55} J68K ERROR - SEE MOP --- MOP appears to be dead! STOP run - reload 68ks (was just resting)
21^{10} We were requested to switch off HV without being asked about kill---
21^{39} New fill - ZCH hard trip. ZBM busy for periods
Yet again "J68K ERROR - SEE MOP" and the MOP has nothing to say. Can't even get a ½ complete run. After a while it goes away (as it was VAS recovered)
23^{15} Z-ch. Trip Trouble with gas supply for BP-CH - valve failure. Followed procedure - press green button - after few seconds it failed again. Followed instructions to move V2 for 1 sec - this cured the valve failure but "STÖRUNG" stayed on. BPCH expert is on night shift anyway so not sensible to call anyone.
23^{36} All stopped with missing LAM - JETC point 701. STOP run, load JADECO & try again

24-2-86

0^{00} Ramcke and Warming on shift gas check done OK
0^{02} JDAS readout error 33 missing LAM branch 4 crate 1 (J68K)
0^{10} " " " " " "
message "ILLEGAL CONTINUATION RECORD" appeared and went away

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_0 REJ $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_4 Bit 2 $E_{LG} > 6$ GeV	T_2 Bit 17 $2T \cdot E_H \geq 2$ LTR
24282	22/2/86	15^{43}	15^{49}	6.04	5.87										
24283	"	15^{52}	16^{24}	5.92	5.67	26.5	1874	3237	2913	487	129	1864	2560	709	43
24284	"	16^{32}	16^{48}	5.03	4.89	26.2	835	1283	1147	217	56	722	1049	293	15
24285	"	16^{54}	17^{22}	4.67	4.54	23.1	1388	2161	1906	360	83	1273	1679	436	31
24286	"														
24287	"														
24288	"	17^{32}	12^{05}	4.12	4.01	31.1	2071	6880	3455	539	168	3020	7448	491	48
24289	"	18^{41}	19^{43}	7.71	7.5	31.5	2852	5762	5171	742	234	7278	6068	584	88
24290	"	20^{00}	20^{14}	5.42	5.58	26.0	1869	1473	1373	207	57.9	871	979	314	17
24291	"	20^{17}	21^{39}	5.10	5.25	23.4	6687	7151	6771	1168	279	6241	6997	1548	101
24292	"	23.00	21^{01}	7.90	7.71										
24293	"	21.04	21^{13}	7.27	7.58										
24294 24295	"														
24296	"	23^{24}	23^{41}	6.66	6.97	33.8	1031	1996	1814	268	90.6	1162	1410	462	~~116~~ 24
24297	"	23.46	0:09	6.08	6.34	39	1364	3532	2648	355	139	2147	2625	493	22
24298	23/2/86	0:13	0:28	5.44	5.74	36	873	2177	1674	227	81	1319	1683	237	12
24299	"	0:30	0:48	5.12	5.41	36	457	1181	890	119	43	710	888	132	8
24300	"	0.41	1:15	4.89	5.19	33	2026	4885	3574	527	175	2975	3733	581	35
24301	"	1:15	1.53	4.31	4.58	33	2214	5037	3559	576	190	3072	3764	597	27
24302	"	1:56	2:06	3.74	4.00	32	549	1284	886	142	45	779	937	150	9
24303	"	2:35	2:42	7.90	7.94	26	387	676	604	100	26	573	683	243	16
24304	"	2:45	2:58	7.56	7.61	26	577	926	802	150	38	817	1005	328	14
24305	"	3:07	3:28	6.84	6.88	34	1160	2222	2026	301	103	1264	1604	523	21
24306	"	3:30	4:26	6.22	6.17	29.9		5098	3680						
24307	"	4.32	5:14	3.49	4.87	31.3	2466	5615	4002	642	201	3441	4273	649	29
24308	"	5:59	7:20	7.92	7.96	28.7	4337	8002	7263	1128	324	4633	6256	1822	105
24309	"	7:21	8:14	5.59	5.65	37.6	3181	8002	5756	828	311	4691	6239	988	48
24310	"	8:14	9:02	4.57	4.65	38.7	2819	6230	4496	734	284	3722	4865	766	36
24311	"	9:04	9:16	3.84	3.92	32.1	708	1686	1177	184	59	993	1230	187	13
24312	"	9:54	10:30	7.97	7.93			6680	~5000						
24313	"	11:09	12:01	5.73	5.71	38.2	3027	8002	6080	788	301	4681	5992	1031	41
24314	"	12:01	12:37	4.68	4.68	35.4	2035	5237	3952	530	188	3199	3827	632	25
24316	"	13^{13}	13^{12}	7.63	7.66	47.4	292	723	585						
24318	"	15^{30}	14^{17}	6.91	7.05	42.1	2721	~~7853~~ 7653	6056	708	302	4604	5465		

NSO	MIP	TOF	FAMP	$\langle L \rangle$ 10^{33} cm^{-2} s^{-1}	BHABHA $\int L dt$ nb^{-1}	$\int L dt$ EXP ENERGY	IBM/TAPE OUTPUT	AT RUN START DD µA	AT RUN START TOF V	ONLINE REJ SUM MIPROC T_1 %	ONLINE REJ NORD-50 $T_1 \cdot T_2$ %	Σ BHA BHA	MH	E_{BEAM}	MAGN FIELD -146	REMARKS
					0.46	232.44										very little data - this run
ON	ON	ON	OFF	2.89	6.66	239.10	IBM	0.2	2.2	54	11	117	2	17.500	4838	
"	"	"	"	2.33	2.16	241.26	"	0.2	2.0	56	11	38	1	"	4837	
"	"	"	"	2.24	2.90	244.16	"	0.15	1.5	56	13	51	1	17.501	"	
																no data
"	"	"	"	1.46	1.36	247.42	"	0.1	1.5	54	20	54	1	17.500	4838	beams dumped
"	"	"	"	7.66	12.18	259.60	"	0.7	3.0	51	11	214	6	17.501	4837	Strike in power supply to system crate - stopped readout (and JLG) run stopped to cure missing data in 4 crl 2 chamber
"	"	"	"	2.41	2.45	262.05	"	0.3	2.4	49	10	43	0	17.500	4837	
"	"	"	"	2.14	9.41	272.56	"	0.3	2.3	51	12	164	3	17.500	4838	beam dumped
"	"	"	"				"	0.25	5.0					"	"	Stopped to reload JETC processors v. little data
"	"	"	"				"	0.25	4.6					"	"	Stopped, JETC failure v. little data
"	"	"	"				"							"	"	v. short
"	"	"	"	3.67	4.10	272.66	"	0.2	2.8	52	10	72	0	"	"	
"	"	"	"	2.89	4.44	277.10	"			53	26	78	1	"	"	test trigger to solve wiring LAM needs initialise
"	"	"	"	2.76	2.73	279.83	"			55	29	48	1	"	4837	
"	"	"	"	2.45	1.59	281.42		0.2	2.0	52	26	28	0	"	"	
"	"	"	"	2.15	5.52	286.94				55	28	97	3	"	"	
"	"	"	"	1.83	4.33	291.27				54	81	76	1	"	"	
"	"	"	"	1.57	0.97	292.24				53	33	17	0	"	"	
"	"	"	"	5.55	2	all events have the same jet chamber data.										
"	"	"	"	5.16												
"	"	"	"	3.71	5.47	297.71		0.3	2.0	52	10	96	2	"	"	
"	"	"	"	2.43	7.88	305.59	IBM	<0.3	<2.0					"	"	Run Summary lost, NO stopped.
"	"	"	"	1.51	3.76	309.35	"	0.2	1.7	55	30	66	3	"	"	beams dumped
"	"	"	"	4.00	19.47	328.82	"	0.5	4.0	54	10	342	9	"	"	
"	"	"	"	1.87	6.60	335.42	"	0.35	2.6	54	30	116	3	17.501	4837	
"	"	"	"	1.47	4.95	340.37	"	0.36	2.2	55	29	87	3	"	4837	stopped JETC problem
"	"	"	"	1.27	1.59	341.96	"	0.25	1.8	52	32	28	0	17.500	4837	beams dumped
"	"	"	"		~8.7	350.66	"	0.5	4.2					17.501	4837	Nord hang up then summary lost
"	"	"	"	2.42	7.17	357.83	"	0.3	3.0	52	26	126	1	17.500	4838	
"	"	"	"	1.83	4.33	362.16	"	0.25	2.1	54	26	76	1	17.501	4837	
"	"	"	"	2.30	0.57	362.73	"	0.4	3.8	49	21	10	1	"	"	Run # 24315 does not exist
"	"	"	"		~8.4	371.13	"	0.4	3.1					"	4838	Run # 24317 does not exist Run Summary lost Nord10 stopped

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_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 $2T \cdot E_4 \geq 2$ TR
24319	23/2/86	14:28	15 14	5.40	5.56	39.8	3066	~~8002~~	6193	~~797~~	~~317~~	4651	~~5928~~	1019	60
24320	"	15 22	15.59	4.37	4.52	38.3	2220	~~5462~~	4045	~~577~~	~~221~~	~~3151~~	~~4073~~	669	38
24321	"	16:33	16:47	7.44	7.67	58.3	650	1021	960	169	99	519	718	213	14
24322															
24323	"	16:53	17:15	6.82	7.03	27.4	672	1273	1152	174	47	699	911	285	10
24324	"	18:01	18:05	6.93	7.06	35.7	74	151	139	19	6	80	85	24	1
24325	"	18:09	18:49	6.71	6.85	28.4	1586	2913	2652	412	117	1604	2132	628	34
24326	"	18:49	18:51	5.73	5.87	27.4	249	184	160	15	4	96	96	45	2
24329	"	18:54	19:12	5.65	5.77	23.4	1019	1700	1479	265	61	959	1257	367	19
24330	"	20:42	20:54	3.91	4.03	31.3	925	2209	1552	240	75	1317	1563	224	13
24331	"	21:00	21:12	3.67	3.79	30.5	640	1519	1068	166	50	930	1094	162	7
24332		21:39	21:44	7.51	7.50	52.2	271	695	540	70	37	383	489	76	34
24333		21:44	22:55	7.31	7.31	31.8	4156	8002	7180	1081	343	4616	5639	1794	94
24334	23/02/86	22:55	23:36	5.47	5.49	36.5	2381	6229	4480	619	225	3801	4399	800	42
24335	"	23:38	0134	4.64	4.66	33.7	3360	8002	5616	874	294	4884	5916	957	45
24336															
24337	24/2/86	0:36	0:58	3.51	3.53	33.8	1262	2843	1952	328	111	1732	2083	365	18
24338	"	1:24	1:30	7.95	7.97	45.9	337	1054	837	87	40	626	746	156	9
24339	"	1:31	1:44	7.69	7.71	35.8	631	1402	1268	164	105	818	978	308	10
24340	"						—	no Events	—						
24341	"	1:47	1:51	~~2.78~~	7.15	~~2.85~~	215	486	440	55	21	270	310	107	4
24342	"	1:53	2:08	6.97	6.99	33.4	751	1625	1429	195	65	943	1098	393	16
24343	"	2:09	2:14	6.47	6.49	30.4	191	418	377	50	15	239	303	93	1
24344	"	2:16	3:09	6.27	6.30	29.2	3132	5993	5304	814	238	3549	4194	1375	83
24345	"	3:09	4:03	5.03	5.06	36.5	3180	8002	5715	827	302	4802	6009	967	52
24346	"	4:03	4:10	4.10	4.13	35.4	382	913	661	64	35	532	697	105	1
24347	"	4:36	5:00	8.05	8.03	33.4	1252	2737	2525	326	109	1665	1949	672	90
24348	"	5:01	5:20	7.13	7.14	33.3	1092	2266	2007	284	94	1385	1558	566	23
24349	"	5:22	6:14	~~6.53~~ 7.13	~~6.54~~ 7.14	39.2	2885	8002	6186	751	294	4869	5709	1155	55
24350	"	6:14	6:44	5.17	5.22	35.9	1553	4003	2954	404	145	2431	2899	533	24
24351	"	~10:50	~10:51	~	~	only 2 triggers									
24352	"	10:53	11:03	8.04	7.99	36.2	564	1558	1203	147	53	1007	1046	244	8

PROCESSORS ON/OFF NSO	MIP	TOF	FAMP	$\langle L \rangle$ 10^{30} cm^{-2} s^{-1}	BHABHA SL dt nb^{-1}	SL dt EXP. ENERGY	IBM/TAPE OUTPUT	AT RUN START ID μA	AT RUN START TOF V	ONLINE REJ SUM MIPROL T_2 %	ONLINE REJ NORD-50 $T_1 R T_2$ %	Σ_{BHABHA}	MH	E_{BEAM}	MAGN FIELD 1=G	REMARKS
ON	ON	ON	OFF	2.31	7.46	378.59	IBM	0.3	2.6	52	24	131	0	17.500	4.838	
"	"	"	"	1.78	4.56	383 15	"	0.2	2.2	51	27	80	3	17.500	4837	Beams dumped/lost?
"	"	"	"	2.10	4.71	384.86	"			50	9	30	0			REDUCED-TRIGGERS R-T One Event /
"	"	"	"	2.68	2.11	386.97	"	0.35	3.0	50	10	37	0	"		R-T Beams lost
"	"	"	"	3.55	0.06	~~~~	"									Testrun
"	"	"	"	2.71	5.12	392.09	"	0.5	5.0	51	10	90	0		-4838	Red-Trg stopped for TBS investig.
"	"	"	"	1.67	0.34	392.43	"	0.25	2.1	38	15	46	0	"	-4837	Red-Trg 24326 just redriven
"	"	"	"	1.94	2.73	395.16	"	0.20	2.1	51	14	48	0	"	-4837	SYSTEMcrash for Full ! (POWERsupply)
"	"	"	"	1.55	1.20	396.36	"	0.15	1.5	51	32	21	0	"	"	FULL TRIGGERS stopped - 68k problem
"	"	"	"	1.28	1.02	397.38	"	0.2	1.4	55	31	18	0	"	"	F-T Beams dumped
"	"	"	"	2.15	0.68	398.06	"	0.4	3.1	64	24	12	0	"	-4838	F-T High dead time
"	"	"	"	3.21	1.36	475.42	"	0.4	3.9	51	11	305	2	"	4838	REDUCED-TRIGGERS
"	"	"	"	2.34	6.32	421.74	"	0.4	2.2	52	30	111	1	"	4837	Full Triggers
"	"	"	"	1.71	7.17	428.91	"	0.4	2.0	54	31	126	2	"	"	stopped because of crash
																fresh
"	"	"	"	1.23	2.62	431.53	"			54	33	46	1	"	"	beams dumped
ON	ON	ON	off	4.17	2.22	433.75	"	0.5	4.8	52	22	39	0	"	4838	full triggers
"	"	"	"	4.72	2.51	436.26	"	0.5	4.2	51	10	44	0	"	"	REDUCED triggers
								0.4	3.4							Red. trig
"	"	"	"	4.45	1.08	437.34	"	0.4	7.4	45	10	19	0	"	"	Red. trig
"	"	"	"	4.12	3.47	440.81	"	0.4	7.5	54	13	61	1	"	"	Red. trg
"	"	"	"	3.54	0.74	441.55	"	0.4	3.4	52	11	13	0	"	"	— " —
"	"	"	"	3.23	11.22	452.77	"	0.4	3.0	52	12	197	3	"	4837	— " —
"	"	"	"	2.00	5.92	458.69	"	0.3	2.5	53	30	104	1	"	"	Full Triggers
"	"	"	"	1.47	0.46	459.15	"	0.3	2.0	54	29	8	0	"	"	— " —
"	"	"	"	4.72	6.03	465.08	"	0.5	5.7	50	10	106	2	"	"	Red. Trigger
"	"	"	"	4.25	5.01	470.09	"	0.4	3.5	54	12	88	3	"	4838	— " —
"	"	"	"	2.97	9.11	479.20	"	0.3	2.8	53	24	160	4	"	4837	full Triggers
"	"	"	"	2.25	3.59	482.79	"	0.3	2.4	53	28	63	4	"	"	— " —
								~~0.25~~	~~2.3~~							lost.
"	"	"	"	5.30	3.99	486.78	"	0.25	2.3	56	24	70	0	17.501	4841	full trigger

24/2/86

0^{12} ZDAS readout error 33: missing LAM br. 4 cr 1 (J68K)
0^{20} " " " " "
0^{24} " " " " "
0^{29} " " " . (JETC point 505)
0^{33} " " " . (JETC point 505)

at regular intervals:
YSPY: "Bad wireslds no hits"
Ramdac is working on it

0^{35} start new run*, message "J68K - Error - see MOP" appears on color TV, many missing LAM's on ZDAS console
stop run, start another one, same message and 4 missing LAM's } after that smooth data taking
and "YIBMPC, Bad Data on system console"

*old run finished with run "summary printing", but nothing appeared on gould plotter, power on/off helped

0^{51} BP-ch- ~~trip~~ error message: XY-plotter on fault
0^{58} beams dumped
1^{24} new fill ready, start run 24338, dead time 47% → reduce trigger for next run
in short run 24338 twice missing LAM (J68K)
1^{32} run 24339, missing LAM, br 4 cr 1 (Jetc point 501)
1^{37} " " " (J68K)
1^{38} " " " "
1^{43} " " " " JETC 501, 502, 503, not ending sequence - stop run
try to start new run, no success } at the same time: Z-ch- trip, reset ok
reload JETC μ-proc
start new run 24341
after a few events message on colour TV "J68K error - see MOP" faulty part 3,
on MOP 670 information
1^{50} message does not disappear, so we stop run, reload JETC μ-proc again, start new run 24342
2^{25} Z-ch tripped
run 24342 stopped by continuous missing LAM's } from now on we give up to note down all missing LAM's
" 24343 " " " " it's too much work!
run 24344 stopped to go back to full triggers mode
run 24346 stopped because of end-of-fill
run 24347 stopped by continuous missing LAM's (JETC point 506 and others)
run 24348 " " . " (JETC point 701)
6:05 all ch's tripped
frequently valve failure of VTX-ch-gas-system
6:40 beams dumped for energy saving
8:00 1 VTXC-FADC broken (Model 60) H. Kado looks for a new one.

not the FADC itself, it was the
Line receiver of modul 60 (HK)

8:00 I. Walker and H. Rieseberg on shift.

8:25 Gas check OK

8:57 VTX FADC modul 60 repaired. (IC in line ~~driver~~ receiver circuit of channel #1 was broken) (HK)

9:15 Magnet → 7500 A

9:30 I tried to select an old run (for histograms). After that
ERROR 24 ~~of~~ in 34441 at 441 Ring violation
appear on keltype. NED loads ZDAS. Can be restarted via RT ZDAS (?!!?) N.H.
Works also for any other F-key!
Reload Nord
again at N50 PROGRAM FILE <N50 DAR>: → ERROR 24 in 34441 at 34: Ring Violation, ZDAS

9:50 J. Olsson comes and REBUILD s ZDAS → ok. (see Appendix 6)
Note: Before there was already a problem in CAMAC: When switching off a VTXC-CAMAC-crate for repair of a DL 101 FADC (see above) the ERROR 37 IOX ERROR Address 50405, Level 1 was printed continously on the keltype. There was no run in progress.
10:46 NF ready. Rather low background.
10:51 Run 24351 stopped after 2 triggers because of JETC panel 701 error.
Reload JETC μ-proc. Run 24352
11:04 We have to stop Run 24352 because of JETC panel 702 error: Bus error in crate Interconnect!

Exchange of L6-HV distributor: N.M., M.K., H. Kreiser and Herr Mashildanstaes are doing in to the L6-HV boxes!
Three Lead glass rings are off, therefore no data taking!

During not written Test Runs we have no problems with J68K errors

Trigger (corr)/sec	dead time
5,2	35 %
3,4	23 %

14:00 Beams dumped

Magnet current is stable. Mr. Pillat tells that in the current regulator about 50 transistors burnt. He changed the circuit in such a way that the remaining transistors take over more load. To exchange the burnt transistors Mr. Pillat will need 1½ to 2 days

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME %	TIME (SEC)	RECORDS IN	RECORDS OUT	ALL $*10^6$	T0 RES $*10^6$	T1 ACC SUM	T2 ACC SUM	T1 BIT 2 $E_{EL} > G_{eV}$	T2 BIT 17 $\Sigma T \cdot E_H \geq \Sigma T \cdot E_T$
24353	24/2/86	15.58	16.53	7.38	7.39	23.6	3188	5697	5048	832	186	3484	3764	1269	44
24355	"	19.29		7.88	7.88	25.9		2330	2060	–	–	–	–	–	–
24356	"	/	/				— unknown —		think almost no events.						
24357	"	20.21	21.18	6.51	6.53	28.5	3365	6002	5645	876	258	5196	5565	1020	41
24358	"	23.50		6.42	6.30			66	53						
24359	"	23:55	0:29	6.34	6.22	32.4	2044	5050	3665	532	172	3158	3717	701	22
24360	25/2/86	0:30	0:31	5.62	5.52			13	13						
24361	"	0:49	0:57	5.28	5.19			136	90						
24362	"					this run does not exist due to JG84 problems									
24363	"	1:08	1:16	4.98	4.89	28.9	432	1079	730	112	32	673	727	133	4
24364	"	1:19	1:56	4.81	4.73	28.1	2173	4831	3261	566	159	3085	3621	581	20
24365	"	2:22	2:35	7.90	7.88	39.4	750	2134	1650	195	77	1277	1535	319	7
24366	"					"waiting for IBM link"									
24367	"					} Stop after 1 event			XPARA corrupted						
24368	"														
24369	"	2:58	3:13	6.87	6.88	37.3	872	2292	1677	227	76	1407	1565	317	13
24370		3:15	3:38	6.45	6.48	37.6	1363	3362	2437	354	112	2146	2339	487	13
24371	"	3:40	4:22	5.91	5.94	30.0	2314	5476	3813	602	181	3468	3926	726	27
24372	"	5:36	6:39	7.73	7.68	24.4	3620	6472	5747	942	230	3969	4494	757	53
24354	"	13.24	13.38	5.93	6.20	~~45.1~~ 53.0	151	405	269	38	13	222	247		
24374	"	13.49						245	142						
24375	"	1400		5.50	5.76		0								
24376	"	1408	1414	5.19	5.62	29.8	342	830	614	89	15	502	588	103	0
24377	"	1418	14.24	5.10	5.52	31.7	367	820	685	86	30	549	631	122	4
24378	"	1456	14.57	8.46	8.62	38.8	82	298	248	21	8	159	176	39	0
24382	"	16.17	16.20	9.16	8.21	34.1	177	554	435	46	17	324	359	88	0
24383	"	16.24	16.53	7.95	8.01	36.3	1471	3962	2951	332	139	2296	2911	556	19
24384	"	19:43						~2000							
24385	"	21:12	12:53	5.63	6.39	31.7	2475	5826	3607	643	204	3528	4402	741	25
~~24386~~ 24354		23:26		7.95	8.01										
24387	"	23 31	00:08	7.81	7.95	39.1	2081	5799	3839	542	212	3351	4492	769	31
24388	26/2/86	00:16	00:56	6.64	6.81	25.3	2309	4064	3180	601	152	2285	3177	937	28
24389	"	00:59	1:16	5.75	5.92	22.7	936	1542	1181	243	55	863	1175	311	20
24390	"	1:19	2:17	5.40	5.56	21.5	3647	4609	3494	793	170	2584	3630	1052	40

PROCESSORS ON/OFF N50	MIP	TOF	FRMP	<L> 10^{30} cm^{-2}s^{-1}	CHARGE $\int L\,dt$ nb^{-1}	$\int L\,dt$ EXP. ENERGY	IBM/APE OUTPUT	AT RUN START I.D NA	TOF V	ONLINE RES. SCINT. MIMOSA T2 %	MWPC-TP TR %	Σ CHARGE	MH	E_{BEAM}	MAGN. FIELD -I+G	REMARKS
ON	ON	ON	OFF	4.45	15.71	502.48	IBM	0.2	2.1	50	24	276	6	17.501	4860	REDUCED TRIGGERS ~~beg my diamond (energy corr. o.k.)~~
"	"	"	"	4.72	16.29	508.78	"	0.25	2.2		"			"	4837	Reduced Trigger Nord level 3 „Hw JDM err 65
								0.2	2.0							FULL TRIGGERS
"	"	"	"	3.56	14.23	523.01	"	0.2	20	55	30	250	5	17.500	4.840	FULL TRIGGERS
"	"	"	"				"	0.2	2.0							FULL TRIGGERS (missed 2 trs at HT). Nord hg level 3
"	"	"	"	3.32	7.74	530.75	"	0.2	2.0	55	28	136	2	17.500	4838	FULL TRIGG run stopped due to watchdog flag error
								0.2	1.6					17.501	4837	FULLTRIGG " JG84 problem
"	"	"	"		0.17	530.92	"	0.2	1.6					17.501	4838	FULL TRIG Nord hang up
								0.2	1.65							
"	"	"	"	2.62	1.59	532.51	"	0.2	1.5	51	34	28	1	17.500	4837	watchdog flag run stopped FULL TRIG error FULLTRIG
"	"	"	"	2.26	5.47	537.98	"	0.2	1.4	57	34	96	3	17.500	4837	beams dumped
"	"	"	"	4.97	3.93	541.91	"	0.5	4.5	52	24	69	1	17.500	4837	FULL TRIG run stopped holes in JETC wire map run does not exist on IBM
								0.2	2.1							
								0.2	2.0							
								0.2	2.0							
"	"	"	"	4.04	4.44	546.35	"	0.2	1.9	49	28	78	1	17.500	4838	FULL TRIG Stopped holes in JETC wire map
"	"	"	"	3.65	5.69	552.04	"	0.2	1.7	55	29	100	2	17.500	4837	FULL TRIG stopped due to JG84 problem
"	"	"	"	3.01	7.52	559.56	"	0.2	1.5	55	32	132	3	17.501	4837	FULL TRIG beams dumped
"	"	"	"	4.82	18.16	577.72	"	0.4	3.5	53	12	319	9	17.501	4837	Reduced Trigger beams lost
"	"	"	"												0?	wrong run number, JETC error
																IBM Link down
"	"	"	"	3.22	1.71	579.47	TAPE JDAS05			52	27	30	–	17.500	4838	
"	"	"	"	3.07	0.97	580.40	"	0.2	1.5	50	27	17	2	"	4841	beams dumped
"	"	"	"	7.15	0.68	581.08	IBM	0.4	3.2	40	22	12	–	"	4838	NORD problem, beams lost
"	"	"	"	5.44	1.42 mm	582.50	"		4	45	28	25	1	"	4839	~~NORD problem~~ b
"	"	"	"	4.34	7.23	589.73	"		4	53	25	127	0	17.501	4840	
							"	0.4	3.2					17.500	4839	RED-TR PATCH Nord DIV
"	"	"	"	2.93 ~~5.60~~	8.60	598.33	"	0.25	2.0	54	40	151	1	"	4839	Nord crash FULL TRIGGERS Nord died
							"							17.500	4838	Nord diag reveals
"	"	"	"	4.62	10.76	608.60	"	0.4	3.0	52	32	81	3	"	"	FULL TRIGGERS
"	"	"	"	4.28	12.53	621.13	"	0.3	2.3	53	23	220	2	17.501	4838	red-trg. Started because of missing JETC LMHs
"	"	"	077	~~3.89~~	~~3.30~~	624.43	"	0.3	2.0	51	25	58	2	"	4837	Red - trg "
"	"	"	"	3.13	12.64	637.07	"	0.3	1.8	53	26	222	5	"	837	red-trg beams dumped

24.2.86

14²⁵ SHORT BREAK. Pressluftschlauch geplatzt. It will not take long

15¹⁰ Backup of Disc (J.O. and HEM) stops LG-HV activities
LG-HV activities stop repairs at system disc - - -

15³¹ New filling ready . LG-HV on

15⁵⁰ H. Mills + D. Schmidt on shift (10 mins early!)

Run 24353 started with a string of missing LAMs ending with J68k bank- then all Ok.
Event display program breaks. The disc needs to be checked & system rebuilt otherwise things will get worse
Gas system inspected- its Ok.

16²⁰ The LG-system is ok. again M.M.

16⁵⁰ Energy saving time

System disc work- REGENERATE-DIRECTORY performed (COLD-ZREAD corrupt) Then system built & backed up.
Decided to reload 68ks- Instructions did not agree with what MOP displayed. On trying
its D menue it aborted with an exception- then the >A prompt came and could load- this will
confuse some people!
Run 24354 - one event due to wrong settings of T_2 trig flag etc.
On online event display I catch two events with missing rings — MISRING1 and MISRING2 are the files

19⁵⁰ JETC ABPCIT soft trip- background gone poo

Run 24355 stops- SDAS ERR 65, hang level 8 — CI bus errors on EVP terminal

20⁵⁰ A rush of disc transfer errors. This all seems to be independant of disc drive and disc itself

Investigating the disc trouble--- ~~SMC~~ The faults seem independant of disc pack or various modules in the CPU.
Have tried exchanging various cards. (with help of Mr. Festre)
SYSTEM disc re initialised & copied from backup (taken this evening').
The night shift should try to take data until it breaks.

a) Do not run programs or edit files on other terminals
b) Be sparing in use of event display etc

When it breaks stop the computer, run disc down & one of you go home - - - Don't call us.
Jan Olsson says if the shift crew is still here @ 7am they should call him! we won't call you

23⁵⁰ We start run 24358 - hangs on level 3 after 66 evts

25.2.86

J. Haymann + H. Kado on shift

0:10 missing LAM J68K Bank 2 times
0:18 Gas deck done, OK
0:29 Missing LAM Br. 3 Cr. 5 : 2-CH Part 2
" " Br. 2 Cr. 3 : TOF1 counters
System crate watchdog flag PARMS = 000016 140204
Missing LAM Br. 2 Cr. 3 TOF1 counters
System crate watchdog flag PARMS = 000016 140204
⇒ Run # 24359 stopped by hand
0:30 again after the first 12 events
we stopped run # 24360
0:48 reload J68K Processors and start a new run.
No problems for 163 (!) Triggers. Then Nord crashed (level 14, no activities on ADR or P ADR)
Nord reloaded — startup ok
start new run — stopped after 13 Triggers with continous missing LAM JETC point 701
1:06 reload J68K — start new run — ok
1:15 watchdog flag again after 1447 triggers (see above)
1:17 reload J68K again — start new run — ok
1:41 missing LAM Br. 4 Cr. 1 JETC point 406
2:22 missing LAM Br. 4 Cr. 1 J68K bank
2:26 " " Br. 4 Cr. 1 JETC point 503
2:34 Run # 24365 stopped J68K Error (hole in wire map) ⇒ JADE 60
2:42 YPARA corrupted, Task rebuilded
2:58 ready for data taking, run # 24369 started
3:00 missing LAM Br. 4 Cr. 1 J68K bank 2x + Illegal cont record
" " " " JETC point 503
3:01 J68K - Error see MOP but MOP screen blank
3:07 missing LAM Br. 4 Cr. 1 J68K bank
3:13 run # 24369 stopped holes in JETC wire map ⇒ JADE 60
3:35 J68K ERROR see MOP ⟶ as always nothing to be seen on MOP
↳ message remains on, so again a new run ...
3:47 missing LAM J68K Bank
3:59 " " JETC point 506
4:13 " " J68K Bank

5:37 J68K Bank ... as usual
5:38 " "
5:39 " "
6:14 " " + "illegal cont record" on color TV
6:23 " "
6:45 beams lost - Petra TV dark - "candle light party at PHR" (Netzausfall)
we run our magnet down to 500 amps
7:00 Jan Olsson phoned as noted on page 12. He will come at 8 a.m.
7:20 -gähn- we go home now.

25.2.86 L Becker U. Schneekloth

8²⁰ Gas checked
8³⁰ ZDAS cannot be started, file RUNPAR:DATA corrupt. COPY last backup onto system disc
9⁴⁰ Injection, raised magnet current
12⁴⁰ Problems with bunch marker (also at CELLO)
(BMS signal lamp off)
13¹⁰ Error concerning setting of JET-Benchmarks corrected. Virtual 208 Crates should now be properly recognized. Missing track elements should not appear anymore. ∈·∈ (Change before run 24373)
13³⁴ bunchmarker OK, start new RUN 24354, wrong number
J68K ERROR, 8 holes (8 wires) in wiremap, no error message on MOP
run summary field 0,0 kB.
ZDAS rebuilt
13⁴⁸ start RUN 24374
13⁵⁰ ZDAS READOUT ERRORS Z-CH. Part2, TOF1 counters
NORD hang-up, reloaded NORD
14⁰⁰ start RUN 24375, stopped after 24 triggers, ITEM down ← This was predicted!!
14⁰² VTX CH, JET CH, Z-CH tripped
14⁰⁸ start RUN 24376 write data on Tape
14²⁴ beams dumped
14⁵⁶ new fill, new RUN 24378
IBM ONLINE-JOB ERROR CHECKS, message on ColourTV NO HEAD TANK, stopped run
14⁵⁹ tried to start new run, ERROR 31 in 34 441, Permit violation, phoned Jan Olsson
" 32 453 "

15⁰³ beams lost, NORD reloaded, YITM, ZDAS ~~not~~ rebuilt
15³⁵ Shark breack
16⁰⁰ B. Naroska & H. Mills on shift
16³⁰ Gas check OK. (done by R. Hedge cock, thank you!)
19¹⁰ Magnet raised.
19⁴³ Run 24384 started.
After about 1000 events the event display and then ZDAS collapsed. On turning the Nord key vertical to reload the power went off groan---

Event Filtering
From scanning the first 8 RED1HH tapes from this year I come to the conclusion that the PATRCH algorithm is at least no worse than for the 1985 data when considering T_Z triggers which require ≥ 2 tracks. Thus the filtering should be turned ON ITEM Run 24384→

22⁴⁶ Comment on broken system: It is now believed that the frequent corruption of the system disk is connected with DMA transfers of JETC data, in particular with the last, "extra", bank, J68K. It is not yet proven, though. The system is now left with a data taking task that doesn't generate these (J68K) banks in any case, but generates a time out (Missing LAM) in J68K if it is required to generate such a bank by the FADC processors. Hopefully this measure will protect the system disc from corruption.
Note: this means that no J68K bank is ever seen by the NSO and no warning messages on the ColourTV will appear if the FADC processors have a real error.
Please Read. to the nightshift
Note: If the above measure proves to be wrong and corruption still occurs, then take data as long as possible, i.e. rebuild broken tasks, restart computer, until you feel at end. There is little point in calling me or Howard ~~before~~ in the night! Jan Olsson

If the above suspicion is correct, the corruption will continue until the bug is found in the FADC program.....

23²⁰ start run 24386 - after 40 events the TV hangs - there was a missing LAM in J68K bank!
Actually this was 24384 a second time - oops.

This is just a waste of time & effort - cannot take any data.
Third reload and we take data - RUN 24387
error 74 - wrong LAM branch 1 crate 1 : Beampipe Chamber
33 - Missing LAM branch 4 crate 1 : J68K

Took wrong run-number with these many disk problems!
24354 somewhere between 24385 and 386!

26/2/86
00^{00} Magnussen and Greenshaw
0^{10} Gas flows OK.
Take over from very permissive Havard and Beate. As Beate leaves we find out why, run has to be stopped as a result of a string of missing lam's (br. 4 cr. 1 JETC print 506, 505, 504, 503). Simultaneously colour monitor shows "illegal continuation record".
Reload Jetc processor and start new run with reduced trigger set (to try and cut dead-time down)

0^{34} JETC point 703, 704, 707, 705 continuously → new run, reload FADC HP | ILLEGAL CONT RECORD on Colour screen
1^{14} — " — 501, 503, 907 — " — — " —
1^{21} Missing LAM brand 4 crate 1 : J68K Bank
1^{39} — "
1^{44} — " —
1^{47} — " —
1^{50} — " —
1^{58} All chambers tripped hard
2^{14} Missing LAM brand 4 crate 1 : J68K Bank ; 2^{53}; 2^{58}; 3^{01}, 3^{09}; 3^{19};
2^{55} ID 2 VTX soft trip
3^{20} JETC point 407, 406, 407 ... stop run, reload HP | ILLEGAL CONT RECORD
Tried to start new run after JADESO ; Error 14 in 34611 at 25326 ; outside segment bounds page 162
appears on lineprinter after 2 pedestal events, try again with same result.
Rebuild ZDAS ; the same result (!!) ; RELOAD NORD does not help either.
Rebuild YPARA → it works again (magic!)
3^{46} Missing LAM brand 4 crate 1 : J68K Bank ; 3^{55} ; 3^{57};
3^{57} JETC point 503, 502, 506, 406, 502 → stop ; reload JETC HP | Illegal CONT RECORD
4^{07} All chambers tripped hard . Loss of ≈ 0.3 mA of e⁺-beam
4^{15} Missing LAM . . . : J68K Bank ; 4^{19};

04^{25} Many missing lam br. 4 cr. 1's (Jetc print 402, 403, 404) so stop run. Reboot Jetc processor and start new run.
05^{58} First complete run for a long time!
06^{19} Colour monitor stops working (no increments to "trigs" etc. made despite continuing triggers according to trigger box). Cannot log on to NORD at Tektronix terminal either. Run summary for 24398 lost. NORD reloaded. New run started
06^{45} Magnet down for energy saving time.

07^{51} Jan Olsson called to inquire about the NORD status. He can't come in early today. We have to continue running like this. He stresses the importance of finding the bug in the JETC readout that causes our problems.

8^{00} Chris and Klein-wort
8^{10} Gas choke down.

9^{30} Tried to start VTAC-testrun, but nothing happened after "OK TO START RUN" YES
Read active on LEVEL 3 (PROTECT RING 3 2 1 - lights are all on)
Not possible to log on. RESTART, tried again → same problem
" tried TOF test → " "
Rebuilded YPARA, YPAROT → O.K.

11^{00} ZDAS ERR 44 DATA timeout Jetchamber, bad event structure Part 13
No triggers. Pause/continue checkit helped. Run stopped. New run O.K.
Ring ~~Beam~~ violation from YVOLTS → "RTOFF" of YVOLTS C.C.
11^{20} Rebuilded YVOLTS, J68K-reloaded, next try to take data

11^{58} Error 14 in 35503 at 130416 ; outside segment bounds page no 154. frequently occuring!
Serious error! However there is NO RT-~~RESIDENT~~TASK for the number 35503 !!
∴ do NOT KNOW WHAT TO REBUILD!

12^{00} New Error 14 in 35131 This is RT-program YTEXT.
Stopped Run.

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_0 REJ $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT 2 $E_{LG} > 6$ GeV	T_2 BIT 11 $2T \cdot E_T \geq 2$ TR
24391	26/2/86	2:53	3:21	8.39	8.34	31.3	1442	3154	2584	375	117	1739	2244	718	27
392															
393					Junk										
394															
24395	"	3:43	3:59	6.89	6.93	27.6	848	1703	1337	220	61	959	1225	384	18
24396	"	4:01	4:26	6.49	6.57	25.3	1207	2187	1669	316	79.5	1213	1633	499	9
24397	"	4:30	5:58	5.54	5.80	22.2	5216	8000	5933	1360	302	4476	6469	1762	66
24398	"	5:58		4.18	4.50				~800						
24399	"	6:38	7	3.02	3.84	16.5	564	768	533	149	27.1	603	676	150	9
24400	"	10:57	11:04	8.60	8.60	40.4	378	1114	781	98	40	689	767	175	5
24401	"	11:07	11:16	8.30	8.31	61.1	476	592	701	124	76	575	685	141	2
24402	"	11:20	11:43	7.89	7.91	43.7	1131	2923	1940	294	128	1773	2099	424	20
24403	"	11:45	12:06	7.22	7.24	42.8	998	2521	1624	259	111	1490	1891	365	11
24335							1574								
24404	"	12:54	13:28	5.73	5.76	33.0		3827	2311	409	135	2335	2891	501	27
24407	"	14:58	15:01	6.45	6.89	42.0	117	449	241	31	13	178	217	46	0
24408	"	15 07	15 15	6.29	6.72	37.6	465	1721	899	120	45	718	878	157	5
24409	"	15 16	15 21	6.06	6.48	35.6	269	762	473	70	24	437	537	113	8
24410	"	15 50	16 45	9.15	9.13	30.1	2565	5221	4203	667	200	2926	3606	1177	47
24412	"	19.46	21.03	8.89	8.72	29.7	4564	7998	6446	1187	328	4537	5527	1853	92
24413	"	21.04	21.20	6.79	6.66	22.8	867	1517	1214	225	51	897	1031	351	8
24414	"	21.25	21.34	6.33	6.20	23.3	430	755	584	111	26	412	513	150	7
24415	"	21.41	22.44	6.04	5.92	22.8	3726	5752	4404	769	201	3312	4205	1306	47
24416	"	22.45	23.51	4.99	4.89	19.9	250	453	347	65	13	268	254	109	3
24417	"	23.00	23.22	4.79	4.69	19.3	1222	1723	1302	318	61	1027	1200	370	27
24418	"	23.23	23.37	4.50	4.40	18.5	928	939	723	189	34	534	760	210	19
24419	"	23 40	0 22	4.30	4.21	17.0	2395	3115	2287	623	105	1761	2251	548	21
24420	27/2/86	0 22	0 33												
24421	"	0 33	1 24	3.79	3.71	15.5	3127	3631	2556	314	125	2091	2801	752	24
24422	"	2 17	2 24	9.13	9.02	31.8	399	938	756	103	330	501	646	214	9
24423	"	2 26	2 29	8.87	8.71	17.3	91	233	194	23	64	123	125	48	3
24424	"														
24425	"	2 43	2 50	8.65	8.49	28.1	352	730	603	91	256	433	484	173	8
24426	"	2 53	4 55	8.37	8.22	25.7	4378	8802	6811	113	192	4625	5745	1857	84
24427	"	4 05	4 33	6.42	6.30		108								

RUN	PROCESSORS ON/OFF NSD	MIP	TOF	FAMP	$\langle L \rangle$ 10^{-2} cm^{-2}s	BHABHA $\int L\,dt$ nb^{-1}	$\int L\,dt$ EXP. ENERGY	IBT/TAPE OUTPUT	AT RUN START ID µA	AT RUN START TOF V	ONLINE REJ SUM MIPROC T_2 %	ONLINE REJ NORD-SD $T_1 \& T_2$ %	Σ_{BHABHA}	MH	E_{BEAM}	Magn. Field −1×G	REMARKS
24391	ON	ON	ON	OFF	6.02	9.91	646.98	IBM	0.6	3.8	49	20	174	5	17.500	4837	red. Trg. ILLEGAL CONT REC.
392																	
393																	
394																	
24395	"	"	"	"	4.71	4.44	651.42	"	0.4	2.6	51	24	78	2	17.501	4835	red Trg. ILLEGAL CONT REC.
24396	"	"	"	"	3.97	5.12	656.54	"	0.4	2.5	50	25	90	0	17.500	4836	
24397	"	"	"	"	2.42	18.37	676.87	"	0.4	2.2	53	28	322	5	17.500	4836	
24398	"	"	"	"				"	0.4	1.8							Alarm problem
24399	"	"	"	"	1.51	0.97	675.84	"	0.3	1.3	51	33	17	2	17.501	4837	Beams dumped
24400	"	"	"	"	6.22	2.73		"	0.4	3.3	53	32	48	2	"	4839	SETC problem Run stopped
24401	"	"	"	"	3.70	2.28		"	0.4	3.2	49	32	40	1	17.500	4838	" problem "
24402	"	"	"	"	4.52	5.58		"	0.45	4.0	52	36	98	0	"	4840	"
24403	"	"	"	"	4.12	4.78	691.21	"	0.3	2.6	52	37	84	0	"	4841	?TCRT (RT Test) crash.
24335																	
24404	"	"	"	"	3.15	5.86	697.07	"	0.2	1.8	55	42	103	4	17.501	4840	
24407	"	OFF	OFF	"	3.86	0.51	697.58	TAPE JNA586	0.25	2.3	42	49	9	1	17.501	4838	Runs 24405, 24406 not on tape Run stopped due to IBM-Conf problem
24408	"	"	"	"	3.90	2.05	699.63	"	"	"	2	51	36	0	"	"	
24409	"	ON	ON	"	3.54	1.37	701.00	IBM	"	"	49	40	24	0	17.500	4837	beams dumped.
24410	"	ON	ON	OFF	5.54	15.37	716.37	"	0.5	3.7	48	21	270	8	17.500	4836	reduced trigger
24412	"	"	"	"	4.41	2.78	744.15	"	0.3	1.8	51	21	488	7	17.501	4837	reduced trigger
24413	"	"	"	"	4.57	3.76	747.91	"	0.2	1.8	50	21	66	3	17.501	4836	" "
24414	"	"	"	"	4.01	2.39	750.30	"	0.2	1.7	46	25	42	1	17.500	4838	" SETC problem Run stopped.
24415	"	"	"	"	3.46	16.62	766.92	"	0.2	1.6	50	25	292	7	17.500	4837	" "
24416	"	"	"	"	3.00	0.64	767.60	"	0.2	1.4	44	26	12	—	17.500	4838	" " (Run multiple SETC Errors & stopped)
24417	"	"	"	"	2.74	3.93	771.53	"	0.2	1.4	52	26	69	2	17.501	4837	" "
24418	"	"	"	"	2.31	2.05	773.58	"	0.2	1.3	48	30	36	0	175	4837	reduced triggers
24419	"	ON	ON	OFF	2.15	5.81	779.79	"	0.2	1.2	50	29	102	5	17.501	4838	
24420																	rubbish
24421	"	"	"	"	1.69	6.83	786.62	"	0.2	1.1	53	31	120	0	17.501	4838	
24422	"	"	"	OFF	6.65	3.02	789.64	"	0.4	3.2	45	24	53	0	"	4837	
24423	"	"	"	"	6.47	0.91	790.55	"	0.4	2.9	34	19	16	0	17.500	4836	stop due to min LAM 34 Cl spare
24424	"																
24425	"	"	"	"	5.83	2.28	792.83	"	0.3	2.6	52	19	40	0	17.501	4836	
24426	"	"	"	"	4.57	25.62	818.45	"	0.3	2.5	51	23	450	12	"	4838	
24427	"				3.90	0.68	819.18			1.9							

26/2/86

12^{45} YPAROT rebuilt, YPARA too
after disk exchange and before SET-EXP "new" Run 24355 with 16 records to IBM

13^{30} After Run 24404 exchanged Jetchamber cables plugged in right order!
Half cell 22.4.2 (wires 1464–1471) was exchanged with half cell 23.3.1 (wires 1472–1479).
It was wrong at least since Run 24228, probably since beginning of period (Run 24214)
Rlg

16^{00} New program for VTXC-pedestals Gas check OK Walker + Kuhlen on shift.

16^{15} magnet current fluctuates (!!!)
16^{30} Missing LAM on 4 crates (→ illegal cath. record) Run paused + restarted.
16^{30} " " " " "
16^{45} E.S. / S.L.Z.

22^{50} Note on the disk corruption: It seems that the present readout version is stable, although errors still occur from FADC processors, the disk is not overwritten and programs don't get corrupt.
A problem still exists with the FADC processors, they sometime stop working for unknown reasons: This is seen by Missing Lam Br4 Cr7 : point 503 etc, or similar. In this case they must be reloaded! Stop run and type JADEGO on the MOP terminal. (after stopping run!)
We have also observed that the JADEGO loading sometimes did not work. However, after pressing RESET RUN and RESET EVENT on the Trigger box, JADEGO was successful.
In the first half of the fill, always use REDUCED-TRIGGERS

We also noted that some runs start with missing LAM in TOF, Vertexch-, at event 13.
This seems to happen only when data is written, i.e. when the "blue production lamp" is on.
If it does not recover by itself, try pause/continue and if this doesn't work, start a new run.

27.2. 0^{00} Smolik & Hardt on shift
Gas check done
0^{10} Restart JADEGO
6^{52} beams dumped due to 'Stabilastrahl (energy saving time)'! but magnet was left at 7500 A!

8^{00} Warming, Feet on shift magnet → 1000 A after call from PKR
Gas check done, P.W. reduced A+Kan flow somewhat gas mixture "Kreislauf" (Louis Meitzke) found at 10.7
9^{10} magnet → 7500 A upper limit is 10.2! I noticed it was high since 4 shifts now. please watch it more carefully!
PWH

you should have noticed new digitizer 34 = ch#123-126 being dead?

10^{50} new fill ready, 2x 9.8 mA
11^{30} mum digitizer 34 missing, P.W. care for dt from 24434 only
11^{48} color TV died all of a sudden (the only suspicious event at that instant was Warning appearing the ZDAS Terminal like a huge amount of static electricity)
14^{20} restart FADC processors by JADEGO worked only after ×6 attempts.

16^{00} Clarke and Kleinwort

19.25 Gas check done
19.40 z-ch & I/D trip – high background
20^{00} all chambers tripped
23^{20} A general z in the trigger box at run end is now implemented. There should be no more problems with reloading the 68K Jetc processors. (z= Camac reset)
23^{40} All chambers tripped, Missing Lam JETC point 503, Pause/Continue did not help, Run stopped JG8K's reloaded
23.55 " same

28.2.86 0^{00} Bethke & Hagemann on shift

0^{12} Gas check done, Kreislauf 10.4 mA, 0.2 mA above limit!
0^{27} VTXC + JETC HV fail due to TOF rate
2^{30} "
~5^{00} New fill ready, but "short beam" due to Sendercusfall and adjusting new orbit.
5^{58} Take data again. Observations (last the first time this night):
First 6-7 evts missing LAM TOF1 counters, then finally 1× >68 k, and then no error, smooth data taking. → System needs at least 1× Miss.Lam from ID-processors in order to run??
~7^{00} energy saving time. Ram down magnet, leave switch at "Ramdown/Reset" in order to avoid sleepwalking.
A quite successive shift: No need to restart Hard or ID-processors. Only few missing LAMs during shift, we had a smooth data taking.
? only 1 (one!) run ended normally!
8.00 Komamiya, Narrow
7.50 Gas check done Oxygen content high 53 instead of 10.
Several readings different than recently (due to outside air pressure change?)
9.06 Magnet at 7500 A

RUN	DATE	START	STOP	AT RUN START I+	AT RUN START I−	DEAD TIME %	TIME sec	RECORDS IN	RECORDS OUT	ALL ×10⁶	T₁ REJ ×10⁶	T₁ ACC SUM	T₂ ACC SUM	T₁ Bit 2 E_LG > 6 GeV	T₂ Bit 17 2T·E_T ≥ 2 TR
24428	27/2/86	4:35	4:48	6.35	6.23	22.0	1380	2980	2790	48	107	1711	2174	653	35
24429	"	4:50	5:01	5.69	5.58	22.5	801	1156	896	20	46	642	877	219	11
24430	"	6:11	6:17	7.87	7.86	30.1	254	521	419	6	16	289	352	104	5
24431	"	6:18	6:49	7.67	7.66	25.5	1811	3171	2729	47	120	1919	2433	788	21
24432	"	10:55	11:01	8.72	8.69	24.3	100	215	168	25,3	6,4	114	132	43	1
24434	"	11:09	11:48	8.10	8.12	28.2	2236	4367	3567	581	163	2631	2856	1085	36
24435	"	11:53	11:54	7.42	7.68			132	108	run stopped because continuous					running Lum
24436	"	12:01	12:44	7.13	7.43	23.3	2515	4353	3439	655	153	2561	3040	1004	35
24437	"	12:45	12:57	6.16	6.44	23.4	696	1172	946	181	42	679	826	254	15
24438	"	13:01	14:19	5.84	6.11	20.5	4513	6610	5157	1175	241	3865	4840	1421	61
24439	"														
24440	"	14:28	14:30	4.49	4.73	18.0	94	154	122	24	4	80	106	38	2
24441	"	16:28	16:47	9.32	9.34	32.4	1091	2273	1867	284	92	1259	1594	489	21
24442	"	19:31	19:39	9.39	9.32	45.0	473	1285	902	123	55.4	764	895	196	9
24443	"	19:39	19:54	9.09	9.03	37.1	329	614	502	85	32	358	371	139	9
24444	"	19:55	20:11	7.94	8.11	27.0	885	1639	1281	231	62	968	1117	387	11
24445	"	20:16	21:51	7.14	7.43	20.7	5355	8002	6133	1393	288	4712	6048	1787	70
24446	"	22:06	22:11	4.00	5.20	26.2	215	525	278	56	15	324	322	57	3
24447	"	22:40	23:13	9.06	9.21	24.3	3434	6412	5120	894	217	3948	4153	1536	45
24448	"	23:45	23:57	7.15	7.33	21.4	614	1080	848	160	34	650	694	236	7
24449	"	23:59	0:02	6.84	7.03	20.4	121	215	181	32	6	126	130	43	0
24450	28/2/86	0:04	0:57	6.74	6.92	18.9	3029	4424	3391	788	149	2684	3074	977	34
24451	"								Junk						
24452	"	1:01	1:47	5.63	5.81	25.1	2704	5673	3101	704	177	3604	4051	656	27
24453	"	2:13	3:41	9.53	9.48	21.4	4734	8001	6377	1232	264	5201	5068	1919	54
24454	"	3:42	4:10	6.91	6.96	17.8	~~1622~~ 2502	2502	1903	422	75	1606	1558	564	15
24455	"	4:10	4:47	6.31	6.36	26.7	2166	4929	2777	564	151	3160	3398	597	9
24456	"	5:58	6:27	5.99	6.62	16.3	1670	2099	1626	434	71	1287	1446	412	26
24457	"	6:29	6:52	5.43	6.04	24.0	1378	2756	1482	358	86	1733	1980	311	8
24458	"	11.15	12.15	7.18	7.21	27.8	3544	8002	4920	922	256	5220	5363	1052	32
24459	"	12.16	12.37	5.97	6.00	26.4	1220	2650	1558	317	83	1699	1832	333	17
24460	"	12.48	13.16	5.44	5.48	25.4	1635	3453	1953	425	108	2215	2389	406	15
24461	"	13.16	13.29	5.04	5.07	25.8	697	1963	864	181	47	922	956	169	8
24462	"			ONLY LUMI RUN GUENTER											

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	⟨L⟩ 10^{30} cm^{-2} s^{-1}	BHABHA ∫L dt nb^{-1}	∫L dt EXP ENERGY	IBM/TAPE OUTPUT	AT RUN START ID µA	TOF V	ONLINE REJ Σ MIP T_1 %	NORD-10 T_1 T_2 %	Σ BHA	MH	E_{BEAM}	MAGN FIELD −1× G	REMARKS
ON	ON	ON	OFF	3.50	8.43	827.61	IBM	0.2	1.9	51	25	148	3	17.500	4836	
"	"	"	"	3.02	2.16	829.77	"	0.2	1.8	52	24	38	1	17.501	"	beams dumped
"	"	"	"	5.33	1.65	831.42		0.4	2.9	52	18	29	1	17.500	4837	
"	"	"	"	5.21	10.93	842.35	"	0.4	2.5	50	20	192	1	17.500	4835	beams dumped
"	"	"	"	4.87	0.57	842.96	"	0.4	1.5	42	30	9	0	17.501	4840	Run 24433 only recorded
"	"	"	"	6.74	18.16	861.02	"	0.3	1.2	50	19	319	3	"	4838	Run stopped because often TV tried
in TOF counter				efficiency	chamber 24; 86,7; 48		in									
"	"	"	"	5.13	15.83	877.31	"	0.3	1.1	50	22	278	5	"	4840	run stopped because FADC processors died
"	"	"	"	4.30	3.87	881.18	"	0,2	1,5	51	21	68	2	"	4841	Test run for JEU
"	"	"	"	3.43	17.65	898.83	"	0.2	1.5	52	23	310	8	"	4840	run stopped due to missing LAM's
																using LAM's only
"	"	"	"	2.35	0.63	899.46	"			51	24	11	0	"	"	beams dumped
"	"	"	"	6.13	7.86	907.32	"			48	19	138	3	"	"	beams dumped for energy saving-lamps
"	"	"	"	6.49	2.79	910.11	"		0.6	51	32	49	0	"	"	Forgot to switch on reduced-trig
"	"	"	"	5.41	2.05	912.16	"			46	20	36	0	17.501	"	reduced trigger
"	"	"	"	5.10	4.90	917.06	"	0.3	2.5	49	23	86	0	"	4838	" , 768K problem
"	"	"	"	4.44	23.34	940.40	"	0.25	2.1	53	25	410	8	17.500	4840	"
"	"	"	"	2.36	0.57	940.97	"			48	50	10	0	"	4837	beams dumped
"	"	"	"	6.82	25.84	966.81	"	0.2	2.0	30	21	454	6	"	"	reduced trigger, 768K problem
"	"	"	"	5.27	3.02	969.83	"	0.2	1.6	48	23	53	0	17.501	4838	" "
"	"	"	"	4.74	0.57	970.40	"	0.2	1.5	49	18	10	0	17.501	4837	" "
"	"	"	"	4.40	14.40	984.80	"	0.2	1.5	51	25	253	3	17.500	4838	"
								0.2	1.0							768K problem
"	"	"	"	3.10	8.88	993.68	"	0.2	1.0	54	47	156	3	17.500	4838	beams dumped
"	"	"	"	6.38	34.67	1028.35	"	0.2	1.9	52	21	609	6	17.500	4838	reduced triggers
"	"	"	"	5.17	9.11	1037.46	"	0.2	1.2	50	25	160	0	17.501	4837	" "
"	"	"	"	3.89	8.43	1045.89	"	0.2	1.0	53	45	148	4	17.500	4838	full triggers beams dumped
"	"	"	"	3.97	7.34	1053.23	"	0.2	1.0	50	24	129	1	17.500	4838	reduced triggers
"	"	"	"	3.02	4.21	1057.44	"	0.2	0.8	54	48	74	1	17.500	4838	full trigger beams dumped, energy saving
"	"	"	"	4.90	18.52	1075.96	"	0.2	1.0	53	40	327	1	"	4840	Full trigger
"	"	"	"	4.23	5.86	1081.85	"	0.15	0.8	53	43	103	0	"	"	stopped for dead.
"	OFF	ON	"	3.34	6.21	1088.06	"	0.15	0.75	54	45	109	0	"	4840	stopped for test-
"	"	"	"	2.81	2.85	1090.91	"	0.15	0.7	−1%	58	50	1	"	"	—"—
																stopped because of bifken crash

24 28.2.1986

11.12 beams ready
11.20 Missing LAM J68K Bank
13.30 System crashed.: Nord sysbus console starts to print many lines without any letters (i.e. feed backs). during a test by J. Olsson
14.35 beams ready but Nord down.
Disk could not be copied. Teske has come to look after it.
Disc drive was locked by too fast switching. Furthermore the disc has been damaged after the system crash. Unclear what happened, software cannot harm the formating of the disc and it had to be reformatted before the backup copy (from yesterday evening) could be copied (upto)!
15.50 3 chambers tripped → reset O.K. Not possible to start run (only pedestal events)
→ MOP reloaded → all O.K.

16:00 Dieckmann + Kado on shift
16:20 gas check done → ok. (Ethan pressure 21 bar)
16:50 run magnet down (energy saving time)
19:15 magnet back to 7500 amps
20:30 Ethan pressure checked (according to Seidels instructions) → 20 bar
0:00 magnet to 7500 amps

1.3.86
0;00 Daroll & Kühler on shift.
0:20 run 24469 started, some MISSING LAMS appeared, but run continues: BPC4, TOF1, J68K
PAUSE/CONTINUE did also produce a missing LAM: LG ADC
0:33 Gas check done.
2:19 Disco light for beam indication went off
2:42 Vorkammer and Jetkammer hard trip
2:56 "
4:09 Missing LAMs JETC point 404, 702, 404, J68K, cannot be cured by pause/continue
MOP stands still
JETC trip then
4:20 run 24473 last run, not written
4:38 Impossible to start JADEGO, MOP tells "CAM1 Disk read error on drive A" and "Do not attempt to change disks"
Elsen will come

25

5:50 Boot tracks on 68K Winchester disk corrupted. Probably due to power dip earlier this night. Booting from floppy works and the system can be brought up from Winchester, i.e. in its latest version.
Files on the Winchesters have to be repaired...
7:50 Winchester for JETC readout is repaired. t.G.

8:00 STEFFEN + HENZELMANN / Elsen after 12:00
8:55 Gas check done
9:05 MISS LAM branch 3 crate 2 μ-chamber / System watchdog perm. 16 140204 / MISS LAM br. 1 crate 1 beam p/a
continues miss LAM 6,1 crate 1. → stop run and start new run → ok.
9:25 MISS LAM J68K. New run. JADEGO procedure → ok
16:00 Warnung & Glasser on shift
gas check done
17[10] "Short Break" due to a broken Pilotlamp
19[10] new fill ready, start run 24495, Test version of JADEGO installed
20:43 run 24496 stopped for cont. missing lams first crash after 85 min. of data taking beams 2x7mA
second crash after 3 min. "
20:48 we go back to the old version of "JADEGO"
after reloading the FADC-processors, next run starts with continuous missing LAM's in TOF, LGADC etc. → stop run
20:52 JDAS ZMAG ERROR Event longer than reserved block
run terminated automatically
start run 24500, again many missing LAM's in TOF, LG-ADC's etc.
cured by a missing LAM in br 4 or 1 (J68K bank)
run summaries have date = 29/2 instead of 1/3 Camac clocks needs setting
21:02 JDAS readout error 65 Timeout whilst resetting J68K processors
NORD hang up on Level 8 → restart Nord as described in JDAS-A2/A3
22:20 frequently small beam losses at beginning of new fill, → many soft trips.
23:07 another crash of the FADC-system
23:13 " " " " "

2.3.86
00:00 CLARKE & DARVILL on shift.
00:04 JDAS READOUT ERROR 33 - - - - - - missing LAMS etc - system goes up - reload JADEGO - it works again.
04:21 New filling ready but must reload JADEGO again!

RUN	DATE	START	STOP	AT START & RUN I+	AT START & RUN I−	DEAD TIME%	TIME sec	RECORDS IN	RECORDS OUT	All *10⁶	TO REJ *10⁶	T1 ACC SUM	T2 ACC SUM	T1 Bit2 Eu>6GeV	T2 Bit17 2T.Eu.>2TR
24463															
24464	28.2.86	15.05	15.51	7.51	7.69	28.8	1876	4527	2781	489	140	2889	3168	588	24
24465	"														
24466	"	15:57	16:27	5.45	6.35	27.2	1825	4034	2319	475	129	2575	2924	518	15
24467	"														
24468	"	16:39	16:45	4.80	5.66	27.8	369	1775	539	96	27	522	593	104	9
24469	1.3.86	0:23	1:15	8.67	8.71	35.6	3090	8002	5215	804	286	4967	5896	1094	43
24470	"	1:16	2:51	7.21	7.30	20.4	5412	8001	6153	1409	286	4981	5956	1902	49
24471	"	2:52	2:58	5.07	5.40	16.4	309	383	295	80	13	231	299	83	34
24472	"	3:50	4:04	8.00	8.09	23.7	818	588	470	82	19	363	409	149	6
24473	"	5:36	5:37	7.55	7.52	—	—								
24474	"	5:46	6:23	7.30	7.31	22.7	2171	3801	3081	565	128	2283	2569	871	29
24475	"	6:27	7:33	6.33	6.34	19.6	3934	5781	4408	1024	201	3430	4210	1239	44
24476	"	8:03	9:04	8.82	8.88	25	3648	6820	5525	949	233	4155	4558	1611	67
24477	"	9:08	9:23	6.92	7.02	23	816	1429	1124	212	48	868	972	337	6
24478	"	9:26	9:43	6.50	6.61	29	649	897	687	168	49	536	656	201	10
24479	"	9:49	10:47	6.02	6.14	21	3215	4714	3586	837	174	2804	3289	1032	338
24480	"	11:17	11:31	9.29	9.41	31	846	1669	1383	220	69	1028	1100	407	11
24481	"	11:34	11:42	8.67	8.80	27	480	847	677	104	88	486	547	138	6
24482	"	11:44	11:57	8.36	8.48	26	587	792	640	100	25	479	522	191	9
24483	"	11:53	11:58	8.08	8.20	25.2									
24484	"	12:00	12:12	7.87	7.99	28.1									
24485	"	12:13	12:39	7.52	7.64	24.6	1335	2489	1979	348	86	1419	1664	560	16
24486	"	12:41	13:05	6.72	6.80	23.9	1377	2355	1836	358	86	1379	1673	544	36
24487	"	13:05	13:16	5.80	5.98	22.9									
24488	"	13:29	13:33	5.77	5.94	23.9									
24489	"	13:39	13:48	5.58	5.75	34.0									
24490	"	14:14	14:27	9.71	9.77	33.7	741	1568	1238	192	65	851	1015	347	8
24491	"	14:29	14:59	9.14	9.21	30.4	1734	3629	2938	451	137	2184	2429	853	25
24492	"	15:01	15:05	8.09	8.16	27.5	139	441	328	49	13	35	245	276	5
24493	"	15:13	16:29	7.72	7.80	25.6	4571	8002	6354	1189	306	4773	5687	1897	59
24494	"	16:31	16:50	5.90	5.98	24.4	1105	1768	1360	288	70	1053	1205	193	15
24495	"	19:12	19:26	9.98	9.56	39.5	636	1539	1246	165	65	1064	1316	252	10
24496	"	19:27	20:37	9.19	8.97	26.5	4022	7189	5708	1046	277	4080	5268	1604	61

PROCESSOR ON/OFF N50	MIP	TOF	FAMP	⟨L⟩ 10^{30} cm^{-2}s^{-1}	Bhabha SLdt nb^{-1}	SL dt EXP. ENSEMBLE	IBM / TAPE OUTPUT	AT START & RUN ID µA	AT START & RUN TOF V	ONLINE REJ SUM MIPROC I2 %	ONLINE REJ NOMOS0 T2 T2 %	Σ Bhabha (B)	MH (B)	Ebeam GeV	Magnet field −1.6kG	REMARKS
						1090.91										
ON	ON	ON	OFF	5.26	11.04	1101,95	IBM	0,18	1.2	53	54	194	3	17.500	4838	13 ped. events. full trigger
								0,15	1.0							NO events dan down is hunting SCRL bugs
"	OFF	"	"	3.68	6.77	1108.72	"	0.15	1.0	55	44	119	2	17.500	4839	~~13 ped.~~
ON	OFF	ON	OFF					0,15	1,0							13 ped. events
"	"	"	"	3.34	7.42	1110.14	"	0.15	1.0	—	56	25	2	17.500	4838	beams dumped
ON	ON	ON	OFF	5.75	16.85	1126.99	IBM	—	—	54	36	296	4	17.500	4837	Target to reduce triggers
"	"	"	"	4.74	28.46	1755.45	"	0.2	1.7	55	24	500	15	"	4839	Reduced Trigger.
"	"	"	"	3.58	1.31	1756.76	"	0.2	1.3	56	26	23	0	"	4840	" beams dumped
"	"	"	"	7.33	2.50	1759.26	"	0.3	2.0	56	22	44	0	"	"	reduced triggers. Beams lost
								0.2	1.9					17.501	4838	"
"	"	"	"	5.83	12.75	1172.01	"	0.2	1.7	50	20	224	8	17.500	4839	" Run stopped, many TDCs error 33 merger
"	"	"	"	4.38	17.88	1189.89	"	0.2	1.5	51	25	314	4	17.501	4838	" Beams dumped
"	"	"	"	6.54	25.73	1215.62	"	0.3	2.4	50	20	452	5	17.5	4838	Stopped HW Lam 6.3+2 red. trigg.
"	"	"	"	5.21	6.69	1221.31	"	0.2	1.7	51	23	100	0	17.501	4838	stopped HW Lam 7+8 " "
"	"	"	"	4.37	3.36	1224.67	"	0.2	1.5	53	25	59	0	17.500	4838	" "
"	"	"	"	4.01	14.62	1239.19	"	0.2	1.4	50	25	255	3	17.500	4838	" "
"	"	"	"	7.87	8.03	1247.22	"			52	18	141	2	17.501	4838	red. trigg.
"	"	"	"	7.23	3.42	1250.64	"			46	22	60	1	17.501	4839	" "
"	"	"	"	7.50	2.68	1253.32	"			51	21	47	1	17.500	4840	" "
"	"	"	"	6.88	2.05	1255.37	"					37	—	"	4.838	" "
"	"	"	"	6.11	3.98	1259.35	"					81	2	"	"	" "
"	"	"	"	5.81	8.14	1267.49	"	0.2	1.9			143	2	"	4839	" "
"	"	"	"	4.58	7.86	1275.35	"					138	2	"	"	" "
"	OFF	"	"	4.97	2.85	1278.20	"	0.2	1.6			50	0	"	"	No µ16, for tests " "
"	"	"	"	4.54	0.68	1278.88	"					12	0	"	4837	" " " "
"	"	"	"	3.64	1.82	1280.70	"					32	—	"	4838	" " " "
"	ON	"	"	6.99	5.18	1285.88	"	0.3	2.7	41	23	98	—	"	4.837	red. trigg.
"	"	"	"	7.63	12.20	1298.08	"	0.5	2.6	50	20	237	2	"	4.838	" "
"	"	"	"	7.10	1.34	1299.42	"	0.2	2.1	42	28	21	0	"	4.838	" "
"	"	"	"	5.24	26.70	1326.12	"	0.2	1.7	52	22	464	9	"	4838	" "
"	"	"	"	4.08	5.64	1331.76	"	0.2	1.5	51	25	99	2	"	"	" "
ON	ON	ON	OFF	6.29	4.04	1335.80	"	?	?	49	34	71	0	17.501	"	~~full trigger~~ reduced for reduced trigger
"	"	"	"	4.89	20.27	1356.07	"	2.2	2.2	51	22	356	5	"	4837	reduced trigger

RUN	DATE	START	STOP	at run start I⁺ (mA)	at run start I⁻ (mA)	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL ×10⁶	TOREJ ×10⁶	T₁ ACC SUM	T₂ ACC SUM	T₁ Bit 2 Elg >6 GeV	T₂ Bit 17 2T·E₄ >27%
24497	1/3/86	20:43	20:46	7.26	7.09	26.5	134	269	217	35	9	136	174	56	1
24498	"	20:48		—	—	junk	—								
24499	"	20:49	20:54	7.12	6.95	28.1	234	474	387	80	17	239	315	92	4
24500	"	20:55	21:02	7.00	6.84	32.5		1353	862	~~80~~	~~17~~	~~239~~	~~315~~	~~92~~	~~4~~
24501	"	21:13	21:31	6.63	6.48	32.8	1894	4660	2764	492	161	2744	3465	594	22
24502	"	22:22	~~23:03~~	—	junk			only missing Lams							
24503	"	22:24	23:09	9.73	9.70	26.4	1651	3230	2614	430	113	1898	2199	719	26
24504	"	23:12	23:17	7.22	7.90	24.6	272	542	426	71	17	322	331	121	6
24505	2·3·86	23:19	0:04	7.04	7.70	23.2	2711	4766	3739	706	164	2831	3224	1090	41
24506	"	0.07	0.52	5.98	6.59	20.9	2695	4255	3244	702	146	2595	2966	961	30
24507	—	—	—	—	JUNK	—	—	—	—	—	—	—	—	—	—
24508	2·3·86	1.21	2.42	9.41	9.43	25.9	4133	8002	6483	1075	279	4720	5383	1833	43
24509	—	2.42	3.52	6.34	6.81	21.3	3920	6358	4863	1020	218	3819	4313	1433	48
24510	"	4.25	5.03	9.22	9.34	28.4	2026	4203	3367	527	150	2397	2907	969	31
24511	"	5.05	6.32	7.74	7.99	24.9	3722	6891	5482	969	241	4046	4826	1547	59
24512	"	6.32	6.58	5.79	6.01	22.9	1069	1812	1400	277	63	1054	1225	381	14
24513	"	7.30	7.43	9.68	10.02	26.2	232	448	384*	60	16	273	304	115	3
24514	"	7.45	8.03	8.70	8.92	25.6	1025	1983	1556	266	68	1109	1363	456	17
24515	"	8.04	9.15	8.14	8.35	25.9	4229	8002	6332	1014	283	4764	5154	1909	52
24516	"	9.16	9.35	6.33	6.51	22.7	822	1420	1100	213	48	925	700	303	9
24517	"	9.36	10.01	5.71	6.05	22.1	1451	2273	1717	329	83	1362	1570	435	19
24518	"	10.03	10.04	5.26	5.59	31.5	38*	94	69	9	3	35	38	17	4
24519	"	11:24	11:25	9.00	9.11	40	57	156	123	15	6	74	74	33	2
24520	"	11:27	12:07	8.89	9.01	32	2098	4496	3697	546	173	2585	2915	1031	39
24521	"	12:09	12:54	7.43	7.57	26.2	2293	4263	3400	596	156	2403	2868	923	39
24522	"	13.23	13.28	8.62	8.73	32.1	283	539	462	60	19	298	308	117	3
24523	"	13.32	13.49	8.31	8.42	30.1	1012	1912	1476	218	65	1008	1256	394	21
24524	"	MISSING LAMS	MISSING LAMS	MISSING LAMS	MISSING LAMS	MISSING LAMS	MISSING LAMS	MISSING LAMS	MISSING LAMS	MISSING LAMS	MISSING LAMS	MISSING LAMS	MISSING LAMS	MISSING LAMS	MISSING LAMS
24525	"	13.56	14.06	7.36	7.54	31.8	434	1021	842	112	35	538	663	226	11
24526	"	14.08	14.14	7.10	7.27	32.6	336	~~74~~	575	87	26	344	502	149	5
24527	"	14:16	14:17	6.91	7.08	30.5	28	166	88	5	1	52	87	25	0
24528	"	14:19	14:26	6.82	6.99	30.7	285	601	490	73	22	341	375	151	3
24529	"	14:28	14:31	6.61	6.78	30.5	148	355	287	38	11	177	213	73	2
24530	"	14:33	14:38	6.47	6.64	31	229	527	448	59	18	291	333	103	6

RUN	PROCESSORS ON/OFF NSD	MIP	TOF	FAMP	⟨L⟩ 10^{30} cm^{-2}s	BHABHA ∫Ldt (nb^{-1})	∫Ldt EXP, ENERGY (nb^{-1})	IBM TAPE OUTPUT	at run start ID (μA)	at run start TOF (V)	online reject. SUM MIPROC T₂ (%)	online reject. NORD-SD T₁ BIT2 (%)	Σ BHABHA	MH	EBEAM	MAGN FIELD ×-1G	REMOVED TRIGGER Y/N	REMARKS
24497	ON	ON	ON	OFF	4.15	0.46	1356.53	IBM	0.3	2.4	43	22	8	1	17.500	4838	YES	stopped by missing LAMS
24498	"	"	"	"					"	"								missing LAMS only
24499	"	"	"	"	9.73	1.14	1357.67	"	"	"	46	21	20	0	17.501	4838	Y	
24500	"	"	"	"	2.78	1.82	1359.49	"	"	"			~~12~~				NO	stopped by NORD Langevin beam dumped
24501	"	"	"	"	3.04	7.51	1367.00	"	0.3	2.5	51	43	132	1	17.500	4836	NO	
24502	"	"	"	"					0.3	2.7	—	—	—	—	—	—	YES	missing LAMS only
24503	"	"	"	"	6.34	11.44	1378.44	"	"	"	50	20	201	1	17.501	4837	"	stopped due to missing LAMS
24504	"	"	"	"	6.04	1.55	1380.03	"	0.2	1.8	46	23	28	0	17.500	4840	"	
24505	"	—	—	—	5.20	15.09	1395.12	"	"	"	49	23	265	3	17.500	4840	YES	stopped due to missing LAMS
24506	"	"	"	"	4.82	12.13		"	0.2	1.5	52	25	213	4	17.500	4839	YES	Beams dumped
24507	—	—	—	—	—	—	—	—	0.3	2.6	—	—	—	—	—	—	—	stopped almost immediately - usual problem
24508	ON	ON	ON	OFF	6.23	27.44	1422.56	IBM	0.3	2.5	49	20	462	8	17.500	4837	YES	
24509	"	"	"	"	4.38	18.28	1440.84	"	0.2	1.7	50	25	321	10	17.501	4837	"	Beams dumped.
24510	"	"	"	"	6.44	13.83	1454.67	"	0.4	2.9	49	21	243	5	17.501	4837	YES	Run Stopped missing Lams
24511	"	"	"	"	5.0	18.33	1473.00	"	0.4	2.4	48	22	322	3	17.501	4837	YES	
24512	"	"	"	"	4.2	4.5	1477.5	"	0.3	2.0	49	24	79	0	17.501	4837	YES	Beams dumped
24513	"	"	"	"	4.92	1.76	1479.26	"	0.4	2.7	44	23	31	1	17.500	4837	Y	MISSING LAMS
24514	"	"	"	"	5.21	5.86	1485.12		0.4	2.6	46	23	103	0	17.500	4838	Y	" "
24515	"	"	"	"	5.94	25.90	1511.02	"	0.3	2.0	47	22	455	5	17.501	4837	Y	
24516	"	"	"	"	4.92	3.93	1514.95	"	0.2	1.6	46	24	69	1	17.501	4836	Y	Missing Lams - stopped
24517	"	"	"	"	3.73	5.78	~~1520.93~~ 1520.73	"	0.2	1.4	~~52~~	~~26~~	105	4	"	4837	Y	stopped for tests
24518	"	"	"	"	4.17	0.34	1521.27	"	0.2	1.4	21	23	6	0	"	4837	Y	* what a word? Beams dumped
24519	"	"	"	"	6.14	0.40	1521.67	"	"	"	27	26	7	0	17.500	4837	Y	
24520	"	"	"	"	6.54	16.45	1538.12	"	"	"	47	19	289	5	17.501	4838	Y	
24521	"	"	"	"	4.53	11.10	1549.22	"	0.2	1.6	47	22	195	4	17.500	4838	Y	
24522	"	"	"	"	7.53	1.71	1550.93	"	0.3	2.9	42	16	30	0	17.501	4840	Y	Missing Lams - stopped
24523	"	"	"	"	6.64	5.35	1556.28	"	0.3	2.9	47	20	94	3	"	4838	Y	" " "
24524	"	MISSING LAMS	MISSING LAMS	MISSING LAMS	MISSING LAMS	MISSING LAMS	MISSING LAMS	MISSING LAMS	MISSING LAMS	MISSING LAMS	MISSING LAMS	MISSING LAMS	MISSING LAMS	MISSING LAMS	MISSING LAMS	MISSING LAMS	MISSING LAMS	
24525	"	"	"	"	5.79	2.90	1559.18	"	0.3	2.8	43	19	51	0	"	4839	Y	" " "
24526	"	"	"	"	5.20	1.65	1560.83	"	0.3	2.7	43	19	29	1	17.500	4839	Y	
24527	"	"	"	"	6.11	0.28	1561.11	"	0.3	2.6	~~5~~	~~2~~	5	0	"	4839	Y	
24528	"	"	"	"	4.38	1.42	1562.53	"	0.3	2.6	~~44~~	~~21~~	25	1	17.501	4840	Y	
24529	"	"	"	"	4.81	0.85	1563.38	"	0.3	2.5	39	22	15	0	"	4839	Y	
24530	"	"	"	"	4.84	1.31	1564.69	"	0.25	2.5	38	24	23	1	17.500	4841	Y	

01:47 run paused due to beam instabilities – soft trip of both vertex chamber and ID
01:58 back on again
5:02 Missing LAMs again – reload JADEGO – it works!
5:23 ID & Vertex chamber soft trip.
5:52 Vertex chamber gas alarm – valve failure – reset in gas house successfully.
6:04 ID & Vertex chamber soft trip.
7:43 MISSING LAMS JADEGO RELOADED

8:00 Walker / Elsen
8:05 Gas check OK (Ethane 20%) – will check in ~1hr).
9:20 " "
9:28 "BP or Jet Chamber HV Spill" message
9:30 Run saved/continued.
9:33 Missing LAMs – run stopped.
10:50 Before starting a run >10 LG HV zero.
How can they be switched on? (PK-HB ??)
10:50 Beam loss during optimization.
11:25 TOF rate > 5V. PKR is working on it. They see unexplained "background bursts".
1:55 ID + VTX soft trip
12:15 Heintzmann replaces Elsen
13:30 Run #24522 stopped by missing LAMs – JADEGO reloaded (or back & then.)
14:?? After several short/non-existent runs due to LAMs we get some NEW ERRORS!!!
Br. 2 cr. 3: TOF 1 counters, br. 1 cr. 3: BP-chamber AND
Error 74 – wrong LAM br. 1 cr. 1: BP-chamber !

16:00 Betke, Test on shift
16:22 beams back, but TOF-rate 5-6 V → soft trips. Complained at PKR. Nord reloaded before starting data-taking
16:30 Gas check O.K.
17:40 1st complete run with 8000 evts ended (!!) with ~10 spurious missing LAMs (768K) overall.
Previous shift had to restart every 500 - 1000 evts due to not ending Miss LAMs.
→ Did reload Nord at start of this shift help ??
19:01 Stopped run due to not ending Miss. Lam (768K) and Jet C point 701, 402, 607 ...
Reloaded 768K and started new run –
19:25 again lots of Miss Lams. Stopped run, @ 24540, started 24541 → does not work, always miss. Lams.
Exit and start on Nord, Reload 68000's → again good conditions (run of 8000!)

32 RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME %	TIME [hr]	RECORDS IN	RECORDS OUT	ALL $*10^6$	T_0 REJ $*10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{LG} > 6$ GeV	T_2 Bit 17 $2T: E_4 \geq 2TR$	PROCESSORS ON/OFF NSO	MIP	TOF	FAMP	$\langle L \rangle$ 10^{30} cm^{-2} s^{-1}	BHABHA $\int L dt$ nb^{-1}	$\int L dt$ Exp. Energy	IBM/TAPE OUTPUT	AT RUN START ID µA.	AT RUN START TOF V	ONLINE REJ Sum MUPROC T_0 %	ONLINE REJ NOPROC $T_1 \& T_2$ %	Σ BHABHA	MH	E Beam	MAG FIELD -1+G	Reduced Trigger J/N	Remarks
24531	2.3.86	14:41	14:48	6.29	6.45	26	346	695	571	89	23	369	460	142	[illegible] 11	ON	ON	ON	OFF	4.45	1.14	1565.83	IBM	025	2.5	46	20	20	0	17.500	4840	Y	↓ mins later
24532	"	14.50	14.53	6.10	6.26	27.9	150	339	282	38	10	165	200	63	[illegible] 3	"	"	"	"	4.30	0.97	1566.80	"	025	2.4	40	20	17	1	"	"	"	
24533	"	14.55	15.04	5.99	6.15	26.7	481	929	752	124	33	492	654	197	[illegible] 13	"	"	"	"	4.11	1.99	1568.79	"	02	2.3	49	21	35	0	"	"	"	
24534	"	15.06	15.22	5.79	5.95	25.8	952	1812	1417	267	63	949	1235	385	12	"	"	"	"	3.94	3.19	1571.98	"	02	2.1	45	24	56	0	"	4838	"	
24535	"	15.24	15.38 [illegible]	5.42	5.56	25.8	739	1434	1120	206	52	739	1027	297	15	"	"	"	"	3.46	3.13	1575.11	"	02	2.0	43	24	55	0	"	"	"	(runs 24535 bis 24539 sind identisch zu Lauf 24534 → Kombiniert)
24536		15.40	15.42	5.16	5.31	25.1	61	179	153	16	4	84	76	30	1	"	"	"	"	3.04	0.34	1575.45	"	02	2.0	16	17	6	0	"	4841	"	
24537		15.45	15.49	5.07	5.22	23.6	190	372	285	49	11	198	244	82	2	"	"	"	"	3.05	0.57	1576.02	"	02	1.9	44	26	10	1	"	"	"	Beam dumped.
24538	"	16:54	17:40	8.63	8.76	40.3	2770	8002	5501	720	290	4452	5876	1113	54	"	"	"	"	5.45	14.80	1590.82	"	0.35	3.0	48	33	260	6	"	4837	N	normally ended.
24539	"	17:40	18:01	7.23	7.35	39.2	1154	3154	2038	300	177	1842	2261	455	14	"	"	"	"	4.58	6.66	1597.48	"	0.2	2.5	51	38	117	3	"	"	N	ended due to Miss Lans.
24540		18:02	18:25	6.70	6.82	35.3	1272	3346	2062	331	117	1920	2455	485	15	"	"	"	"	4.14	5.58	1603.06	"	0.2	2.0	50	41	98	2	"	"	N	" " "
24541		→		forget it,		no	evts!	→ instr.		LAHS														0.2	1.7								
24542	"	18:28	19[illegible]23	6.14	6.26	32.8	3267	8002	4825	849	278	4705	5858	1063	39	"	"	"	"	3.49	11.41	1614.47	"	0.2	1.7	51	42	210	4	"	"	N	
24543	"	19[illegible]24	19[illegible]47	5.17	5.28	30.4	1368	3176	1827	355	108	1926	2276	412	13	"	"	"	"	2.87	3.32	1618.39	"	0.2	1.4	53	45	74	0	"	"	N	Beams dumped
24544	"	20[illegible]16	20[illegible]37	9.70	9.83	41.4	682	2006	1398	177	73	1109	1463	275	14	"	"	"	"	6.56	3.99	1622.38	"	0.3	2.7	48	32	70	1	"	4837	N	stopped due to miss lans
24545	"	20[illegible]35	—	forget it,		only	min. lans.																	0.25	2.5								
24546	"	20[illegible]38	21[illegible]06	8.74	8.87	37.7	1643	4691	3101	426	161	2790	3331	711	28	"	"	"	"	5.85	11.84	1634.22	"	0.25	2.4	50	36	208	2	"	"	N	
24547	Mind 50 Runs up																																
24548	"	21[illegible]15	22[illegible]07	7.60	7.82	35.3	3052	8001	5743	794	280	4756	5803	1119	41	"	"	"	"	4.65	14.46	1648.68	"	0.25	2.0	51	38	254	7	"	4837	N	stopped because of miss R
24549	"	22[illegible]07	22[illegible]27	6.36	6.56	32.3	1179	2984	1795	306	99	1834	2087	398	12	"	"	"	"	4.13	5.86	1654.54	"	0.2	1.6	53	42	103	1	"	4835	N	
24550	"	22[illegible]30	22[illegible]47	5.90	6.09	30.1	1002	2384	1398	261	72	1389	1751	292	85	"	"	"	"	3.73	3.30	1657.84	"	0.2		50	44	58	1	"	4837	N	stopped miss lans
24551	"	22[illegible]49	23[illegible]33	5.56	5.75	30.1	2586	5934	3479	672	202	3678	4273	762	25	"	"	"	"	3.23	9.22	1667.06	"	0.2	1.3	52	44	162	4	"	"	N	Beams dumped
24552	3.3.86	0.01	0.22	9.74	9.78	39.8	1195	3447	2370	311	124	2051	2340	547	16	"	"	"	"	6.62	7.52	1674.58	"	0.35	2.6	49	33	132	1	"	4835	N	
24553	"	0:25	0.26	8.80	8.91	51.5	51	183	109							"	"	"	"	4.40	0.22	1674.80	"	0.25	2.3	30	46	2	0	"	4832	N	crates trip / test
24554	"	0.36	0,53	8.35	8.50	38.6	948	2717	1855							"	"	"	"	5.13	6.03	1680.83	"	0.25	2.2	49	34	106	5	"	4837	N	
24555	"	0,53	1.39	7.85	8.00	44.7	2553	8000	4413	659	294	3582	4089	817	27	"	OFF	"	"	5.91	10.87	1691.70	"	0.25	2.0	—	47	191	2	"	4837	N	
24556	"	1,39	2.27	6.70	6.84	35.5	2433	8001	4094	633	224	3530	4115	808	27	"	OFF	"	"	3.47	9.85	1701.55	"	0.20	1.7	—	51	173	2	"	4836	N	
24557	"	2.27	3.14	5.75	5.88	42.2	2756	7332	3517	717	302	3214	3811	669	26	"	OFF	"	"	2.54	7.91	1709.46	"	1.70	1.4	—	54	139	3	"	4835	N	← Date reset
24558	"	4:25	4:57	9.35	9.32	53.2	1536	4542	2401 (2)	399	212	2011	2355	511	22	"	"	"	"	4.80	7.97	1717.43	"	0.4	2.5	—	45	140	1	"	4837	N	18th does not acc. events
24559	"	4.58	5.39	8.26	8.23	59.2	1821	4479	2460	474	281	1960	2295	483	17	"	"	"	"	3.51	6.89	1724.32	"	0.4	2.3	—	47	121	0	"	4835	N	reload 3 68k
24560	"	5.41	6.27	7.08	7.08	36.7	2396	7998	4124 (2)	624	229	3492	4157	790	40	"	"	"	"	4.00	9.68	1734.00	"	0.3	2.0	—	58	179	3	"	4834	N	
24561	"	6:27	6:43	6.09	6.10	38.4	657	1925	943	171	22	830	1014	184	8	"	"	"	"	3.32	1.94	1735.94	"	0.25	1.5	—	53	34	2	"	4	N	
24562	"	6:56	7:09	5.52	5.57	31.9	777	2508	1202	202	64	1076	1327	214	13	"	"	"	"	2.80	1.99	1737.93	"	0.25	1.5	—	54	35	2	"	4835	N	
24563	"	8:31	9:20	9.57	9.21	39.3	2895	8002	5405	753	296	4723	5643	1135	35	"	ON	"	"	5.99	17.88	1755.81	"		~4	49	34	314	3	"	4836	N	
24564	"	9:21	10:12	7.94	7.63	35.4	3057	8001	5173	795	281	4768	5677	1133	35	"	"	"	"	5.02	16.74	1772.55	"	0.2	~2	50	37	294	4	17.501	4837	N	
24565	"	10,13	10.52	6.63	6.35	32.5	2116	5258	3188	550	179	3174	3633	742	16	"	"	"	"	3.98	8.94	1781.49	"	0.2	1.8	50	42	157	3	"	4837	N	Beams dumped

20^{35} The same game: after stopping old, starting new run 24545 → only min lams. So stop again, start all processors again → works (?)

21^{06} After several min.lams: ZHA6a error, count larger than reserved buck. Stop and reload ... After start run, Nord50 busy, no events. So load Nord from scratch.

22^{26} time out while resetting J68K processor

22^{47} several min lams, FEP 03 failed. Stop and reload MC 68000.

3/3-86 00^{00} Olsen, Olsson

0^{15} Gas checks done.

3^{26,30} Camac Clock set. Since 29/2 it was wrong by 1 day!

5^{30} Note: Some very high deadtimes are artificial, due to waiting during debug print studies!

6^{30} Init. of VTX-processors now immediately before RUNSTART, in VPARA (runstart program). Will it stop missing lams at run begin?

8^{00} D. Clarke and H. Rieseberg on shift. 8.05 Gas check done. (P22 -ve)

8^{12} NF ready 10 mA, 10 mA. TOF rate fluctuates between 4 and 10 V. PKR adjusts

8^{32} Start Run 24563

After 200 events Missing LAM B2C3 TOF1, no missing LAM in VTXC

Note: Day and clock is right on Run Sum but slow by 1 day ~~3 sec~~ -3sec on colour TV
Last standard histograms were taken yesterday at 3 am.! (R 24509)

Inst. Lumi in PKR			
JADE	9.4	from Run so-far	$L_{corr} = 10.1 \times 10^{30}\ cm^{-2}sec^{-1}$
CELLO	11.3	Mr. Lenske asks for our conversion factor	
TASSO	12.6	From Run sheets Tagging / Bhabha lumi is 0.928	
Mark J	11.8		

9^{23} Run 24564 started. This time Missing LAM in VTXC after a few events.

Gas:

9^{30} Found return-from-chamber - pressure low and exhaust pipe pressure negative!
Mr. Seidel says that the fresh-gas flow was too low in the last days. He increased the fresh gas flow and he will check on the system till it is back to normal conditions.

10^{15} Run Sum Print doesn't come

10^{16} At Run Start: YIBM PC Bad Data command = 127 Data = W 23 0

10^{38} ID + VTXC trip slowly, loss of part of beam? → Lumi down to 2×10^{30}

10^{54} DOWN for refill

See super long word 24565, 4016

Call from R. Feist concerning REFORM-jobs: Mr. Backer expects problems when submitting one of the next Reform jobs – a list is not long enough. As Mr. Backer is ill, please contact R. Feist, if an error occurs

11^{35} Mac Filling with 10.3 + 10.3 mA, unstable TOF-rate

11^{40} At run start YIBM PC Bad Data as above

11^{42} Missing LAM JETC point 507 FEP 17, 20, 29 one bit less than the others 40072 ~~40000~~
Stop run – this was a mistake – New Run

11^{50} Three successive JETC errors point 503, 501, 502 EVT: FIFO not empty at event 1835
F-Keys still work, but after a few minutes of investigation every thing is dead.
Terminal 9 is dead:, Nord is stuck
Reload: by key Run start: Command is illegal in DAS state -1
STOP " "
EXIT works
second time ok: Reload JADE 60

12^{10} Resume data taking

13^{00} At start of Run 24569: VTXC-Processor cannot be started. → Run # lost.

13^{08} JETC-Errors in Run 24570 Jetc point 503, Pause, 10 sec later point 504, Continue, point 701, Pause, 10 sec later point 503, continue point 503, 502

Stop run Reload DL300 system.

14^{07} Beams lost
Reload Nord and DL300 System

14^{38} NF ready, wait

14^{48} Start Run 24573 MISSING LAM VTXC, TOF1, J68K

14^{50} preattenuators of pick-up units changed due to high PETRA beam currents (> 9 mA)

14^{54} run 24573 stopped (continuous missing LAM JETC point 406) and 405
all EVPRO Count 19

	e^+ station	e^- Station
previously	6 dB	3 dB
now	10 dB	6 dB

(HV)

14^{59} Run 24574 hang up. Same errors EVPRO Counts 18, 19

15^{45} Note: Runs 24573 – 577 collapsed by MISSING LAM in JETC

To next shift: please reset Tagging Ch HT's <ESC>
ENTER NAR
PASSWORD ↵
@ TOFHV

RUN	DATE	START	STOP	AT RUNSTART I^+	AT RUNSTART 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 $E_{LG}>6$ GeV	T_2 BIT 7 2T.$E_{th}\geq$2T
24566	3.3.86	11:38	11:40	10.07	10.12	46.5	113	325	228	29	14	191	212	42	2
24567	"	11:44	11:50	9.90	9.96	42.5		1433	1017						
24568	"	12:10	12:59	8.41	8.75	37.6	2769	8001	5443	721	271	4786	5462	1186	47
24570	"	13:03	13:08	6.86	7.17	39.3	61	246	164	16	6	128	113	26	0
24571	"	13:11	14:02	6.67	6.97	35.0	3060	8002	5098	797	279	4775	5817	1159	36
24572	"	14:03	14:07	5.58	5.86	35.0	259	657	409	66	~~23~~	~~345~~	~~489~~	77	5
3 24573	"	14.46	14 51	9,33	10,18	49.0	217	710	533	56	27.7	372	487	114	2
24574	"	14.55	14,59	8.97	9.80	63.3	129	354	263	34	21.5	184	240	50	0
24575	"	15:07	15:13	7.67	8.69	45.8	99	360	234	26	12	180	237	47	3
24576	"	15:19	15;26	7.32	8.32	43.8	200	649	455	52	23	336	455	93	2
24577	"	15:32	15:29	7.04	8.03	46.3	88	312	214	23	11	144	207	47	2
24578	"	15:36	16:05	6.85	7.82	42.3	1560	4617	3161	406	171	2571	3400	693	25
24579	"	16:10	16:11	5.97	6.93	39.2	48	185	136	12	5	91	87	20	0
24580	"	16:19	16:20	5.76	6.71										
24581	"	16:26	16:31	5.62	6.56										
24582	"	16:42	17:00	5.30	6.21	41.3	1037	2827	1889	270	112	1565	2182	419	12
24583	"	18:08	18:09	7.71	8.83										
24584	"	18:22	19:21	7.13	8.14	42.8	2956	8001	5487	769	329	4333	6311	1138	56
24585	"	19:22	19:26	5.80	6.66										
24586	"	19:27	19:44	5.70	6.55	40.1	927	2609	1749	241	~~97~~	1436	1916	353	13
24587	"	20:17	20:44	8.42	8.62	44.1	604	1807	1227	157	69	1030	1280	295	5
24588	"	20:46	21:00	7.29	7.50										
24589	"	21:02	21:23	6.88	7.09	42.7	652	1871	1237	170	73	1021	1376	253	10
24590	"	21:24	21:26	6.37	6.56										
24591	"	21:29	21:30	6.27	6.46										
24592	"	21:34	21:37	6.15	6.34										
24593	"	21:39	21:39	6.06	6.25										
24594	"	21:41	22:04	6.01	6.20	38.8	1358	3834	2543	353	139	2153	2816	517	19
24595	"	22:04	22:05	5.56	5.73										
24596	"	22:05	22:06	5.54	5.72										
24597	"	22:07	22:08	5.51	5.68										
24598	"	22:54	23:40	8.66	8.77	43.4	1830	5475	3782	477	207	3052	4068	817	33
24599	4.3.86	0 20	0 30	8.65	8.82	41.7	1789	1394	1005	118	49	752	990	214	0
24600	"	0 33	1 24	8.25	8.42	40.3	2806	8002	5442	730	294	4404	5901	1201	46
24601	"	1 24	153	6.56	6.84	38.2	1685	4549	2954	439	168	2565	3430	612	16

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	$\langle L \rangle$ 10^{30} cm^{-2}s^{-1}	BHABHA $\int L dt$ nb^{-1}	$\int L dt$ EXP ENERGY	IBM/TAPE OUTPUT	AT RUNSTART ID µA	AT RUNSTART TOF V	ONLINE REJ SUM MIPROC T_2 %	ONLINE REJ NORD-50 T_1+T_2 %	Σ_{BHA} BHA	MH	E_{BEAM}	MAG FIELD #-T&G	Reduced Trigger T/N	REMARKS
ON	ON	ON	OFF	7.80	0.68	1782,17	IBM	0,35	3.2	54	34	12	1	17.501	4838	N	
"	"	"	"		schaltet 2	1784,17	"	0.30	2.8					"		N	Run sum lost J68K Kod crash
"	"	"	"	6.20	19.24	1803.41	"	0.25	2.5	49	34	338	6	"	4840	N	No Run 24569
"	"	"	"	4,80	0.23	1803,64	"			26	38	4	0	17.500	4840	N	Stop, Reload DL300
"	"	"	"	4.54	17.53	1822.17	"	0.2	2.0	52	38	308	4	17.500	4840	N	
"	"	"	"	3.86	1.25	1823.42	"	0.2	1.7	48	41	22	0	17.501	4841	N	Beams lost
"	"	"	"	6.28	2.05	1825.47	"	0.5	4.3	47	28	36	0	17.501	4840	N	Missing LAMs
"	"	"	"	4.59	0.85	1826.42	"	0.5	4.1	45	29	15	0	17.501	4840	N	" "
"	"	"	"	4,68	0.97	1827.39	"	0.3	3.5	40	39	17	0	17.500	4840	N	" "
"	"	"	"	5.75	1.25	1828.64	"			47	33	22	0	17.500	4841	N	" "
"	"	"	"	5.03	0.51	1829.15	"			35	35	9	0	17.501	4841	N	" "
"	"	"	"	4.88	9.85	1838.90	"	0.35	3.0	50	34	173	1	17.500	4840	N	" "
"	"	"	"	4.17	0.34	1839.24						6	0				" "
"	"	"	"	4.63	0.23	1839.47						4	0				" "
"	"	"	"	4.48	0.74	1840.21						13	0				" "
"	"	"	"	3.92	4.78	1844.99	"	0,25	2,3	52	36	84	3	17.500	4840	N	beams dumped
"	"	"	"	4.67	0.34	1845.33											ausfall LAMs
"	"	"	"	3.94	10.76	1856.09	"	~~0.3~~	~~2.5~~	51	34	187	7	17.500	4840	N	
"	"	"	"	4.17	1.02	1857.11		0.3	2.5								ausfall LAMs
"	"	"	"	3.81	3.25	1860.36	"	0.25	2.5	48	35	57	1	17.501	4840	N	beam dumped
"	"	"	"	5.61	3.34	1863.45	"	0.1	3.3	48	34	58	5	17.500	4.837	"	frequent HV trips
"	"	"	"	5.46	2.73	1866.98	"			49	35	52	—	"	4.837	"	
"	"	"	"	4.46	3.36	1869.84	"			47	36	59	1	17.501	4837	"	
"	"	"	"	4.28	0.40	1870.24		0.3	2.7			7	0				
"	"	"	"	4.22	0.23	1870.47						4	0				
"	"	"	"	4.09	0.57	1871.04						10	0				
"	"	"	"	0.00	0.11	1871.15						2	0				
"	"	"	"	4.01	5.41	1876.56	"			49	36	95	3	17.501	4837	"	
"	"	"	"	0	0	1876.56						0	0				(Δz 2 cm) repeated failure of fan
"	"	"	"	2.36	0.17	1876.73						3	0				"
"	"	"	"	0	0.05	1876.78						1	0				beam " dumped.
"	"	"	"	5.90	11.16	1887.94	"	0.4	3.5	50	33	196	5	17.501	4838	"	beams lost.
"	"	"	"	5.92	2.90	1890.84	"	0.4	3,5	46	30	51	—	17.500	4837	"	
"	"	"	"	4.56	13.55	1904,39	"	0 35	3.0	48	34	238	6	17.500	4837	"	
"	"	"	"	3.76	6.55	1910,94	"	0.3	2.5	50	37	115	—	"	"	"	J68K needs reload

3/3/86

16⁰⁰ Stefan and Middleton on shift
17⁰⁰ beams dumped
17²⁰ gas check done.
runs 24578 → 81 aborted because of missing LAM in JETC.....
21²⁴ Fan Failure in B2 C7 three times in an hour. Fan should be changed in next fill
21³⁰ missing LAM JETC
21³⁵ Run start program changed: Branch Demand in Cr 1, B4 extra disabled, apparently not effective with 2, As we observed, the Miss-Lam errors from VTXC and TOF at run begin is due to confusion in the system crate, caused by lams (Branch Demand) being present in Br 1 and Br 4 at the same time. This should now be cured; please report if they still occur! J.-M. Olm
22⁰⁰ continuous failure of branch 2 crate 1 fan; replaced.

22⁵⁰ new fill ready.

4.3.86

0⁰⁰ U. Schneebloth and H. Rieseberg on shift. $\int L\,dt = 221\ nb^{-1}$ (3. March)

0¹⁵ Gas check ok
0¹⁸ NF ready.
0²⁰ AT run start (#24599) Y IBM PC - Error : Bad data command = 127 data = W 23 0
then JDAS Readout error 000036 (oct) Suberror 000400 (oct) 4 times
no other error.

0³⁰ Reload DL300 System
JDAS Readout error 36 Suberror 400 ### ###
" " " 52 - controlword 000600 | Run 24600

Errors: Read out 36 Sub error 400 frequent (=illegal continuation Record ?)
No trigger bits rather frequent
. Illegal continuation Record - only a few of these are sometimes correlated with a J68K crash.
No Missing LAM from VTXC or TOF at run start.

2⁴⁵ stop for refilling
4¹² NF ready
4²⁵ unstable beam with high TOF rate, then 4³⁰ beam loss

DL 300 System Crashes ERROR LOG

Run	time	Illegal cont. Record Y/n	Missing LAM JETC-point	FEP out of order	Reload J68K
24599	0³⁰	Y	402, 401, 403, 604, 403	3, 4	Y
24601	1⁵³		502, 503, 503, 503 - - 504	—	Y
24602	2⁰⁰	Y	503, 504, 504 - - -	6	Y
24603	2⁰³	Y	506, 504, 505, 502, 507, 506 -	-	Y
24604	2¹⁹	Y	405, 405, 402, 404	14 early in run, 6, 7	Y
24605	2⁴⁴		none	11 early in run	Y
24607	5⁴⁵		407, 501, 501, 406	—	Y
24608	6⁴²	Y	402, 402, 402, 701	1, 5 - 31	Y
24609	7⁰⁴	Y	506, 506	early in run 2,	Y

MISSING LAM from J68K Beam are harmless
J68K - System crashes at the first Missing LAM from JETC point ...
400 Ring 2
500 Ring 1
600, 700 Ring 3

FEP 27 is noisy

5⁰⁰ NF ready
7²⁰ Stop for refilling
7⁴⁵ NF ready 10.2⁻ 9.4⁺

8⁰⁰ Glasse and Zimmer on shift

12⁰⁰ JDAS ERROR 52 controlword 1600
12⁰¹ " " " 1000

14¹⁵ JADE GO
16⁰⁰ D. Darvill & P. Hill on shift
16¹⁰ JDAS readout error 36 suberror 400 } I don't know who wrote this, but we didn't!
DP & PH

RUN	DATE	START	STOP	AT RUN START I+	AT RUN START I-	DEAD TIME %	TIME sec	RECORDS IN	RECORDS OUT	ALL ×10⁶	T₀ REJ ×10⁶	T₁ ACC SUM	T₂ ACC SUM	T₁ Bit 2 E_LG > 66 GeV	T₂ Bit 17 2T·E_t·>22TR
24602	4.3.86	1:56	2:00	5.89	6.26	39.1	110	371	248	29	11	206	221	64	2
24603	"	2:02	2:05	5.78	6.15	36.2	94	266	177	25	9	134	186	37	2
24604	"	2:07	2:19	5.63	6.05	35.5	661	1743	1099	172	61	981	1293	226	11
24605	"	2:21	2:44	5.44	5.80	35.6	1351	3479	2140	352	125	1999	2623	467	21
24606	"	4:12	4:30	8.39	9.21	40.9	784	2398	1647	204	84	1405	1599	366	16
24607	"	5:03	5:45	8.29	8.48	38.1	2208	6162	4068	574	224	3414	4540	849	256
24608	"	5:47	6:41	6.70	7.14	36.8	2781	7552	4901	723	266	4328	5488	995	38
24609	"	6:43	7:05	5.59	5.99	34.4	1277	3347	2075	332	114	1976	2371	484	21
24610	"	7:06	7:19	5.20	5.59	33.3	730	1918	1162	190	63	1114	1359	235	6
24611	"	7:48	8:31	9.33	10.12	41.3	1883	5406	3681	490	202	3024	4000	732	~~33~~
24612	"	8:34	8:40	7.54	8.58	46.	342	930	652	89	41	500	656	127	7
24613	"	8:43	9:16	7.21	8.31	39.6	1316	3885	2638	342	135	2226	2694	574	21
24614	"	9:18	10:09	6.38	7.33	37.1	2970	8002	5123	773	287	4793	5874	1107	44
24615	~				JUNK						MIC				
24616	~				JUNK				PROC RELOAD						
24617	"	10:16	10:19	5.22	6.07	33.9	128	369	243	33	11	201	235	43	2
24618	"	11:16	12:23	8.92	8.95	54.3	1344	4634	3433	349	189	2687	2989	730	46
24619	"	12:35	12:41	7.74	7.40	53.0	341	1244	924	88	46	714	763	195	4
24620		JUNK													
24621															
24622	3.86	13:03	13:05	~~6.85~~ 6.93	~~6.85~~ 6.93	~~54.3~~ 54.3	~~50~~	274	209	13	7	144	186	41	4
24623	"	13:10	14:00	6.71	6.79	54.9	2242	7643	5733	584	320	4496	4788	1234	65
24624	"	14:01	14:11	5.61	5.79	52.2	556	1826	1358	144	75	1068	1199	269	9
24625	"	14:13	14:19	5.43	5.60	52.2	276	950	705	71	37	565	583	156	6
24626	"	14:48	15:00	9.42	9.52	49.4	696	2405	1744	181	89	1443	1446	362	135
24627	"	15:21	16,17	8,07	7,91	37,9	2780	8007	5206	724	274	5096	5176	1042	84
24628	"	16,77	~~17,13~~	6.50	6.44	32.4	3125 1240	8002	4839	814	264	5113	5197	998	33
24629	~	17:14	17:46	5.38	5.38	46.3	~~4800~~	3839	2695	322	169	2370	2422	527	18
24630	"	18,25	18,30	9,26	9,19	33,6	287	633	417	61	20	388	415	53	4
24631	"	18,32	18,33	9,04	8,99	29,9	20	97	66	5	1	954	27	11	1
24632	"	18,35	18,51	8,96	8,91	37,0	712	1817	1201	185	68	1157	1114	247	7
24633	"	18,54	19,05	7,60	7,84	30,2	371	875	608	96	29	652	581	134	0
24634	"	19,08	19,20	7,21	7,54	29,8	670	1635	1015	174	57	1111	1003	243	8
24635	~	19.20	19.44	6.91	7.25	30.0	1430	4663	2320	372	112	2315	2172	464	20

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	⟨L⟩ 10^{30} cm^{-2}s^{-1}	BHABHA ∫Ldt nb^{-1}	∫L dt EXP. ENERGY	IBM/TAPE OUTPUT	AT RUN START ID μA	AT RUN START TOF V	ON LINE REJ SUM MI PROC T₂ %	ON LINE REJ NORD-50 T,BT₂ %	Σ BHABHA	MH	E_BEAM	MAGN. FIELD -1×6	REDUCED TRIGGER Y/N	REMARKS
ON	ON	ON	OFF	3.02	0.68	1911.62	IBM	0.25	2.2	41	36	12	1	17.500	4838	N	J68K needs reload
"	"	"	"	3.25	0.17	1911.79	"	0.25	2.1	45	38	3	0	17.501	4838	N	"
"	"	"	"	3.39	2.68	1913.47	"	0.25	2.1	51	40	47	1	"	4837	N	"
"	"	"	"	3.25	4.84	1918.31	"	0.2	2.0	51	41	85	4	"	4838	N	Beams dumped
"	"	"	"	6.16	5.35	1923.66	"	0.4	3.0	47	33	98	3	"	4838	N	Beams lost.
"	"	"	"	4.81	10.19	1933.87	"	0.4	3.0	49	36	179	1	"	4837	N	reload J68K
"	"	"	"	3.96	12.69	1946.56	"	0.3	2.7	50	37	223	1	17.500	4837	N	"
"	"	"	"	3.46	5.29	1951.85	"	0.25	1.8	50	43	93	1	17.501	4837	N	"
"	"	"	"	2.96	1.94	1953.79	"	0.2	1.7	49	42	34	0	17.500	4837	N	Beams dumped
"	"	"	"	4.97	10.25	1963.15	"	0.4	3.5	50	34	180	6	17.500	4837	N	reload J68K
"	"	"	"	4.42	1.76	1964.66	"	/	/	46	33	31	0	17.500	4837	N	"
"	"	"	"	5.39	7.52	1972.18	"	0.3	2.5	48	34	132	0	"	4837	N	"
"	"	"	"	4.44	12.98	1985.16	"	0.2	2.0	50	38	278	2	17.500	4838	N	
																	MICRO RELOAD
																	"
"	"	"	"	3.78	0.51	1985.67	"	/	/	42	37	9	0	17.500	4838	N	"
"	"	"	"	4.59	6.09	1991.76	"	0.6	~~5.0~~	~~4.3~~	29	107	1	17.501	4838	N	stop miss lamb
"	"	"	"	4.00	1.42	1993.18	"	0.5	4.2	32	28	25	0	17.500		"	set chimney ch. standing IEM DOWN!
																	Trying to start
"		D	"	3.59	0.40	1993.58	"	?	?	7	27	7	0	17.500	4837	"	
"	"	"	"	3.28	7.35	2000.33	"	0.41	4.0	44	27	113	1	17.500	4837	"	Z chamber out of readout (777778)
"	"	"	"	2.85	1.76	2002.69	"	0.3	3.2	46	27	31	0	17.500	4840	N	reload 68K
"	"	"	"	2.84	0.78	2003.47	"	0.4	3.1	44	28	14	1	17.500	4840	N	Beams dumped
"	"	"	"	6.20	4.38	2007.85	"	0.5	4.0	43	29	77	4	17.501	4840	"	
"	"	"	"	5.71	16,8	2024,65	"	0.2	1.2	50	36	295	4	17,501	4840	N	
"	"	"	"	4.55	15.94	2040,59	"	0,2	1,0	50	41	280	6	17.500	4840	"	
"	"	"	"	2.86	3.73	2044,52	"	0,2	1.0	47	31	69	3	17.501	4840	"	Beams dumped
"	"	"	"	4,81	1,84	2046,06	"	0,2	1.1	~~25~~ 25,2	37	27	1	17,500	4840	N	
"	"	"	"	7,02	0,17	2046,13	"	0,2	1,2	~~37~~ 37,3	38	3	0	17,500	4840	N	
"	"	"	"	5,74	4,44	2050,57	"	0,2	1,2	49	36	78	1	17,501	4840	N	
"	"	"	"	4,90	2,56	2053,13	"	0,2	0,75	53	40	45	0	17,501	4840	N	
"	"	"	"	5,67	4,04	2057,17	"	0,2	0,75	~~25~~ 25,5	40	71	3	17,501	4840	N	
	off			5.19	7.06	2064.23		0,2	0,75	0	52	124	3	17,501	4840		μ16 off for dead time study

4/3/85

5:15 Gas check done
13:10 Z chamber cannot be switched on : Taken out of readout
16:00 Davis & Hill on shift.
16[21] Gas check. - Ok
17,03 ID + BP soft trip.
17.27 ID & BP soft trip.
17:34 another soft trip
17:40 another soft trip - beam quality has deteriorated.
18:25 New filling ready and we start run No 24630
18:42 Soft trip.
19 01 Soft trip.
19:46 missing LAMs etc JADEGO
20:07 missing LAMs etc. JADEGO
20:55 Tasso call to say they would like a new filling - we agree.
21:00 Tasso call again to say that there is a shortage of positrons at the moment and PKR will hold this filling until the availability improves.
21:24 The frequency of 'missing muon crate' messages is somewhat high this shift. Principal offender is crate 6.
21.48 JADEGO
22:14 Soft trip
22:24 Soft trip - ID only.
23:06 soft trip - ID & Vertex chambers.
Beams lost - "Kurze Unterbrechung"

What were the symptoms? What did they do? For how long was it out of readout? Did they call anyone from the LAL group (Dan Charles, Robin Middleton)? This sort of "logging" of problems is QUITE USELESS TO ANYBODY — might as well not have a logbook if this is the best we can expect from shift crews. SLC 9/3

5/3/85

0[00] Knorr & Middleton on shift (split shift Middleton 0→4 , Knorr 4→8)
0[15] Break - restart 9:00 am ... magnet run down to ~500 A.
positron synchrotron down.
1[30] gas check done, P22 was fluctuating ± 0.5 mm/ws . is this OK?
7[55] no beams all shift

8[00] Clarke, Feist on shift
screen saver restart @ 8[00]
8[07] Gas check done - OK. P22 now 5.0
10:03 YVOLTS often complains on wrong primary HV for the LG - distributor. This seems to be a readout problem, the HV actually applied to the photomultipliers are okay. Kuhlen

11[00] Warning! Since some days (~1 week) it has been noted that after a HV Trip, sometimes, when Run is continued, the IBM counter on the Colour TV is not incremented, although the NIO counter increases. This was thought to be a problem of overwriting the counter, or similar, but it is more serious. As the Reform job output shows, no events arrive at IBM when this counter is not incremented. The problem is present also on our recent backups. Investigation shows that the disc directory has to be regenerated and the JDAS system newly linked (takes about 2 hours). Should the effect be noted again, stop run and start a new run immediately. J.O.

12[15] new fill ready extreme good background conditions
12[40] all chambers hard trip, small part of the beam lost
13[05] soft trip * Note :- TOF μproc "OFF" - J. Olsson
13[08] hard trip of all chambers PKR claims that this is due to HEW spike as we is more sensitive to it now because DESY has withdrawn some Arbitrage of Powersupplies and is slowly restoring the
13[70] J. Olsson wants to be called when beams are dumped!
13.30 Missing LAM B3 C2 μ
System crate watchdog flag params = 000016 140204
" " " "
etc.
J.O. knows about this problem & will come to fix in next fill period.
13.32 All chambers trip - hard
13.37 ID + Vtx trip
13.45 Vtx ch gas system failure — valve reset OK.
13.47 Stopped run 24645, Missing LAMs, re-loaded JADEGO.
* Note :- several LG voltages give HV Wrong messages — ignore.

16[00] Menke + Zimmer on shift
17[40] run started stopped after 2 events : error message on printer : TOF$_{12}$ AC 2099 no response
we have tried to reload micros but no success : TOF micro switched off

22[30] Leave TOF Micro OFF until further notice! Remember when reloading Nord!

System disc has now a regenerated directory and rebuilt system. Please report if you see any problem with non increasing IBM counter!
J. Olsson

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME %	TIME sec	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	T0 REJ. $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT 2 $E_{LG} > 6$ GeV	T_2 BIT 17 $2T.E_{LG} \geq 2TR$
24636	4.3.86	19:47	20:07	6.32	6.64	29	1199	3019	1806	312	90	2019	1830	367	6
24637	"	20,09	21,07	5,87	6,78	26,7	3429	8002	4583	892	238	5342	5708	576	29
24638	"	21,07	21,10	4,92	5,12	25,2	140	376	215	36	9	233	192	52	7
24639	"	21,12	21,46	4.86	5.14	24.8	1988	4254	2200	517	128	2808	2845	482	14
24640	"	21,48	23,00	3.94	4.10	21.8	4067	8002	3781	1058	231	5381	5187	794	20
24641	"	23,07	23,05	3,19	3,32	13,8	199	446	203	51	10	293	244	43	2
24642	5.3.86	12^{13}	12^{21}	8.26	8.52	35.9	62	241	168	16	5.7	144	114	28	0
24643	"	12^{25}	12^{45}	8.13	8.30	35.2	905	2508	1694	235	82	1574	1603	339	10
24644	"	12 47	13.32	7.91	8.25	32.7	2105	5394	3422	547	179	3429	3425	697	13
24645	"	13.35	13.47	6.73	7.09	33.3	329	946	597	85	28	591	547	117	3
24646	"	13.49	14.34	6.44	6.80	30.3	2677	7242	4728	696	211	4979	4222	802	21
24647	"														
24648	"														
24649	"	17 52		9.26	9.46	33.5	834	2217	1463	217	73	1434	1455	307	9
24650	"	18:16	19:18	8.31	8.50	29.4	3517	8001	4714	915	268	5065	5624	924	35
24651	"	19:21	20:22	6.93	7.14	28.2	3635	8001	4503	946	266	5145	5458	910	30
24652	"	20:22	20:30	5.91	6.11	27.8	487	1010	566	114	32	659	639	114	4
24653	"	22:52	0:32	10.08	9.58	32.7	3304	8002	4774	859	281	5088	5369	1025	35
24654	6.3.86	0:42	1:30	5.92	6.24	29.1	2778	6174	3546	722	210	3971	4205	743	21
24655	"	1.57	2:59	9.07	9.07	33.1	3203	8002	5134	834	276	5085	5368	1092	35
24656	"	3 00	3.58	6.88	7.30	30.8	3347	8002	4831	871	269	5214	5243	1092	22
24657	"			5.78	6.17										
24658															
24659	"	6:22	6:50	7.52	7.68	32.2	1672	2665	1636	279	80	1775	1737	366	11
24660	"														
24661	"	7:05	8:26	6.49	6.61	30.8	3094	7203	4300	805	248	4614	4850	859	37
24662	"						only 150 triggers								
24663	"	9:08	9:19	10.49	10.42	63.3	231	1127	887	60	58	818	427	145	6
24664	"			— only 39 evts input —											
24665	"	9:37	9:30	8.98	8.59	67.0	104	539	420	27	18	367	199	49	2
24666	"	9:30	10:25	8.94	8.55	38.8	3242	8002	6794	836	101	5146	4720	2105	63
24667	"	10:25	10:53	7.31	7.02	38.2	1786	4421	3735	464	177	2879	2178	1153	39
24668	"	10:59	11:00	6.67	6.64	59.6	160	916	685	41	24	734	245	71	5
24669	"	11:01	11:51	6.59	6.26	38.2	3021	8001	6807	786	300	5311	3785	2096	83
24670	"	11:52	12:09	5.65	5.35	37.4	1039	2697	2282	270	101	1781	1317	713	31

PROCESSORS ON/OFF NSD	MIP	TOF	FAMP	$\langle L \rangle$ $10^{30} cm^{-2} s^{-1}$	BHABHA $\int L\,dt$ nb^{-1}	$\int L\,dt$ EXP. ENERGY	ID M/TAPE OUTPUT	AT RUN START ID mA	AT RUN START TOF ✓	ONLINE RES SUM MIPROC T_2 %	ONLINE RES NORD-50 $T_1 T_2$ %	Σ_{BMA} BMA	MH	E_{BEAM}	MAGN FIELD -1kG	REDUCED TRIGGER Y/N	REMARKS
						2064.27											
ON	ON	ON	OFF	4.96	6.89	2071.12	IBM	–	–	52	42	121	3	17.501	4840	N	Missing LAMs
"	"	"	"	3,98	14,80	2085,92	"	0.1	~~1.0~~ 0.5	53	44	260	6	17,501	4839	N	
"	"	"	"	3,76	0,74	2086,66	"	0.1	~~1.0~~ 0.4	~~53~~ 40	46	73	0	17,500	4838	N	
"	"	"	"	3,02	6.77	2093,43	"	0,1	~~1.0~~ 0,4	55	50	119	2	17500	4839	N	Missing LAMs
"	"	"	"	4.77	7.51	2100,94	"	0,1	0,4	54	54	132	8	17500	4841	N	
"	"	"	"	1,71	0,81	2101,45	"	≤0,1	0,3	47	58	9	0	17501	4841	W	Beams dumped -
"	"	OFF	"	7.38	0.63	2102.08	"	0.2	1.3	37	34	11	0	17500	4837	N	stopped due to missing LAM
"	"	OFF	"	7.12	6.44	2108.52	"	0.2	1.4	49	34	118	0	"	"	N	stopped on advice of CERN
"	"	OFF	"	5.58	10.82	2119.34	"	0.2	1.0	49	38	190	2	"	4838	N	stopped – we had ~~if~~ Think of an error 30 beam profile
"	"	OFF	"	5.02	1.76	2121.10	"	0.2	0.9	43	39	31	3	"	4838	N	Missing LAMs
"	"	OFF	"	4.11	12.58	2133.68	"	0.18	0.9	52	36	221	4	"	4839	N	Beams dumped
																	Tof problem
"	"	off	"	6.59	6.43	2140.11	"	0.2	1.0	53	35	113	2	"	4838	N	soft trip
"	"	OFF	"	3.85	14.06	2154.17	"	0.2	1.0	58	43	247	5	17,501	4838	N	
"	"	off	"	3.25	12.87	2167.04	"	0.15	0.8	53	45	226	6	17,500	4837	N	
"	"	off	"	3.68	1.88	2168.92	"	0.15	0.65	53	46	33	2	17.501	4838	N	beams dumped
"	"	off	off	4.47	15.65	2184.57	"	0.3	1.6	53	40	275	4	17.500	4838	N	
"	"	"	"	3.32	9.17	2193.74	"	0.1	0.75	54	44	161	3	17.500	4838	N	beams dumped.
"	"	"	"	5.30	16.74	2210.48	"	0.2	1.4	52	37	294	6	17.500	4838	N	
"	"	"	"	3.92	15.03	2225.51	"	0.15	1.1	53	41	264	3	17.500	4838	N	
				3.43	0.80	2226.31		0.1	0.85			14					run stopped Camac problems
"	"	"	"	4.86	5.21	2231.52	"			53	40	104	2	17.500	4.838	N	Continuous trips of clipboard bus
"	"	"	"	3.26	8.60	2240.12	"			51	41	151	1	17.501	4837	N	
																	beams dumped
"	"	"	"	5.77	1.77	2241.83	"	0.6	4.5	43	22	30	0	17.500	4838	N	Stop due to high background
								0.6	~~4.0~~							N	~~red. trigger~~ rebuild Fund
"	"	"	"	3.82	0.51	2242.34	"	0.6	2.0	38	24	9	0	"	4837	N	stop to reduce trigger
"	"	"	"	6.62	27.23	2263.57	"	0.4	1.5	43	16	370	2	"	"	Y	
"	"	"	"	5.43	9.56	2273.13	"	0.3	1.4	42	17	168	4	17.501	4838	Y	stopped for testing MC68020
"	"	"	"	3.53	0.34	2273.87	"	0.3	1.4	45	27	13	0	17.500	"	N	stopped for switch to red. tr.
"	"	"	"	4.15	12.35	2286.22	"	0.3	1.4	42	16	217	4	"	4837	Y	
"	"	"	"	3.85	4.78	2291.00	"	0.3	1.4	44	16	84	1	"	4838	Y	beams dumped

23[42] beam conditions are very bad. Chambers have tripped several times
Tasso can't run either, We asked them to consider a refill
– background spikes caused by mains supply, therfore no improvement possible –

6 March 00,00
Stephens & Steffen on Shift.

0[24] JDAS ~~error~~ readout error 000036 (oct) Suberror 000400 (oct)

0[30] Gas check ok
0[55] JDAS readout error 000036 (oct) suberror 000400 (oct)
0[15] " " " " " " " "
1[20] new fill in 10 mins
1[57] Run start
2[00] Soft trip I.D. & Vtex
2[02] " " " "
we get a few ~~VERTEX~~ LG distribution 0 Primary HV = 1.930 Should be 1.870
1 " "
18 " "
19 " "
20 " "
try to reset but have no success. As the LG expert is coming on the next shift we'll wait for him.

3[06] JDAS readout error 000036 (oct) Suberror 000400 (oct)
3[10] Soft trip I.D. & Vtex
3[45] another similar JDAS readout error
3[50] " " " " "
4[00] " " " " "

So far All these JDAS errors accompanied by
Illegal cont rec. message

4[02] JDAS readout error 000034 (oct) suberror 000400 (oct)
4[07] JDAS readout error 50 Camac crate offline in branch 1
track 19 ~~(illegible)~~ temperature alarm – won't reset. try "new" fan unit
Vtex chamber

and "new" power supply. Temperature alarm changes to overload. We can run crate with all DL101 except 3 and the overload starts. However +6V ~ 6 amps and -6V draws > 20 amps (with -3 DL101)
Another crate with all DL101 -6V ~ 15 amps +6V ~ 11 amps.
Called Expert. that's wrong → reading ×2 → ~30 amps! EH

Running without Vtex chamber.

7[20] We are getting soft trips I.D. & Vtex every few minutes since ~ 6[30]. We asked Tasso to find out if PLR can do something about it. (Tasso also getting "bad beam")
P.L.R. say they have sparking in power supplies and they trying to do something about it.

8[00] Magnussen + Bethke on shift
8[02] all chambers tripped hard (TOF spike)
8[05] — " — (")
8[10] ID soft trip (")
8[15] gas check ok.
8[21] all chambers tripped hard
8[23] new fill soon
8:30 power supply for Vertex chamber Camac crate repaired. (The fan in the power supply – not the fan unit of the crate – was broken). Where is the spare unit from the balcony ?!! HK
9:05 spare unit found in NORD cellar. It's on the balcony now. HK
9:09 beam ready, 2×10.5 mA!! Trigger-rate: 15.6 Hz . deadtime: 65 %. . TOF-Rate: 4.5 V . 10:0.6
complained at PLR for high background. They claim they cannot do anything, it is due to high currents. → We switch to reduced triggers
9:20 After starting new run: Nord error in YMAIL. Rebuild → error again. Rebuild again → ok
Meanwhile: Tof-Rate → 10 V for several records, several times; ~~beam~~ + partial beam losses. Very unstable beams.
9:27 New run has again 15 Hz, Deadtime → 70 %! (Though beam has now ~ 8.7 mA, TOF = 2V).
Stop again to switch to red. triggers . → 6 Hz, 40 % d.t.
9:37 → JDAS readout error 36, suberror 400 . 3 times!
9:51 " " . Once
10:05 " " . "
10:55 After successful debugging, switch on all triggers again . → goes from 5 to 15 Hz!
→ goes from 35 % to 60 % d.t.!
Stop run 24668 again!

11:27 JDAS READOUT ERROR 35 (oct) SUBERROR 400 (oct)
13:03 All chambers tripped hard. TOF = 10 V. I called PKR: it is due to fluctuations of HEW-voltage
We can't switch on
13.21 CONTINUE with oszillating TOF rate (2-6 V)
13:24 Missing LAM board 4 crate 1: JETC point 504, 505, 506 & Illegal CONT RECORD stays on screen
→ stop run, reload FADC-processors
Start new run after resetting all 3 chambers (tripped hard; high TOF rate!
13:35 JDAS READOUT ERROR 35 (oct) SUBERROR 400 (oct)
13:39 All chambers tripped hard
13:42 —— " ——
13:49 JDAS READOUT ERROR 36 (oct) SUBERROR 400 (oct)
15:18 I paused new # 24673 to investigate a peak in EC hitwop (#72). The peak is caused by a noisy photomultiplier, so I can't do anything about it. N.H.

16^{00} Rauche, Becker

17^{05} JDAS err 33 - missing LAM br. 2 cr 5: LG ADC's
" " 36 (oct.) - often
17^{10} Gas check done - o.k.
17^{20} 7-ch. trip (hard)
17^{30} " "
17^{36} 768k error
17^{42} " "

19^{04} Senderausfall bei PETRA → E = 17.507 für 10 min
20^{06} Beam loss, Temp. alarm in PETRA. At JADE, the alarm is on, but can be reset~~ted~~
Petra get a Temp. alarm also from TASSO and DORIS. Believed to be due to the high currents.
22^{05} After JETC testing, disc overwritten, system newly generated and copied to backup B J.O.

22^{15} We get a Temp. alarm again! This leads to a beam-lost (alarm issued to Petra)
The "Strahlrohr-Temperatur Überwachung" shows Pos ①: ≈ 47°C ← Vakuum-pumps left and right
Pos ㉓: ≈ 36°C
We call Seidel! He says that we can increase the threshhold. But the temp. should be less then 50°C
So we change the threshold: Pos ①: 4 turns anti clock wise
Pos ②: 2 — " — (little screws inside the front panal)

Tasso has the same problems. So it could be related to the high currents

23:07 JDAS READOUT ERROR 36 (oct) SUBERR 400 (oct)
34 400
36 400
36 400
JDAS READOUT ERR 33 Missig lam br 4 crt 1 : JBTC point 504
33 4 " : J68K Dark
23:20 36 (oct.)
23:41 33 Missing lam br 4 crt 1 : J68K B.
36 (oct.)
23:49 " 36 (oct.) two times

Note to the shift crew: The new threshhold of the temp alarm is unknown.
So the shift crew has to watch the temperature at the
"Strahlrohr-Temperatur überwachung". If the
0.00 Ambrus & Kvelhiel on Shift temperature exceeds 50°C (Pos ①) call PKR
The temp. problem should be fixed tomorrow.
0.20: Colour message: YSPY detected Error, but no such message on the Yspy terminal? Yspy terminal did not respond to ESC, nor was there a message YSPY LUN OCCUPIED. Switching off-on, log-on-off may have cured the problem.
0:24 gas check done. Another Yspy error: A full crate of DL300's gave no hits, but no permanent error messages. ~~Hirsmap go~~ Attempt to cure: Reload-Procedure on MOP.
After this the NORD Histogram-program failed: top line was put out but nothing else.
Rebuilt tasks YH COPY + YH DISP. Now seemingly everything o.k.
1:14 No Beams for some time. Call to PKR; DESY transmitter not clear. May take another hour
4.10 Beams up again. TOF Voltage at first 4V. Bredehoft was on PKR. He optimized us to 2.0 Volt.
4.20 Small beam loss: all chambers tripped.
5.00 - 5.30. Chamber trips (all) keep us active. According to PKR small beam losses are caused by HEW through their system of sending messages over the mains lines. No cure.
5.00 YSPY: Muon digitized 34 missing. Decided not to worry.
5.30 JDAS Error 35 sub 400 once, then Perman. Miss. LAM 4/1; JETC. point 504. Run stopped.
Illegal CONT Rec. New Run produced same error. → MOP reloaded.
Them trips ~~gets~~ on my nerfs!
6.12 Beams lost.
7.30 Beams up again, but →
7.45 Run stopped because of permanent missing LAM; MOP reloaded.

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_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 $2T: E_t \geq 2$ TR
24671	6/3/86	12:54	13:24	10.05	10.32	44.0	384	1106	939	99	43	700	583	276	10
24672	"	13:31	14:40	7.90	7.72	39.7	2956	8002	6822	769	305	5144	4031	2030	83
24673	"	14:57	15:49	6.02	5.87	37.0	2502	6137	5228	651	241	3856	3247	1460	51
24674	"	16:47	16:51	10.22	10.49	70.6	179	692	537	47	33	356	403	95	3
24675	"	16:52	17:32	10.00	10.26	42.3	2177	5985	5248	566	240	3425	3231	1303	42
24676	"	17:35	17:40	8.47	8.71	36.2	243	680	568	63	23	417	335	168	49
24677	"	17:43	18:24	8.28	8.46	40.4	1837	4696	4025	478	193	2946	2466	1120	243
24678	"	18:31	18:51	6.82	7.04	57.5	1181	4230	3237	308	147	2623	2453	596	20
24679	"	18:00	18:07	6.30	6.42	35.7	379	939	807	88	35	561	481	219	14
24681	"	19:22	19:28	5.51	5.58	37.1	345	1062	808	90	33	547	405	188	18
82/83 – junk															
24684	6/3/86	22:22	23:15	10.01	10.13	36.9	3128	8002	6701	813	300	4815	4537	1851	58
24685	6.3.86	23:15	0:10	8.18	8.29	37.2	3202	8002	6680	832	309	5018	4386	1898	82
24686	7.3.86	0:10	0:32	6.75	6.85	37.4	1284	3214	2654	334	125	2060	1696	786	36
									Run No's			24687 and	24688	= junk	
24689	7.3.86	0:50	1:15	5.97	6.06	35.7	1448	3556	3032	377	134	2244	1827	855	45
24690	7.3.86	4:17	5:25	8.94	9.72	35.7	2862	6977	5971	744	266	4368	3873	1574	75
24691	MOP	problems,	junk												
24692	7.3.86	5:34	6:11	6.80	7.47	36.1	1457	3564	3049	379	137	2278	1949	859	40
24693	"	7:30	7:44	10.22	10.63	41.7	250	675	593	65	27	435	332	176	3
24694	"	7:53	y^{15}	9.31	9.60	34.1	3356	8002	6811	873	287	5767	4445	1909	61
24695	"	y^{16}	y^{25}	6.81	7.01	48.7	317	1080	806	82	40	644	625	146	6
24696	"	y^{26}	y^{39}	6.69	6.80	35.8	776	1884	1717	202	72	1245	997	480	18
24697	"	9.42	10^{36}	6.36	6.46	34.7	3185	7451	6370	829	288	4829	3941	1819	71
24698	"	11^{10}	11^{49}	10.40	10.57	38.8	2237	6367	5479	587	232	4007	3586	1540	45
24699	junk no ION counters														
24700	"	13^{51}	14^{42}	10.03	10.88	40.3	2861	7665	6441	744	299	4574	4582	1874	51
24701	"	14:45	16:14	7.77	8.57	36.6	3218	8002	6703	863	315	4888	4558	1875	75
24702	"	16^{16}	16^{30}	5.71	6.37	48.6	390	1337	985	101	59	851	779	191	8
24703	"	18.04	18.16	9.89	11.85	50.3	661	2044	1772	171	86	1184	1087	471	141
24704	"	18.44	18.49	8.39	10.21	47.0	262	841	617	68	32	379	402	159	4
24705	"	18.50	19.10	8.19	9.99	38.5	3127	8002	6758	812	313	4933	4675	1899	72
24706	junk, no events due to BMPC valve alarm														
24707	7.3.86	20.29	21.04	5.72	7.24	38.8	1812	4792	4084	471	183	2995	2542	1102	41

PROCESSORS ON/OFF NSO	MIP	TOF	FAMP	$\langle L \rangle$ 10^{30} cm^{-2} s^{-1}	BHABHA $\int L dt$ nb^{-1}	$\int L dt$ EXP. ENERGY	IBM/TAPE OUTPUT	AT RUN START ID nA	AT RUN START TOF V	ONLINE REJ. SUM MIPROC T_2 %	ONLINE REJ. NORD-50 $T_1 \& T_2$ %	Z_{bhabha}	MH	E_{BEAM}	Magn. Field −1+6	Reduced Trigger Y/N	REMARKS
ON	ON	OFF	OFF	7.43	2.85	2293.85	IBM	0.6	2.8	45	16	46	2	17.500	4.837	Y	Stopped with ILL. CONT REC.
"	"	"	"	5.00	14.35	2308.20	"	0.5	1.8	42	16	252	8	"	"	Y	
"	"	"	"	3.52	9.91	2318.11	"	0.3	1.2	43	15	174	0	17.501	4838	Y	beams dumped
"	"	"	"	4.63	1.31	2319.42	"	0.4	2.5	35	25	23	0	17.500	4837	N	
"	"	"	"	7.95	16.00	2335.42	"	0.4	1.9	40	14	281	3	"	4837	Y	
"	"	"	"	6.94	1.76	2337.18	"	0.3	1.5	40	18	31	2	"	"	Y	
"	"	"	"	5.81	11.39	2348.57	"	0.3	1.5	441	15	200	4	"	"	Y	
"	"	"	"	3.17	4.10	2352.67	"	0.4	1.6	44	25	72	1	"	"	Y	
"	"	"	"	3.66	1.76	2354.43	"	0.35	1.6	38	15	31	1	"	"	Y	I.D. Tests
								0.35	1.3								
"	"	"	"	3.08	1.02	2355.05	"	0.35	1.2	?	26	18	0	"	"		beam dumped
																	24688-83 junk
"	"	"	"	8.31	25.96	2381.01	"	0.35	2.0	43	17	456	8	17.501	4835	Y	
"	"	"	"	5.92	20.66	2401.67	"			42	17	363	2	17.500	4837	Y	
"	"	"	"	4.51	5.41	2407.08		0.35	1.5	44	19	95	1	1	"	Y	stopped because of DL300-prob
"	"	"	"	3.65	6.89	2413.97	"	0.35	1.4	47	16	121	3	"	4835	Y	beams dumped
"	"	"	"	7.09	21.24	2435.21	"	0.6	2.0	45	15	373	8	" 1	6	Y	
"	"	"	"	4.98	7.97	2443.78	"	0.35	1.6	45	15	140	5	" 1	4833	Y	Beams lost
"	"	"	"	8.79	2.76	2445.34	"	0.5	2.2	45	13	38	0	" 0	"	Y	Stopped, MOP problem.
"	"	"	"	7.28	24.42	2469.76	"	0.4	2.0	46	16	429	9	17.501	"	Y	
"	"	"	"	4.43	2.05	2471.81	"	0.3	1.5	40	27	36	2	"	"	N	stopped to change trigger
"	"	"	"	4.88	3.83	2475.74	"	0.3	1.4	42	15	69	2	"	"	Y	
"	"	"	"	4.24	15.83	2491.57	"	0.3	1.4	45	15	278	4	17.500	4837	Y	beams dumped
"	"	"	"	8.87	22.37	2513.94	"	0.5	1.8	45	15	393	10	"	"	Y	Beam lost due DADE trigger also
"	"	"	"	7.66	22.94	2536.86	JAN87	0.5	2.3	43	17	403	7	"	"	Y	IBM down
"	"	"	"	5.20	17.19	2554.05	IBM	0.4	2.0	44	17	302	11	17.501	"	Y	
"	"	"	"	3.28	1.25	2555.30	"	0.3	1.7	46	28	22	0	17.500	4838	N	beams dumped
"	"	"	"	6.87	5.52	2560.82	"			40	15	97	1	"	4837	Y	~~beams lost~~
"	OFF	OFF	"	6.70	1.65	2562.47	"	0.6	2.6	0	29	29	1	"	4836	Y	
"	ON	"	"	6.33	21.29	2583.76	"	0.5	2.4	45	17	379	6	"	"	Y	
								0.4	2.0								
"	"	"	"	4.02	7.74	2591.50	"	0.3	17	43	16	136	4	"	4837	Y	beams dumped

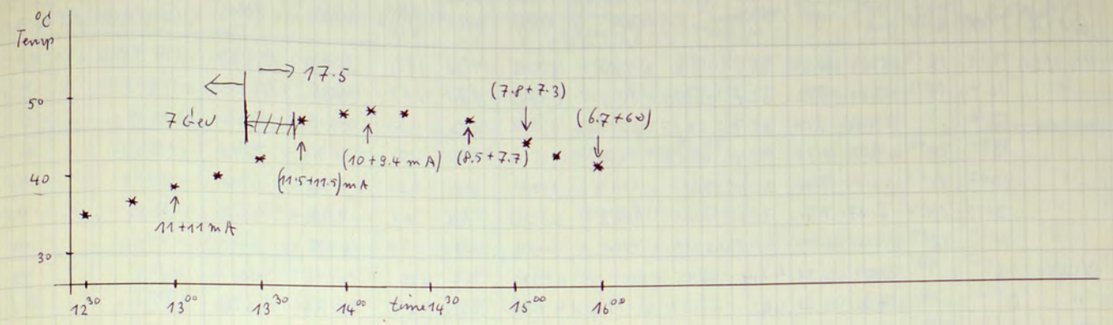
8^{00} Helal and middleton on shift.
8^{02} Hard trip for ID, VTXC & ZCH.
8^{15} YSFY error ... microdigitizers missing: 34.
8^{22} gas check done. reduced ascha flow slightly
8^{30} hard trip again.
8^{42} another hard trip
8^{51} " , 9^{05} another one,
9^{11} " (nothing like a bit of early morning exercise!).
9^{41} after Z-chamber trip only continuous error 44 - DMA time out ~~trigger~~ Crate 2 crate 2 ; Trigger TO + T7
11^{05} watched the beam pipe temperatur at position ① it rose me continuously when the beams were ~~stored~~ 10^{5} mA and kept on at during acceleration start value 34° / after 15 min 42° after another 15 min with 10^{5} mA at 17.5 GeV temperatur is 45° / 15 min later $I = 9.5$ mA, $T = 47.5°$ / 15 min later $I = 8.0$ mA, $T = 49.2°$ / then beam loss due to ~~the~~ beam pipe temperatur alarm
13^{40} IBM down ... ~~anfang~~ start to take (JDAS 97).

NOTE ON RELOADING JETC FADC PROCESSORS
It is now sufficient to pause the run when reloading the FADC processors.
The Start / Fast Clear signals are reload during the time of calibration. E.E.

14^{20} HV hard trip.
muon crate 6 missing has occurred a few times in the last ½ hour (... here it is again!)

[the beam pipe temperatur is now taken out of the PETRA interlock. If the VTX-chamber give a temperatur alarm ask the PKR to dump the beam and call expert. Watch the temperatur at position ① which is the highest normally. ① is located near the pumps outside of the detector.]

15^{03} Hard trip, 15^{20} Hard trip



the heating starts definitely at injection energy, but the slope increases when the beams are accelerated

16.00 Spitzer, Weber on shift.
16.21 Everything tripped
16.27 —"—
18,30 E. Elsen and J. Olsson working to get dead time down; we do not take data.
20.00 BMPC alarm valve failure. Expert called
Run 25706 was stopped due to "No data taken back". Not possible to run w/o BMPC.
20.35 Gas trouble fixed after calling Rado.
Missing LAM prevents data taking ⇒ reload system and restart.
TASSO wants to refill, but agrees to wait till 900 in order for us to get going again.
We are finally taking data again
20.43 Z chamber trip.
21.09 "is trigger for ... sec", after Z-chamber-trip; before we find the reason, we have to stop, because TASSO wants a refill.
23⁰⁰ SYNCHROTRON DOWN RESTART AT 0.0
23⁵⁰ —"— 1.0 Run ragget down to 2500 A

8.3.86 0^{00} Becher, Heintzelmann
0^{10} Gas check done - o.k.

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 RER $*10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{LG} > 6$ GeV	T_2 Bit 17 $2\,T.E_t \geq 2TR$
24708	8/03/86	15.38	16^{13}	8.05	10.20	38.2	1890	5080	4334	492	188	3082	2979	1138	47
24709	"	16.16	17.16	7.00	9.02	32.7	3370	8002	6764	877	287	4998	4621	1919	53
24710	"	17.16		5.70	7.51	33.7	2627	6219	5257	684	230	3919	3507	1480	57
24711	"	19.27	20^{06}	9.08	10.76	42.4	6589 (22.76) →	5670 →		592	251	3856	3880	1532	57
24712	"	20.07	21^{03}	7.83	9.40	41.4	3003	8002	6800	781	323	4734	4756	1783	75
24713	"	21.03	21.54	6.47	7.91	38.8	3060	8002	6853	796	309	4870	4586	1899	77
24714	"	21^{55}	22^{53}	5.48	6.83	37.7	2983	7604	6490	777	293	4734	4120	1761	70
24715	9/03/86	23^{56}	0^{53}	10,57	10,92	42,14	2895	8001	6792	753	319	4711	4884	1849	72
24716	"	0^{54}	1^{56}	7.80	7.21	44.	2892	8002	6934	750	328	4983	4374	1851	91
24717	"	1^{56}	2^{22}	6,45	5,93	42,2	1562	4382	3780	406	171 234	2755	2303	1023	63
24718	"	3^{19}	3^{37}	10.53	11.25	52.4	641	1931	1649	167	87	1044	1163	417	16
24719	"	8^{40}	4^{04}	9,69	10,38	46,9	1891 1018	4018 3434	3434	364	169	2244	2568	881	46
24720	"	7^{30}	7.55	9,42	8,18	34,7	697	1788	1482	181	62	1041	1035	361	23
24721	"	7.58	09^{33}	8.47	7.10	32.9	1415	3279	2766	368	121	2052	1864	795	42
24722	"	10^{18}	11^{14}	10.09	6.53	46^{00}	2852	8002	6761	742	342	4571	4882	1811	73
24723	"	11^{41}	12^{15}	8.09	8.50	35.7	3188	8001	6704	830	296	4783	4782	1876	65
24724	"	12^{16}	13^{11}	6.91	6.92	33.9	3048	6827	5751	793	269	4230	3878	1565	73
24725	"	13^{31}	13^{42}	5.51	5.53	44,1	618	1922	1334	160	70	1127	1256	237	18
24726	"	13^{45}	13^{49}	5,30	5,32	45,4	199	675	473	51	23	424	375	78	2
24727	"						Only Perf. events								
24728	"	14.51	14.57	9.95	10.07	66.0	333	1232	820	866	57	567	590	153	7
24729	"	14.57	16.15	9.69	9.80	36.7	3336	8002	6773	867	318	4875	4652	1895	65
24730	"	16.16	16.31	6.75	7.44	34.5	509	1215	1035	132	46	752	653	278	10
24731	"	16.33	16.40	6.34	7.05	36.6	332	1057 791	791	87	32	488	435	192	9
24732	"	16.42	16.49	6.16	6.86	35.8	403	996	822	105	37	611	533	231	12
24733	"	17.45	17.47	9.41	10.18	50.3	104	443	322	27	13	252	234	41	4
24734	"	17.48	18.10	9.30	10.07	34.5	910	2335	1977	237	82	1483	1318	297	18
24735	"	18.28	18.35	7.87	8.71	33.0	363	952	799	94	31	578	497	214	10
24736	"	18.45	19.21	7.42	8.23	31.9	1869	4342	3601	487	155	2675	2522	978	38
24737	"	20.06	20.56	9.38	10.52	31.9	1215	2810	2288	316	101	1602	1856	584	39
24738	"	22.04	23.18	8.39	10.25	34.0	3255	8002	6689	847	288	4836	4753	1845	79
24739	10/3/86	0:29	0:50	8,43	10,70	38.1	759	2098	1781	197	75	1217	1266	462	22
24740	"	0:55	1:57	7.60	9.44	36.9	3071	8002	6762	799	295	4983	4513	1878	79

PROCECCORS ON/OFF NSO	MIP	TOF	AMP	$\langle L \rangle$ $10^{30} cm^{-2} s^{-1}$	BHABHA $\int L dt$ nb^{-1}	$\int L dt$ EXP ENERGY	IBM/TAPE OUTPUT	AT RUN START ID μA	AT RUN START TOF V	ONLINE REJ SUM MPROC T_2 %	ONLINE REJ LOGIC TOT T_2 %	Σ_{BHA} BHA	MH	E_{BEAM}	MAGN FIELD −1×G	Reduced Trigger Y/N	REMARKS
ON	ON	OFF	OFF	7.75	15.09	2606.59	18M	0.55	3	45	16	265	5	17.501	4837	Y	
"	"	"	"	6.45	22.49	2629.08	"	0.4	2.4	46	16	395	2	17.500	4835	Y	
"	"	"	"	4.63	12.81	2641.89	"	0.35	1.8	46	16	225	6	17.501	4836	Y	beam dumped
"	"	"	"	7.33	16.85	26 58 74	"	0.65	3.9	42	15	296	4	"	4874	Y	
"	"	"	"	5.48	16.91	2675.65	"	0.6	4.0	44	16	297	5	17.501	4834	Y	
"	"	"	"	4.40	13.61	2689.26	"	0.5	3.0	45	15	239	3	"	"	Y	
"	"	"	"	3.41	10.48	2699.74	"	0.4	2.3	43	16	184	5	17.501	4834	Y	
"	"	"	"	6,41	20,61	2720,35	"	0.85	5.0	44	16	362	8	17,500	4831	Y	
"	"	"	"	4.20	13.15	2733,50	"	0,65	2.5	44	14	231	3	17.501	4833	Y	
"	"	"	"	3,43	6,60	2740 10	"	0,45	2.2	46	14	116	2	17,500	4832	Y	beam lost
"	"	"	"	7.25	5.18	2745.28	"	0.8	4.6	40	16	91	3	17.500	4831	Y	several SOMS error 44 run stopped.
"	"	"	"	7,08	10,93	2756,27	"	0.7	3.8	43	16	193	2	17,500	4833	Y	beam lost
"	"	"	"	6,72	4,60	2760,71	"			41	18	79	2	17,101	4832	Y	run stopp. to load map
"	"	"	"	4.53	6.21	2766.92	"	0.5%	3.2	46	17	109	0	17.500	4831	Y	Beams DUMPED
"	"	"	"	7.01	20.84	2787 76	"	0.7	3.3	43	17	366	4	17.501	4837	Y	
"	"	"	"	5.82	20.67	2808 43	"	0.5	2.3	44	17	363	5	17.501	4837	Y	
"	"	"	"	4.47	13.89	2822.32	"	0.3	1.5	45	17	244	1	17.500	4837	Y	
"	"	"	"	2,85	1,42	2823,72	"	0.25	1.25	46	32	25	0	17,701	4838	Y	
"	"	"	"	2,40	0,85	2824,57	"			45	32	15	0	17,701	4838	Y	beams dumped
"	"	"	"				—	0.6	2.9								
ON	OFF	OFF	OFF	5.06	2.16	2826.73	"	"	"	-	35	38	1	17.500	4837	N	
ON	ON	OFF	OFF	7.11	26.98	2853.71	"	0.45	2.4	44	16	474	7	"	"	Y	
"	"	"	"	5.30	2.85	2856.56	"	0.4	1.5	44	16	50	0	"	"	Y	
"	"	"	"	4.97	0.00	2856.56	"	0.3	1.5	45	0	0	0	17501	4836		NSO analysis keyin OFF.
"	"	"	"	4.96	2.50	2859.06	"	"	"	43	19	44	1	17500	4834		NSO " " ON
									2								Beams dumped.
"	"	"	"	6.61	0.68	2859.74	"	0.5	2.5	35	29	12	0	17.501	4834	N	
"	"	"	"	7.61	7.46	2867.20	"	0.5	2.4	44	16	131	3	"	4835	Y	
"	"	"	"	6.78	3.13	2870.33	"	0.4	2.0	41	17	55	1	17500	4838	Y	
"	"	"	"	5.72	11.10	2881.43	"	0.3	1.8	45	18	195	4	"	4835	Y	Beams lost.
"	"	"	"	7.50	7.00	2888.43	"	0.5	2.5	46	20	123	2	17.501	4837	Y	Beams dumed.
"	"	"	"	6.51	21.01	2909.44	"	0.5	2.6	45	17	369	5	"	4836	Y	Beams dumped
"	"	"	"	7.83	5.29	2914.73	"	0.5	3.0	43	16	93	1	17500	4834	Y	run stopped due to problem
"	"	"	"	5.94	18.62	2933.35	"	0.4	2.5	45	16	327	4	17500	4836	Y	

8.3.86

8.00 Finch & Hvelbiel on shift

11.30 Message says Restart 12.00

11.40 Injection. Magnet raised slowly to 7500 A.

15.19 New fill ready. TOF current too high for us (>7500), so can't switch on. TASSO are OK. MARK J have problems.

16.00 R. Middleton, U. Schneekloth

16.40 gas checked

16.58 J68K ERROR, FADC #13 doesn't increament, reloaded system

20.03 YVOLTS ERROR LG Distributor 6+7 primary HV 0, switched power supply off, on, O.K.

20.07 start run 24712

20.13 all chambers trips.

20.28 JDAS READOUT ERROR 33, Missing CAM br. 4, cr. 1, JETC point 406, 407, 403, 501, JADEGO

21.35 YVOLTS ERROR LG distributor 6+7 primary HV =0, switched off, on power supply. OK.

21.53 " " "

21.55 started run 24714, phoned N. Magnussen

22.25 Z chamber trip.

23.30 There is a PM connected to distr. # 6 or 7 that causes an overcurrent once in a while. Not often enough to find it. One of these overcurrents destroyed one card in distr. 7. After repairing it everything seems to work fine again N.M.

9/3/86

0.00 Hill & Stephens on shift.

0.15 Zch ID + VTX hard trip.

0.16 Gas check OK.

1.05 Zch trip

1.15 Zch trip

1.15 FADC processors reloaded.

2.28 Everything tripped - beams lost.

3.30 Vtpc chambers valve failure - reset OK in gas house

In run 24719 10 of the FEP's were counting ahead of the others. Reloaded at new end with JADEGO.

7.30 Everything tripped again and again and again

7.40 Beam pipe chamber gas alarm - valve failure - reset in gas house

08.00 Andrews & Hedgcock.

08.20 Gas check completed! Many hard trips. We pause & wait.

08.40 All detectors trip.

08.50 —— " ——

09.01 —— " ——

09.32 STOP RUN 24721 09.10 WE PAUSE & WAIT. (0925 ON) TRIP AT 09.30. FOR A NEW FILL.

10.25 JDAS READOUT ERROR 000036 (OCT) SUBERR 000400 (OCT)
" " " 35 " "
" " " 34 " "
" " " 34 " "

10.30 Z-CHAMBER TRIP

10.45 RELOAD MOP

10.50 JDAS READOUT ERROR 000036 (OCT) SUBERROR 000400 (OCT)
" " " 34 " "
Z-CHAMBER TRIP

11.06 All chambers trip

11.13 JDAS READOUT ERROR 000036 (OCT) " " "

noon All chambers trip. ID Drain Current 2.3 - 033 (8/2)

15.25 THREE (ALL) DETECTOR TRIPS IN LAST 55 MINS

15.50/15.55 ALL DETECTORS TRIP. When all detectors trip, before you go to the network to reset, press the OFF button on the Z-chamb. Once the system is reset and the ID is ON: Press the ON button of the Z-chamber on H.

16.00 F. Loebinger & R. Raimke on shift

16.00 gas check o.k.

Many hard trips throughout shift.

20.10. YVOLTS MESSAGE: DIST. 21 PRIMARY HV = 0.00. FOUND POWER SUPPLY 12 HAD SWITCHED OFF WITH OVERCURRENT. SWITCHED IT OFF & ON AGAIN LOOKS OK.

20.40. Frequent large spikes in TOF rate. PKK say this is due to power supply problems. We cannot switch chambers on till situation improves.

20.55 Beams dumped

21.04 "Short Break"

22.00 New beams

D

10/3/86

0.00 Finch & Hagemann on shift

0:25 Gascheck done. OK.
0:31 All chambers trip - spikes in TOF current
0:35 Hvac Crate 14 missing - without reset on h/w room - ok from pit.
0:50 Vtx + JETC HV fail due to TOF current
0:53 After HV was on again it was impossible to continue. Deadtime 100%, Pause → Continue didn't help. Started new run.
0:59 All chambers trips
1:10 "
1:25 JDAS Readout error 33 - missing LAM Br.4 Cr.1 : JETC point 504
1:50 " " J68K bank
2:06 " 74 - wrong LAM Cr.1 Cr.1 : BPCH
2:12 Several JDAS Readout error 000036 Suberror 000400 (JETC)
2:19 Missing LAM J68K bank
3:54 Several JETC points 501, 504, 505 ... then "No triggers" - " Pause → Continue didn't help. Stop run JADE
4:07 Nord hang up at level 1. This happens without any error messages since run start
4:10 All chambers tripped.
4:58 During last hour, approximately every 5 minute TOF rate oscillates between 4 & 10 Hertz with a period of ~ 1 second. This lasts ~ 2 minutes. 5:10 Short break on PETRA TV
5:52 Call from TASSO, the Shut Down will last for indefinite time. MPI has detected a vacuum leak
5:59 Now on PETRA TV: Break VACUUM-LEAK RESTART ???
6:06 Magnet switched off.

8:00 Bethke, Kleinwort on shift
Gas checked.
9:00 Still vacuum leak at PETRA; they have to remove concrete blocks in order to see what happened. Certainly no beams before noon.
12:00 Fuse gone in teletype of N10 (2A 250V, bottom right). Replacing it seems OK. May happen again!
TOF processors work again, after cleaning camac-contacts on the interface unit (B2, C4, N23) J.O.

16:00 Steglein & Schmeckloth on Shift
Restart 17:00
16:10 Gas check OK
19:10 We have beams!!
19:45 Soft trip Vtx & ID
20:10 Z ch. trip

20:45 I.D. & Vtx Soft trip.

NB Please make sure the N10 teletype is working - it should print something when a new run is started. If not check the fuse. If it is not working and you wish to reload the computer the system will probably "hang-up". So if in this situation put teletype on Local and then reload.

22:00 Hard trip ID, Vtx & Z some positrons lost TASSO says no ok till soon

11/3/86
0:00 Loebinger, Schmidt on shift
0:10 Gas checked OK
01.11 New beams. Background just tolerable (TOF rate 5.4).
We get YSPY error on Colour T.V. — which monitor is supposed to show the actual error? (None do!)
Find that hit map for Inner Detector has big hole in Ring 1. (~288 → 384)
We carry out instructions on MOP console and hey presto it all works and hit map hole begins to fill up!

T.V. ~~etc~~ (PEP beam history etc) starting to flicker. Hitting it on its side appears to help but this in probably not a long-term solution and it should be "more professionally" fixed.

02.05 Many JDAS error 33 — Missing LAM Branch 4 Crate 1 : JETC point 503, 504, 505.
Pause, Run Stop/Start, NORD reload all didn't help.
Cured by MOP console
Problem recurs and is cured by MOP console ~~twice~~. Many times.
Several messages:
JDAS ERROR 56 — TOF BANK WRONG LENGTH = 373 (dec)

~05.00 Again have problem seen last night that TOF rate oscillates with ~1 sec freq (causing all 3 chambers to trip) every 5 mins or so.

~06.00 A couple of Missing LAM Br 4 Cr 1 spasms again — Cured each time by MOP console.

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_0 REJ $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{LG} > 66$ GeV	T_2 Bit 17 $2\bar{1}\cdot E_{42}\cdot 2TR$
24741	10/3/86	1:59	2:30	6.06	7.69	38.4	1858	4961	4238	484	186	3101	2708	1157	47
24742	"	3:51	3:54	11.29	11.39			33	29			13	0	3	0
24743	"	4:04	4:07	10.47	10.67	45.4		642	533						
24744	"	7:24	5:07	8.27	7.45	89.2	824	3052	2342	214	127	1817	1824	415	19
24745	"	19:24	20:13	9.43	9.61	48.2	2622	8001	6831	683	329	4875	4612	1823	86
24746	"	20:13	21:04	7.67	7.86	40.7	2880	8001	6823	750	305	5049	4577	1924	85
24747	"	21:04	21:15	6.37	6.53	41.2	627	1818	1575	163	67.2	1110	978	415	23
24748	"	21:20	21:25	6.04	6.19	40.1	294	1014	894	77	31	537	445	181	5
24749	"	21:28	21:33	5.88	6.04	38.6	304	1626	1562	78	30	535	418	192	9
24750	"	21:36	22:06	5.73	5.88	40.3	1580	4392	3798	411	165	2701	2359	1049	61
24751	11/3/86	01.11	02.04	10.16	10.03	43.4	2727	8002	6731	709	308	4875	4760	1835	80
24752	"	02.04	02.10	8.21	8.10	31.5	24	79	72	6	1.9	38	31	14	0
24753	"	2.26	2.49	7.59	7.50	45.3	988	2356	1989	257	117	1469	1349	548	18
24754	"	2.50	3.48	6.83	6.80	39.8	2738	7117	6068	712	204	4474	3921	1684	71
24755	"	4.37	5.56	10.96	10.25	46.2	2903	8002	6758	756	349	4842	4654	1775	84
24756	"	6.01	7.09	7.75	7.14	41.8	3308	8000	6798	861	360	4938	4458	1880	54
24757	"	7.09	7.38	6.20	5.68	37.7	1706	4407	3769	444	168	2752	2391	1025	59
24758	"	8:12	9:11	10.81	10.93	43.9	2590	7794	6661	674	296	4666	4571	1792	70
24759	"	9:13	—	fine	—	only	pedestals								
24760	"	9.14	10:11	8.29	8.51	35.4	3178	8002	6694	827	293	4913	4748	1905	65
24761	"	10:11	11:12	6.80	7.00	34.3	3314	8002	6728	862	296	~~5937~~	4493	1923	87
24762	"	11:13	11:42	5.49	5.68	33.5	1697	4091	3426	442	148	2620	2171	1002	44
24763	"	13:24	13:30	8.84	8.95	41.7	135	423	352	35	14	253	232	107	7
24764	"	13:31	14:15	8.62	8.73	36.5	2138	5551	4681	556	203	3402	3264	1275	55
24765	11/3/86	17:22	17:53	5.13	7.91	36.6	1776	4417	3766	445	163	2226	2674	834	42
24766	"	17:59	18:46	7.26	7.05	41	2799	8002	5513	728	302	4978	5383	1071	53
24767	"	18:48	19:11	6.29	6.10	40	1362	3919	2691	355	143	2372	2554	483	27
24768	"	19:12	19:51	5.88	5.70	38.3	2225	6305	4173	579	222	3881	4168	830	43
24769	11/3/86	22:20	23:07	8.95	9.33	46	2567	8001	5791	668	306	4871	5405	1134	37
24770	"	23:12	23:28	7.50	7.50	44	933	3861	2929	243	106	1726	1907	362	18
24771	"	23:30	23:40	7.10	7.10	~~48~~ 43	553	2612	2197	143	69	890	961	197	7
24772	"	23:41	23:45	6.86	6.86	~~46~~ 43	83	647	571	217	15	103	82	22	3
24773	"	23:51	23:57	6.66	6.67	45	323	926	640	84	38	519	622	110	5
24774	"	23:58	0:47	6.51	6.51	41.3	2846	8002	5441	740	306	4875	5375	1016	48

PROCESSORS ON/OFF VSO	MIP	TOF	FAMP	$\langle L \rangle$ $10^{30}\,cm^{-2}s^{-1}$	BHABHA $\int L\,dt$ nb^{-1}	$\int L\,dt$ EXP. ENERGY	IBM/TAPE OUTPUT	AT RUN START ID MA	AT RUN START TOF V	ONLINE REJ SUM MIPREC T_2 %	ONLINE REJ NORD-50 $T_1 \cdot T_2$ %	$\Sigma_{BMA\,BMA}$	MH	E_{BEAM}	MAGN FIELD −1+6	Reduced Trigger Y/N	REMARKS
ON	ON	OFF	OFF	4.67	89.00	2942.35	IBM	0.4	2.1	44	15	158	3	17501	4837	Y	beams dumped
"	"	"	"		0.11	2942.46	"	0.5	4.5		20	2	0	17500	4835	Y	JET problem
					1.99	2944.95	"	0.7	4.0					17500	4834	Y	Vorhang up Level 1
"	"	"	"	3.95	2.79	2947.24	"	0.4	2.0	44	25	49	2	17500	4835	N	STOPPED to REMOVE TRIGGERS beams dumped
ON	ON	ON	OFF	6.97	17.25	2964.69	"	0.4	5.5	45	15	303	4	17500	4837	Y	
"	"	"	"	5.52	15.77	2980.46	"	0.6	4.0	46	16	277	4	"	4832	Y	
"	"	"	"	4.54	2.85	2983.31	"	0.7	2.8	40	14	50	0	"	4840	Y	run stopped for J.O. to do some tests
"	"	"	"	3.98	1.20	2984.51	"			37	15	21	0	"	"	Y	Eventfraqu in JET made smaller
"	"	"	"	4.02	1.26	2985.71	"			14	7	21	0	"	"	Y	⇒ Flow Multi-record events. → back to normal (600)
"	"	"	"	3.76	6.78	2992.49	"	0.4	2.5	41	14	119	1	17501	4841	Y	beams dumped
"	"	"	"	7.60	22.72	3015.21	"	0.8	5.4	46	17	399	5	"	4834	Y	
"	"	"	"	7.47	0.11	3015.32	"	0.5	3.4	39	12	2	0	17500	4837	Y	
ON	ON	OFF	OFF	4.63	4.33	3019.65	"	0.4	2.8	46	17	76	2	"	4836	Y	
ON	ON	ON	OFF	4.47	12.18	3031.83	"	0.4	2.6	45	16	214	7	17500	4831	Y	beams dumped
"	"	"	"	6.91	20.89	3052.72	"	0.8	5.4	45	16	367	3	17501	4836	Y	
"	"	"	"	4.35	13.89	3066.61	"	0.4	2.6	43	16	244	7	"	4834	Y	
"	"	"	"	3.44	6.60	3073.21	"	0.4	2.3	44	15	116	2	17500	"	Y	Beams dumped.
"	"	"	"	7.83	21.12	3094.33	"	0.8	5.0	44	15	371	5	"	"	Y	run stopped due to FADC problem
								0.55	3.3								
"	"	"	"	6.04	21.58	3115.91	"	"	4	45	17	379	7	"	4834	Y	
"	"	"	"	4.15	16.51	3132.42	"	0.4	2.3	45	17	290	5	"	"	Y	
"	"	"	"	3.37	6.66	3139.08	"	0.3	2.0	43	17	117	4	"	"	Y	beams dumped
"	"	"	"	6.75	1.02	3140.10	"	0.7	3.5	39	18	18	0	17501	4	Y	stopped to reload FADC
"	"	"	"	6.58	14.74	3154.84	"	0.7	3.5	45	17	259	2	17500	4833	Y	beams lost
on	on	on	off	5.46	9.11	3163.95	IBM	1.4	2.8	47	15	169	9	17.500	4838	Y	stoped, task overwritten
"	"	"	"	3.90	11.67	3175.62	"	0.3	1.4	50	32	205	4	"	4838	N	
"	"	"	"	3.15	4.61	3180.23	"	0.2	1.3	46	33	81	2	17.501	4837	N	
"	"	"	"	2.55	7.23	3187.46	"	0.2	1.2	48	35	127	1	"	4837	N	70M EKR 61 Time out while.... beams dumped
on	on	on	off	5.22	14.17	3201.63	IBM	0.5	2.2	49	29	249	5	17.500	4837	N	
"	"	"	"	4.54	4.21	3205.84	"	0.4		86	30	74	1	17.501	4836	N	
"	"	"	"	3.85	2.16	3208.00	"	0.3	1.6	23	23	38	1	17501	4835	N	
"	"	"	"	2.27	0.19	3208.19	"					4	0	17500	4835	N	
"	"	off	"	3.50	1.65	3209.84	"			44	33	29	0	17500	4836	N	
"	"	off	"	3.38	10.42	3220.26	"	0.3	1.4	48	33	183	6	"	4835	N	

11/3/86

These have existed for 10 years before now!

8⁰⁰ Magnussen & Wanning on shift
gas check done ✓
soft and hard trips x every 10 minutes
PKR claims "Rundsteuersignale der HEW" could be the reason for it, but they will investigate it more
PKR-Herr Sasse- confirms: beam blowup is strongly correlated with HEW-spike on mains
9⁰⁹ found 1 FADC being off by 1 count - exception #04
restart FADC's by "JADEGO"
12¹⁵ new fill ready, but we can't switch because TOF rate is mostly above its threshold
14¹⁵ beams lost, Magnet ausfall, Start Break, Magnet to 500A

16⁰⁰ Heinzelmann and Hellenbrand on shift
17:15 magnet to 7500 A

2330 TOF problems Br2 Cr4 Micro no answer, often wrong length in reading without micro.
12.3.86 0⁰⁰ Becker, Markuuuva

0¹⁰ Gas check o.k.

JDAS error 56 continuously

8⁰⁰ Finch & Hagemann on shift
8⁰⁴ Message an PETRA-TV "Austreiben der Cello Neg-Pumpen; Restart ca. 12:00 Uhr"
8¹³ Magnet off.
13²⁵ Magnet back to 7500A
15⁰⁹ First luminosity this shift
15²² Energy changed to 17.539, run # 24783 paused
15²⁷ Energy back to 17.500, continue data taking
16⁰⁰ Diseelmann & Ramcke on shift
16¹⁰ gas check ok

13/3/86
0.00 N. Magnussen & F. Loebinger on shift.
0.05 Gas check done - O.K.
~06.00 The dreaded early morning syndrome: All 3 chambers hard trip every ~10mins.
(During these frequent trips, we restart data taking as soon as I.D. volts are up so there are several events without vertex chamber while this is still reading full volts).

8⁰⁰ Zimmer, Fest on shift
"gas-check done

8⁵⁰ after long background optimization start of run, which stopped after 2 pedestal events because of no response from TOF micros, switch off TOF-micros, start new run 24800
8⁵⁷ hard trip, specific luminosity only $5 \cdot 10^{28}$, improved afterwards to 16
9⁰⁰ several times read out error 56 - TOF bank wrong length = 373 (dec) /// /// /// /// /// ///
9⁸⁵ stopped run 24802 because of excessive error 56, after touching many things and several runs not send to IOM we obtained continous error out of latches, while disappearance often starting new run
10⁰⁰ no read out problem during run 24803, ~~control~~ beams dumped and short Break magnet 400 A

JDAS - New version of REBUILD-RT-TASK installed under user RT
YCLRTV altered so that NO TRIGGER BITS does not come onto TV screen (is on summary).

10⁵² Magnet to 7500 A (injection)
13⁰⁰ several hard and soft trips (peaks in TOF-Rate)
15³⁴ Again problems with TOF-Response → Run 24803 started with TOF-Micro OFF
14⁵⁰ TOF-Micro Crate 2 crate 4 ausgetauscht, ~~ersetzt~~ die EPROM's in die Reserve ~~Box~~ ansetzen (Reserve) Einheit geschickt wurde

16⁰⁰ Finch & Hagemann on shift (Walker replaces Finch during JADE meeting) - ~~and so one time~~ afterwards!! (A guy has to eat sometime)
16¹⁷ Gas check done, O.K.
20⁰⁰ Finch now really on shift.
21⁰⁰ and later after H.v.d. Schmitt, E. Elsen and J.F. Olsson have left the stage the missing LAMs came ready every 3 minutes (only JETC point ***, no JGK-bank)

14.3.86 Schmeichelt, Saulich on shift.
0¹⁵ gas checked
030 missing LAM br.4 cr. 1; JETC point 701, 501, ... every few minutes
otherwise 'perfect' running. TOF RATE = 1 V, dead time < 30%, high luminosity, no trips!
311 new fill, started run 24823
352 VTX CH. error, deviation from wire map ~~but~~ more than 40 % at 16, wiremap looks O.K.
With no missing LAMs dead time is ≈ 20%, I_{e^+} = 9.1 I_{e^-} = 8,7 mA, TOF Rate = 1 V

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RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME %	TIME sec	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	$\frac{1}{T_0}$ REJ $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{LG} > 6$ GeV	T_2 Bit 17 $2TE_{xz}$ 2TR
24775	12/3/86	0:46	1:05	5.70	5.71	42.0	1279	3554	2453	333	140	2148	2345	485	23
24776	"	3:03	3:57	11.04	10.59	45.3	3168	8002	6714	825	373	4580	4801	1795	66
24777	"	3:58	4:44	9.10	8.70	49.5	2707	8002	5758	705	349	4600	5617	1070	36
24778	"	4:44	5:39	7.83	7.46	53.6	3204	8001	5618	835	447	4667	5550	1113	45
24779	"	5:39	6:19	6.67	6.33	48.2	2318	6457	4491	603	291	3836	4852	924	38
24780	"	6:49	7:34	9.55	8.78	52.2	2644	8002	5802	688	359	4298	5639	998	58
24781	"	7:34	7:59	8.33	7.61	52.5	1440	4134	2911	375	197	2285	2889	557	29
24782	"	15:09	15:11	10.34	10.32	52.1	93	401	285	24	13	216	197	46	2
24783	"	15:12	16:14	10:22	10.20	35.4	2902	6465	5177	755	267	3441	4313	1304	56
24784	—"—	16:47	17:45	10.85	10.37	48 8	2900	8002	6384	754	368	3779	5436	1478	57
24785	"	17:45	18:41	8.90	8.47	41.7	3154	8002	6382	821	342	3919	5385	1545	65
24786	"			13	events	only									
24787	"	18:48	19:17	7.36	6.97	53.0	1734	6175	3533	451	239	2535	3344	650	24
24788	"	19:23	19:53	6.66	6.29	29.0	1749	5178	3553	455	132	2154	2661	818	37
24789	"	20:04	20:11	5.98	5.64	24.7	410	1189	800	106	26	490	602	183	11
24790															
24791															
24792	"														
24793		22:53													
24794	"	23:13	23:47	7.15	6.32	60,9	2000	6424	4246	520	317	2592	4953	609	23
24795	13/3/86	1.22	2.01	9.46	8.03	46.8	2292	6282	5231	597	280	3460	3685	1320	67
24796	"	2.03	2.59	8.27	6.86	39.3	2999	7109	5841	781	307	4171	4167	1603	79
24797	"	5.28	6.38	9.00	7.60	45.5	3085	8001	6799	803	365	4449	4730	1712	98
24798	"	6.38	7.47	7.28	5.73	37.5	3318	7252	6046	864	324	4242	4315	1640	68
24799	"	only 2 readable events													
24800	"	β^{51}	γ^{36}	8.43	7.07	37.6	2531	5606	4769	658	247	3434	3157	1364	68
24801	"	only 2 readable events before 24719													
24802	"	γ^{41}	γ^{43}				34	112	95						
24803	"	γ^{54}	10^{05}	6.62	5.54	30.8	388	724	568	100	31	430	441	154	8
24804	"	11^{51}	11^{55}	10.04	10.54	58,3	247	739	555	64	34	439	450	116	5
24805	"	12^{03}	12^{14}	12^{03}	12^{14}	57.7	579	1763	1296	150	85	1044	1095	280	6
24806	"	test	no data												
24807	"	11^{25}	13^{33}	9.06	9.54	42.0	3189	8002	6784	829	348	4811	4536	1872	88
24808	"	lost,	no Data												

RUN	PROCESSORS ON/OFF N50	MIP	TOF	FAMF	<L> $10^{30}cm^{-2}s^{-1}$	BHABHA SLdt nb^{-1}	SLdt EXP. ENERGY	IBM/TAPE OUTPUT	AT RUN START ID μA	AT RUN START TOF V	ONLINE REJ. SUM MIPREC T_2 %	ONLINE REJ. N-50 T_1+T_2 %	Σ' Bhabha	MH	E_B	MAGN FIELD $\times 1G$	RED TRIG Y/N	REMARKS
24775	ON	ON	OFF	OFF	2.78	4.38	3224.64	IBM	0,3	1.4	48	32	47	0	17.501	4837	N	beams dumped,
24776	"	"	"	"	6.63	23.45	3248.09	"	0.8	3.0	44	17	412	8	17.500	4834	Y	
24777	"	"	"	"	4.54	12.87	3260.96	"	0,7	2.7	47	29	226	4	17501	4836	N	
24778	"	"	"	"	3.09	10.19	3271.15	"	0.6	2.2	47	31	179	3	17500	4835	N	
24779	"	"	"	"	2.72	7.12	3278.27	"	0.5	1.9	48	32	125	5	17501	4834	N	
24780	"	"	"	"	4.13	10.59	3288.86	"	0.9	3.0	44	29	186	6	17501	4835	N	
24781	"	"	"	"	3.65	5.92	3294.78	"	0.8	2.6	46	31	104	2	17.500	4835	N	beams dumped
24782	ON	ON	ON	OFF	6.33	0.80	3295.58	"	0.8	2.9	27	32	14	0	17.500	4838	N	stopped to switch to reduced triggers
24783	"	"	"	"	4.99	15.14	3310.72	"	0.9	2.9	42	21	266	7	"	4838	Y	Beam lost
24784	"	"	"	OFF	6.01	2027	3330.99	"	1.4	3.5	42	20	354	5	17.500	4838	N	
24785	"	"	"	"	5.15	1936	3350.35	"	1.4	2.8	41	21	340	2	"	4838	Y	
24786						—		"	1,0	2.0							—	
24787	"	OFF	"	"	3.23	7.40	3357.75	"	1,0	2.0							N	Buffered read out many online IBM errors.
24788	"	OFF	"	"	3.92	8.26	3366.01	"	"	4	6	45	130	2	"	4838	Y	
24789	"	OFF	"	"	3.21	1.08	3367.09	"	"	"	0	35	19	0	"	4837	Y	
24790						0	3367.09											
24791						0	3367.09											
24792						0.11	3367.20											
24793						1.31	3368.51										N	Run summary lost
24794	"	"	"	"	2,12	4.21	3372.71	"	"	"	40	36	24	2	"	"	N	beams dumped
24795	ON	ON	ON	OFF	4.98	11.21	3383.92	"	1.3	3.6	39	18	197	3	"	4835	Y	stopped with DATA TIMEOUT
24796	"	"	"	"	4.04	11.50	3395.42	"	0.8	2.5	43	19	202	6	17501	4837	Y	Beam dumped
24797	"	"	"	"	4.05	13.61	3409.03	"	1.1	3.5	40	16	239	7	"	4836	Y	
24798	"	"	"	"	3.20	12.07	3421.10	"	0.8	2.5	42	18	212	3	17.500	4837	Y	Beam dumped
24799									0.4	2.3								
24800	"	"	off	"	4.13	10.46	3431.56	"	0.4	2.3	45	16	203	2	17500	"	Y	
24801					1.53	0.27	3431.85								17536			
24802																		skipp because of error 56
24803	"	"	off	"	1.67	0.57	3432.42	"	0.2	1.8	46	23	10	0	17536	"	Y	beam dumped
24804	"	"	"	"	0.0	0,92	3433.39	"			40	33	17	0	17.500	4838	No	TAG Problems
24805	"	"	"	"	3.88	3.53	3436.92						62	0	"	"	No	
24806				On														
24807	"	"	On	"	4.39	16.22	3453.14	"	0.6	2.5	42	16	285	4	17.500	-4838	Yes	
24808																		TOF no response

65

Run	date	start	stop	AT RUN START I_1^+	AT RUN START I^-	dead time	time	records in	records rot	Acc $\times 10^6$	TO rej	T_1 Acc hmm	T_2 Acc hmm	T_1 Bit2	T_2 Bit17	N50	MIP	ToF	
24809	13.3.86	13^{34}	14^{25}	7.00	7.75	33.6	3560	8002	6680	826	366	4751	4738	1887	996	ON	ON	OFF	ON
24810	"	14^{35}	14^{40}	5.96	6.64	24.0	266	592	482	69	23	331	344	121	6	ON	ON	OFF	ON
24811	"	1429	15^{01}	5.73	6.40	29.7	653	1336	1101	169	50	866	750	344	13	"	"	"	ON
24812	"	15^{34}	16^{34}	9.24	10.23	42.6	2904	8002	5477	756	322	4966	5477	1166	50	"	"	"	"
24813	"	16^{34}	17^{31}	7.52	8.06	34.2	3371	8002	4849	877	300	5151	5558	989	28	"	"	"	"
~~24814~~	"	17.31	18^{15}	6.35	6.86	31.6	2583	5722	3286	672	214	3704	3996	724	21	"	"	"	"
24815	"	19:09	19:22	10.50	10.50	40.2	724	1958	1299	189	76	1204	1304	250	8	"	"	"	"
24816	"	19:22	19:37	10.01	10.04	28.1	847	1629	1324	220	62	966	1093	376	9	"	"	"	"
24817	"	19:39	20:53	9.49	9.53	42.9	3554	8001	5082	925	397	4968	5773	1069	42	"	"	"	"
24818	"	20:57	22:01	7.50	7.53	35.2	3842	8001	4628	1000	352	5112	5697	1001	28	"	"	"	"
24819	"	22:02	22:19	6.34	6.37	34.7	984	1989	1142	256	89	1261	1414	247	4	"	"	"	"
24820	"	23^{09}	0^{26}	9.96	10.24	27.5	4566	8001	6497	1188	346	5143	5131	1871	60	"	"	"	"
24821	14.3.86	0^{26}	2^{09}	7.59	7.89	22.6	6104	8002	6133	1588	359	5093	5402	1837	38	"	"	"	"
24822	"	2^{09}	2^{26}	5.37	5.56	31.5	955	1912	1031	248	78	1231	1250	233	3	"	"	"	"
24823	"	3^{11}	4^{28}	10.87	10.28	27.5	4574	8002	6515	1190	328	5228	4880	1875	68	"	"	"	"
24824	"	428	507	7.27	6.84	20.5	2290	2951	2210	595	121	1880	1997	358	19	"	"	"	"
24825	"	5^{38}	7^{11}	8.90	9.01	24.5	5523	8002	6472	1437	352	5332	5033	1929	584	"	"	"	"
24826	"	1.12	8.21	6.36	6.76	33.5	4022	8002	4529	1047	350	5334	5341	877	24	"	"	"	"
24827	"	8.21	8.31	5.18	5.65	30.1	570	1195	659	148	45	805	769	130	2	"	"	"	"
24828	"	12 54	13:36	10.67	8.96	24.1	2136	3720	3062	422	134	2421	2219	870	30	"	"	"	"
24829	"	13.37	14:37	9.49	7.95	34.5	3467	8002	5038	902	311	5197	5236	1126	29	"	"	"	"
24830	"	14:37	14:58	8,00	6,50	31.8	1175	2675	1553	306	97	1680	1802	286	9	"	"	"	"
24831	"	15:00	15:01						reloaded	Program		does not	work	properly					
24832	"	15:10	15:20	7.33	5,89	30.7 ~~31.1~~	1121	1318	752	156	48	852	841	165	8	"	"	"	"
24833	"	15:25	15:53	7.05	5.64	31.3	1636	3381	1869	426	133	2183	2304	413	9	"	"	"	"
24834	"	15:56	16:49	6.52	5.17	31.0	3120	6400	3517	812	252	4062	4421	743	23	"	"	"	"
24835	"	17:33	18:06	10.48	10.70	42.5	1970	5357	3672	513	218	3282	3634	766	21	"	"	"	"
24836	"	18:10	19:11	7.86	8.37	35.4	3463	8002	4968	901	319	4965	5577	1000	20	"	"	"	"
24838	"	19:17	20:20	6.68	6.50	32.2	3762	8001	4470	979	315	5018	5632	944	34	"	"	"	"
24839	"	20:20	21:17	5.11	5.51	30.8	3390	6738	3572	882	272	4234	4769	730	18	"	"	"	"
24840	"	21:59	23:05	10.06	9.89	37.8	3345	8002	5148	871	329	4959 (5213 in 88547)	5497	1045	27	"	"	"	"
24841	"	15.06	0:07	7.32	7.46	33.6	3537	8001	4592	921	309	5588	5589	977	25	"	"	"	"
~~24842~~	15/3/86	0.07	0.16	6.19	6.50	32.5	511	1180	673	133	43	719	804	136	5	"	"	"	"
24843	"	0.56	1.16	8.58	8.50	28.7	1083	1357	1059	281	80	961	1674	40	19	"	"	"	"
24844	"	1.23	2.24	7.96	7.90	33.9	3611	8002	4999	939	319	5294	5267	1055	29	"	"	"	"

LL	$\int$Ldt Fraction	$\int$Ldt Experiment	IBM/ hpa	IQ	ToF	rejects Mpms	rejects Nor50	Σ ECC	MH	reduced trigger	E_{beam}	MAGN FIELD $\times 6$	Remarks
3.49	12.64	3465.78	IBM	0,7	2.7	45	18	222	2	Yes	17.500	4837	
3.93	0.31	3466.69	IBM	0,3	2.0	41	20	16	1	Yes	17.501	4837	
3.70	3.64	3470.33	"	0.3	1.8	48	18	64	1	Y	"	4837	beams dumped
5.20	16.11	3486.44	"	0.5	3.4	51	33	283	7	N	17.501	4834	
4.61	17.14	3503.58	"	0.2	1.3	54	41	301	3	N	17.500	4838	
4.03	9.35	3513.43	"	0.2	0.9	54	44	173	3	N	17.501	4837	beams dumped
6.76	4.44	3517.87	"	0.2	1.5	49	35	78	2	N	17.500	4837	Run stopped to switch to reduced trigger
6.91	6.38	3524.25	"	0.2	1.4	48	20	112	2	Y	17.501	4837	
4.59	15.49	3539.74	"	0.2	1.3	53	38	272	15	N	17.501	4837	
3.61	14.46	3554.20	"	0.2	1.0	54	43	254	6	N	17.501	4838	
2.90	4.10	3558.30	"	0.2	0.8	54	44	72	5	N	17.501	4838	beams dumped
7.36	34.84	3593.14	"	0.15	1.5	51	19	612	7	Y	"	"	
4.27	28.41	3621.55	"	0.15	0,8	53	24	499	9	Y	17.501	4838	
2.79	2.96	3624.51	"	0.15	0.65	52	48	52	1	N	17.501	4838	beams dumped
7.70	35.41	3659.92	"	0.2	1.5	50	19	622	10	Y	"	"	
3.82	10.21	3670.13	"	0.15	0,75	53	26	179	4	Y	12.516	4839	beams dumped
5.88	36.21	3706.34	"	0.2	1.1	53	20	636	10	Y	17.500	4834	
3.42	14.82	3721.26	"	0,15	0.7	54	45	262	7	N	17.501	4840	
2.83	1.71	3722.97	"	0.1	0.6	55	46	30	0	N	17.500	4837	beams dumped
8.08	18.27	3741.24	"	0.2	1.3	50	18	321	5	Yes	17.500	4839	beams not symmetric
5.22	21.07	3762.31	"	0.2	0.75	52	38	370	0	No	12501	4839	
4.46	4.21	3766.52	"	0.2	0.75	51	43	74	1	N	17.501	4840	
				0.15	0.65								
3.82	3.25	3769.77	"	0.15	0,6	51	45	57	4	N	17501	4840	
3.65	6.55	3776.32	"	0,1	0,6	54	46	115	1	N	17501	4840	
3.10	10.36	3786.68	"			53	47	182	2	N	"	4841	beams dumped
7.24	14.91	3801.59	"	.4	1.7	50	33	262	7	N	17.500	4839	
4.55	18.05	3819.64	"	.35	1.1	51	39	317	5	No	"	4838	Run 24837 not existing (YPARA ERR 01)
3.43	14.29	3833.93	"	.30	0.85	52	46	251	6	No	17501	4839	
2.49	9.85	3843.78	"	0.2	0.75	53	49	173	3	No	"	4838	beams dumped
5.26	17.42	3861.20	"	0,4	1.6	50	37	306	2	No	17.500	4837	
4.07	15.94	3877.14	"	0.3	1.0	51	44	280	4	N	"	4838	
3.25	2.28	3879.42	"	0.25	0.7	49	45	40	2	N	"	"	beams lost
6.31	0.63	3880.05	"	0.2	1.0	51	45	11*	0	N	"	4837	*ECC HV off due to overload
4.75	19.18	3899.23	"	0.2	0.6	53	40	337	5	N	"	"	

7:30 H. Mills on shift - I send night shift home.
The current situation :- dead time has improved - the trigger rate is lower (hence D.T. lower)
TOF current lower - hence lower trigger rate.
Many missing LAMS in JETC (push D.T. up).

8:00 D. Schmidt arrives ⇒ goes to do Gas check - all Ok
8:01 Continuous missing LAMs in JETCH. parse & reload ESHs
8:07 TASSO suggested a new fill. In accordance with night shifts practice I asked them to delay at least ½ hr since we are running Ok now (on full triggers) and Lumi seems fine (currents ≈ 5.5 mA).
A significant amount of Dead time is caused by the JDAS errors.
8:20 TASSO dumped the beams early. I complained. Trouble to refill - should have retained beams!

16.00 H. Kado on shift (instead of C. Kleinwort who plays squash), & Warming (50 Min late, but E. Elsen was here)
gas check done OK
17:00 Kleinwort replaced Kado

19:10 At run start : Message on console : GENERAL RESET OF FLASH ADC MICROS ...
1. min later ERROR YPARA 81 : JETC MOTOROLA 68K ERROR, TIME OUT ...
called J.O. , advice : log on as user RT , ABORT JDAS , RT JDAS , Now , O.K. , JADEGO
at next run start , 68K-system O.K. but ERROR TOF-Micros wrong length at LG-Pedestaltrigger

21:30 DISK BACKUP to temporary disk mode O.K.
21:59 new fill, new run, MOP starts flashing , 2 FADC procs are dead,
we reload FADC's from MOP, works fine
at run start : 2× 10 mA , 5,9 Torr/sec , deadtime 43% with full triggers
22:30 frequently soft and hard trips; PKR claims reason is instabilities of the phase of the mains from HEW
they can only watch but can do nothing about it.

0:00 Walker + Elsen on shift.
0:15 Beam loss (→ soft trip).
1:15 4pg reports missing T1 inputs → EC HV off due to overload.
2:45 T2 input 163 lows. Incrementing through ...
3:20 Hard trip.
5:10 → -
5:50 BT Chambers : >80% dev. for pulse area. We are at the beginning of a run...

8:00 Becher, Heinzelmann

8:10 Gas check - o.k.
8:20 JDAS err. 33 : Cr 4 cr 1 : 768K Bank
9:00 Error HV MF 18 LG1
call to Magnussen : vessel problem
9:30 Error HV MF 18 LG1
11:40 During pedestal run JDAS Readout error 56 TOF bank wrong length - 373 doc
Run did not continue → start new run . No Run summary existing for 24853
12:30 Temperature Alarm - Hardware room : 20.5°
phone to MK3 : they will come (2332)
- during weekend they cannot ~~change the~~ add a 3. compressor
if temperature is raises dramatically call 5555
13:01 TOF TDC no hits : 7
trigger 2 Output missing
13:15 temperature in hardw. room : 20° no alarm

	Zeit	T_{door} [°C]	T_{wall} [°C]
	14:00	19° ± 0.2	± 0.2°
	14:20	19.2°	± 0.2°
	14:40	19	19.5
	15:10	19	19.2
15	15:40	19	19.6
	16:40	18.5	19.7
	18:33	18.0	18.9
	20:50	19	20
	21:40	19	20.5

16:00 T. Greenshaw, U. Schneekloth on shift
16:15 Gas check done
16:55 dead time is 55% H.V. trigger has high rate, because of noisy LG block #2670,
started next run with reduced triggers. Dead time down to 20-25%
18:35 We haven't had any missing LAMs at all. MOP shows 13 FEPs are wrong by one count.
19:31 new fill, started run 24864 . dead time 40% with full triggers. H.V. trigger looks O.K.
21:15 Occasional hardware room temperature alarm . Temp at door 19°C , at wall 20°C

15:30 Teletype found with 2A fuse gone; replaced i.V. J.O.

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME %	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^3$	To REJ $\times 10^3$	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT 2 $E_{LR} > 6GeV$	T_2 BIT 17 $2T, 6 > 2TR$	NSD	MIP	TOF	Flow
~~24845~~	15/3/86	2 24	3.34	6.53	6.50	30.9	3789	8002	4465	995	305	5271	5406	928	25	ON	ON	ON	OFF
24846	"	3.35	4.02	5.36	5.39	28.5	1548	3086	1660	413	118	2063	2080	357	9	"	"	"	"
24847	"	5.31	6.24	10.04	9.98	39.9	2969	8002	5508	772	300	5437	4815	910	34	"	"	"	"
24848	"	6.25	7.19	8.47	8.40	34.7	3262	8002	5097	848	294	5438	4775	915	31	"	"	"	"
24849	"	7.20	7.52	7.30	7.23	31.9	1905	4177	2410	496	158	2678	2885	483	17	"	"	"	"
24850	"	~~6.71~~ 7.53	~~6.66~~ 8.58	6.71	6.66	31.2	3864	8002	4481	1006	314	5146	5547	886	19	"	"	"	"
24851	"	~~5.79~~ 8.53	~~5.75~~ 10.02	5.78	5.75	28.5	3762	7551	3979	979	288	4889	5196	823	21	"	"	"	"
24852	"	10.47	~~11.87~~ 11.50	10.28	9.84	29	3644	8002	5256	791	311	5167	5066	1150	33	"	"	"	"
24853	"	11.41	11.41	only 2 Pedestal		counts	— no	run	summary	—									
24854	"	11.43	12:39	8.43	8.16	34.6	3358	8002	5088	874	302	5283	5226	1101	31	"	"	"	"
24855	"	12.53	13:38	6.83	6.58	38.3	2569	8001	4940	668	256	6183	3462	664	32	"	"	"	"
24856	"	13.40	14:25	5.87	5.74	30	2314	5029	2795	602	182	3403	3184	558	17	"	"	"	"
~~24857~~	"	14:28	14:30	5.26	5.04	30	84	252	147										
24858	"	1532	1617	10.01	10.33	46.2	2197	8001	5372	571	264	6258	3182	735	25	"	"	"	"
24859	"	1618	1650	7.49	8.12	51.8	1711	8002	5186	445	231	6860	1934	426	18	"	"	"	"
24860	"	1650	1655	6.77	7.37	55.6	261	1350	1136	68	38	1160	288	48	2	"	"	"	"
24861	"	~~1655~~ 1700	1829	~~6.68~~ 5.16	~~7.28~~ 5.68	21.4	5620	8002	6116	1462	313	5223	5103	1870	61	"	"	"	"
24862	"	1830	1902	5.16	5.68	31.4	1901	3873	2098	495	155	2470	2736	452	16	"	"	"	"
24864	"	1931	2044	9.85	9.96	77.0	7752	8002	5026	872	322	5180	5386	1102	33	"	"	"	"
24865	"	2045	2149	6.86	7.24	32.1	3674	8002	4505	956	649	5211	5455	939	41	"	"	"	"
24866	"	2149	2250	5.77	6.11	31.7	3644	8002	4665	949	301	5410	5140	861	29	"	"	"	"
24867	"	2250	2303	4.97	5.29	31.2	705	1592	904	184	57	1042	1007	173	5	"	"	"	"
24868	"	2338	0026	10.10	9.16	39.0	2856	8002	5544	743	289	5606	4350	991	24	"	"	"	"
24869	16/3/86	0028	0119	8.62	7.75	37.5	2827	8002	5320	735	276	5778	4118	817	25	"	"	"	"
24870	"	0125	0227	7.29	6.52	30.8	2880	8002	4581	958	295	5345	5191	983	21	"	"	"	"
24871	"	0227	0336	6.22	5.51	29.7	3384	8002	4460	1010	299	5283	5329	899	34	"	"	"	"
24872	"	3.37	3.41	5.29	4.66	28.3	211	495	262	54	15	316	271	52	2	"	"	"	"
24873	"	4.17	5.13	9.92	9.29	35.4	3301	8001	5059	858	303	5192	5308	1033	37	"	"	"	"
24874	"	5.14	0613	8.47	7.90	32.9	3552	8002	4549	924	304	5218	5370	958	26	"	"	"	"
24875	"	6.13	0718	7.36	6.83	31.4	3810	8002	4475	991	311	5203	5523	863	42	"	"	"	"
24876	"	0719	755	6.60	6.11	30.9	2121	4432	2404	552	170	2885	2987	507	24	"	"	"	"
24877	"	—	—	8.5 via TASSO	8.5 from PKR														
24878	"	8.33	9.33	11	11	35.5	3368	8001	4964	876	311	5157	5504	1024	28	"	"	"	"
24879	"	9.35	10.36	7.6 8.5	7.4	32.0	3622	8002	4613	942	301	5276	5328	1029	36	"	"	"	"

$\langle L \rangle$ 10^{30} cm^{-2} s^{-1}	BUNCH S_{LUM} nb^{-1}	S_{LUM} CMS ENERGY 3097.23	BEAM TAPE ABORT	ID nA	TOF V	SUM M.MASS T_2%	NSD-SD $T_1 + T_2$ %	Σ_{CHAM}	MH	E_{BEAM}	MAGN FIELD -1XG	REDUCED TRIGGER Y/N	REMARKS
3.53	14.40	3913.63	IBM	0.2	0.6	54	45	253	7	17.500	4837	N	
2.64	4.55	3913.18	"	0.2	0.6	56	43	80	0	17.501	"	N	Beams dumped.
5.43	17.08	3935.26	"	0.2	1.2	53	32	300	5	17.500	"	N	
4.30	16.28	3951.54	"	0.2	0.9	53	36	296	6	"	"	N	
3.46	7.00	3958.54	"	0.2	0.8	54	44	123	2	17.501	"	N	
2.82	11.16	3969.70	"	0.2	0.8	54	45	196	3	"	4835	N	
2.06	7.81	3977.61	"	0.15	0.6	54	48	139	3	"	4838	N	Beams dumped
6.65	21.92	3999.53	"	0.4	1.5	50	36	~~8~~ 385	7	17.501	4838	N	
				0.2	1.2								during pedest. run 3385 readouts per ST
5.33	18.70	4019.23	"	0.2	1.2	53	37	346	7	17.500	4838	N	
3.78	11.56	4030.79	"	0.2	0.8	54	39	203	7	17.501	4838	N	
3.50	8.43	4039.22		0.2	0.7	54	46	148	3	17.500	4840	N	
3.45	0.34	4039.56										N	Test Voults. Beams dumped.
5.79	13.43	4022.99	"	0.25	1.3	52	34	236	5	"	4849	N	
3.69	6.83	4027.82	"	0.2	1.0	54	36	120	1	"	"	N	
2.91	0.68	4028.50	"	0.2	1.0	50	16	12	0	"	"	N	
4.28	27.61	4056.11	"	0.2	1.0	52	24	485	11	"	"	Y	
2.76	6.03	4062.14	"	0.2	0.8	54	47	106	0	"	4838	N	beams dumped
5.69	20.95	4083.09	"	0.25	1.3	53	38	368	6	"	4838	N	run 24863 doesn't exist
3.84	13.95	4097.04	"	0.20	0.9	53	45	245	1	"	4837	N	
2.90	10.59	4107.63	"	0.2	0.8	55	43	186	4	"	"	N	
2.44	2.62	4110.25	"	0.2	0.7	52	45	46	2	"	"	N	beams dumped
6.03	20.15	4130.40	"	0.22	1.3	51	32	354	5	"	4837	N	
4.66	14.97	4145.37	"	0.20	1.1	52	34	263	3	"	4837	N	
3.81	13.54	4160.91	"	0.20	0.9	54	44	273	4	"	4838	N	
2.74	12.13	4173.04	"	0.15	0.65	54	46	213	2	"	4838	N	
2.45	0.46	4173.50	"	"	"	44	50	8	0	"	4837	N	Beams dumped
4.90	17.53	4191.03	"	0.25	1.3	52	38	308	8	"	"	N	
3.40	12.64	4203.67	"	0.2	1.0	54	45	222	4	"	4838	N	
2.74	10.13	4213.80	"	0.15	0.85	55	46	178	6	"	4838	N	
2.16	5.98	4219.78	"	0.1	0.7	54	48	105	3	"	4837	N	PETRA STATUS DISPLAY IS NOT WORKING. Beams dumped
				0.25	1.5								lost obs b YPARA ERR #9 : JETC ERR.
5.14	18.96	4238.74	"	0.2	1.25	53	39	383	10	17.500	4838	~~N~~ NO	
4.01	15.71	4254.45	"	0.2	1.0	54	44	276	3	17.500	"	NO	

10/3/86 00⁰⁰ DIECKMANN ~~FREDECK~~ ECK

00¹⁰ Gas check completed. OK.

01²⁰ ~~Andreas~~ changes a DL300 power supply. #4593 out #4653 in (Crate 11) (LED off)

The PETRA STATUS TV IS BLANK — there is a bug in the programme & an expert had been recalled.

8⁰⁰ Chiu, Kleinwort on shift

8¹⁰ gas check O.K. , new program version for VTAC-processors C.K.

8³⁰ two beams ready, Petra info link still down at run start "General init of Flash ADC micros ", 1 min later YPARM #1 "JETC Nikavela GPIB ERR" ABORTed ZDAS, RTed ZDAS, JADEGO worked at 2. try, runs started C.K.

9¹⁰ All chambers trip. Resets O.K.

9³³ Run start #24879. Petra information link is down. Therefore at run starts we are required to enter E^+ and E^- current ~~from~~ from the SDAS Control Terminal. Ring PKR for this information. They give 3800 mA for e^+ and 3700 mA for e^-. These figures were entered. Later realized that these numbers are per bunch — while the figures we were prompted for, were probably total current for the 2 bunches! ∴ factor of 2 out! Sorry!

10³⁸ Run # 24880 E^+ current = 3.19 + 3.25 = 6.44 mA
E^- " = 3.03 + 3.03 = 6.06 mA.

10⁵⁵ Petra status TV is back on the air! However — they're only showing repeats! TV status is from yesterday 23³³ hrs !!

11¹⁰ Petra status TV updated.

11⁴⁰ Temperature in hardware room > 20.5 , called 2332, nonebody will come and see

12⁰⁰ no more cooling-power available today, only one compressor is working T = 20.5°C

12⁵⁵ Reset of Flash ADC micros — timeout! Reset procedure as 8:30 this morning. (SAFEGO worked 1st time).

14⁴⁰ Temperature in hardwareroom still 20.5 °C

16⁰⁰ Elsen Olsson on shift

16²⁰ Gas check done

18³⁵ Alarm levels for temp. alarm on ~~one~~ #1 and #23 readjusted. We should watch the system for a couple of days, whether the real main alarm lamps comes on. If not we may ~~de~~comment the alarm again. The thresholds for #1 and #23 on the temp. control box in the electronics room are lower now. If # on of the green diodes turns red and the alarm lamps goes on, increase the threshold with a screw driver until the diode turns green again.
W. Bartel

18/3/86 CARTWRIGHT & GLASSER on shift

Gas check done OK

0²⁹ Run hangs with "Missing LAM" & then "timeout whilst resetting J68K processors" Allowed to stay that way while Elsen & Olsson confer over MOP terminal. 3 min later PAUSE/CONTINUE fails to resurrect run. Conference resumes. Several more " " s don't work; run stopped.

0³⁸ Missing LAM br 4 cr 1 : JETC ~~printSDA~~; ditto, J68K bank. Run paused. More cafering. This time CONTINUE works OK.

2¹⁵ Previous shift (Elsen/Olsson) finally leaves!

2²⁷ Missing LAM br 4 cr 1 : J68K bank Φ1772Φ Φ37457 (2x) Φ37777 ΦΦΦ5Φ7 ΦΦ1102 Φ23413 Φ37777 Φ37777 ΦΦΦ547

2³⁷ YSPY snap Trigger 2 O/P missing: 105

2⁵⁸ Missing LAM br 4 cr 1 : J68K bank 016614 037707 037777 037777 000507 000600 010111 " " "
ILLEGAL CONT RECORD on colour TV

3⁰⁵ Missing LAM J68K bank 017514 037777 " " " 031303 016773 " " "

3⁰⁷ " " " 015577 " 6 " " " " 022014 005Φ5 " " "

4¹² " " " 037752 " 5 " " " " 001014 027732 " " "

5 - 6:30 Kept losing the beam at ~16 gev

7⁴⁷ H. Mills + R. Felst On shift

8⁰⁵ Missing LAM J68K bank

8¹⁵ gas check OK, K-pump working on air conditioning syst

11³⁰ a smell of heated insulation comes up in the counting room, traced it to the Alrol ~~box~~ system console which seems to be broken -

13¹⁹ CAMAC clock corrected to a time signal — it was at least 2 minutes fast.
As a test, the hardware scaling down at LUMI trigger has been changed from 10:1 to max at 16:1 from 24905 ⇒
System console exchanged - burning smell!

RUN	DATE	START	STOP	RUN START I+	RUN START I-	DEAD TIME %	TIME sec	RECORDS IN	RECORDS OUT	ALL x 10^6	T0 RES x 10^6	T1 ACC SUM	T2 ACC SUM	T1 Bit2 EL 766V	T2 Bit 17 2T. E4 7,21R
24880	16/3/86	10:38	11:43	6.44	6.06	30.6	3827	8001	4443	996	304	3489	5475	935	26
24881	"	11:45	12:01	5.52	5.17	30.2	1018	2158	1116	263	80	1388	1954	277	11
24883	"	12:57	13:37	10:35	9:36	38.5	3101	8001	5218	807	311	5177	5422	1107	46
24884	"	13:57	14:52	8.58	7.69	33.3	3269	8002	5022	850	300	5187	5220	1090	29
24885	"	14:52	15:46	7.32	6:49	33.5	2991	6962	4179	777	260	521	4575	927	28
24886	"	16:45	17:38	10.21	10.21	37.6	3123	8002	5196	812	305	5219	5204	1098	38
24887	"	17:41	18:37	8.44	8.45	34.9	3307	8002	4844	860	300	5109	5326	1022	40
24888	"	18:39	19:38	7.08	7.09	33.5	3506	7824	4667	913	306	5143	5268	916	32
24889	"														
24890	"	20:23	(20:24	21:25	8.84	37.3 9.11)	3419	8001	4964	889	305	5274	5159	1093	34
24891	"	21:26	22:18	7.24	7.51	37.0	3085	6908	4052	802	257	4627	4473	875	14
24892	"	23:58	23:54	~~10:20~~	9.5	38.5	2630	6871	4525	653	263	4440	4456	979	40
24893	"	23:39	23:54	8.71	8.16	36.4	894	2163	1324	219	79	1450	1349	289	12
24894	16/3/	23 56	0 30	8.28	7.74	35.9	1987	4886	3029	517	186	3246	3123	618	20
24895	17/3/86	0 37	1 21	7.40	6.89	40.0	2562	5377	3076	666	266	3515	3603	648	34
24896	"	1 55	2 52	10.39	9.40	35.5	3326 ~~3221~~	8001 ~~8002~~	5010	866	307	5251	5264	1067	30
24897	"	2 52	3 51	8.74	7.83	33.2	3515	8002	4725	914	304	5262	5281	1014	21
24898	"	3 51	4 41	7.39	6.56	31.3	2964	6438	3690	771	241	4261	4241	782	20
24899	"	6:38	7:37	7.38	9.58	40.0	3514	8002	4 007	916	315	5188	5513	921	51
24900	"	7 38	8 43	8.07	8.26	32.3	3688	~~8002~~ 7849	4588	959	309	5213	5481	901	21
24901	"	8 43	9 02	6.86	7.03	32.8	1082	2447	1466	284	93	1672	1588	300	8
24902	"	10 10	11 04	10.38	8.87	35.8	3224	8002	5175	838	300	5264	5180	1097	35
24903	"	10 04	12 03	8.77	7.43	33.5	3482	8002	5046	905	303	5345	5174	1071	43
24904	"	12 06	13 07	7.39	6.16	30.9	3635	7771	4379	946	292	5185	5107	906	25
24905	"	13 26	14 31	10.70	10.57	36.4	3313	8001	4943	862	317	5082	5511	1042	43
24906	"	14 32	15 33	6.4	7.01	31.9	3664	8002	4626	952	303	5265	5305	984	33
24907	"	15 34	15 54	5.58	6.07	32.1	1164	2500	1444	302	97	1636	1686	324	9
24908	"	17:36	17:49	9.74	10.27	39.9	147	457	263	38	15	290	250	60	1
24909	"	17:54	19:01	9.69	10.02	34.9	3611	8002	4758	939	327	5835	5878	985	30
24910	"	19:02	19:16	7.71	8.01	37.1	753	2460	1196	196	72	1093	1265	222	12
24911	"	19:16	20:14	7.38	7.67	36.8	3416	8002	4897	888	327	5116	5418	1060	34
24912	"	20:14	21:16	6.15	6.42	35.4	3643	8002	4694	947	326	5104	5499	987	34
24913	"	21:16	21:33	5.15	5.39	32.9	984	2150	1175	286	84	1351	1455	264	9
24914	"	23.06	0:01	9.94	10.41	37.8	3291	8002	5014	855	323	5095	5411	1133	44

PROCESSORS ON/OFF NSO	MIP	TOF	FANP	LZ 30 cm^-2 s^-1	BHABHA ∫Ldt nb^-1	∫Ldt EXP ENERGY	FBM/TAPE OUTPOT	RUN START ID MA	RUN START TOF V	ONLINE RES SUM NIMROC T2 %	ONLINE RES NIMROC T1+T2 %	Σ bhabha	MIP	E beam	mag field 1A G	Calibrat Trigger Yes/NO	REMARKS
ON	ON	ON	OFF	3.03	12.64	4267.09	IBM	0.2	0.8	54	46	222	6	17.500	4837	NO	
"	"	"	"	2.62	2.38	4269.71	"	0.2	0,7	53	50	41	1	"	4838	NO	beams dumped
"	"	"	"	6.00	20.10	4289.81	"	0.2	1.4	52	36	353	7	17501	"	No	Run 24882 does not exist.
"	"	"	"	5.05	18.39	4308.20	"	0.2	1.3	52	38	323	4	17.500	"	No	
"	"	"	"	4,12	13,61	4321,81	"	0.2	1.0	53	41	239	4	-	"	No	beam dumped
"	"	"	"	6.73	22.09	4343.90	"	0,2	1,4	52	36	388	6	"	4838	NO	
"	"	"	"	5.30	16.91	4360,81	"	0.2	1.0	51	41	297	7	"	4838	NO	
"	"	"	"	3,95	13,15	4373,96	"	"	" ?	54	42	231	5	"	"	"	Beams Dumped
							"	0,2	2,0	~~51~~	~~34~~					"	Crate off in, no events
"	"	"	"	5.51	21.63	4394.59	"	"	"	53	39	380	6	"	4838	"	
"	"	"	"	4,54	16,28	4410.87	"	0,15	0,85	54	43	286	3	"	4837	"	Beams dumped.
"	"	"	"	6.07	17.77	4433.80	"	0.2	1.2	51	35	315	5	1750	4838	"	
"	"	"	"	5.11	4.90	4443.70	"	~~0.2~~	~~1.2~~	53	40	86	1	17501	4834	"	
"	"	"	"	4.69	9.73	4453.43	"	0.2 2.2	1.1 1.1	53	39	171	1	"	4838	"	Hung after JETC readout error
"	"	"	"	3.32	8.88	4462.31	"	0.2	1.0	53	44	156	2	17.500	"	"	Beams dumped
"	"	"	"	5.93	20.10	4482.41	"	0.2	1.2	53	39	353	9	17.501	"	"	
"	"	"	"	4.79	17.08	4499.49	"	0.2	0.85	53	42	300	3	17.500	"	"	
"	"	"	"	3.72	11.90	4511.39	"	0.15	0.7	53	44	209	4	"	"	"	Beams dumped
"	"	"	"	4.17	14.57	4515,96	"	0.2	1.0	54	41	256	2	17.500	4837	"	
"	"	"	"	3.64	13.75	4523.11	"	0.17	0.9	54	44	231	6	"		"	
"	"	"	"	4.34	4.44	4533.55	"	0.1	0.8	53	42	78	0	"		"	IOM down/beams down
"	"	"	"	6.15	22.43	4555.98	"	0.2	1.0	52	36	334	6	17.501	4838	"	
"	"	"	"	5.12	20.89	4581.87	"	0.2	0.9	54	38	367	4	"	"	"	
"	"	"	"	3.99	15.20	4602.07	"			54	45	267	4	"			Beams dumped.
"	"	"	"	5.28	18.73	4620.80	"	0.2	1.4	52	39	329	5	17.500	4847	"	
"	"	"	"	3.88	15.60	4636.40	"	0.15	0.9	53	44	274	5	"	"	"	
"	"	"	"	2.84	4.50	4640.90	"	0.13	0.8	54	44	79	1	"	"	"	beams dumped
"	"	"	"	6.02	1.31	4642.21	"			50	44	23	0	17.101	4851	"	
"	"	"	"	4.70	16.57	4658.78	"			54	42	291	9	17.500	"	"	
"	OFF	"	"	4.56	3.19	4661.97	"	.20	1.2	3	53	56	0	17.501	4850	"	MIP off for HV requested by R.H. 7.0.
"	ON	"	"	4.21	14.75	4676.72	"	.20	1.2	53	40	259	4	17.501	4840	"	
"	"	"	"	3.20	12.53	4689.25	"	.20	1.0	53	43	220	1	"	"	"	
"	"	"	"	2.70	3.64	4692.89	"	.20	.8	51	47	64	0	17.500	4838	"	beam dumped
"	"	"	"	5.53	19.41	4712.30	"	0,4	1,8	52	38	341	7	"	4838	"	

Several muon crate 5 missings in Run 24905
Test version of Nord-50 program installed to give debug info on illegal count records/ J68k problems.

16[00] Meinke + Spitzer
gas check okay

18/3/86
00:00 Rancke and Bowdery on shift

My first appearance in 1986! (CKB)

00:30 Gas check done

4:30 JOBS READOUT ERR 53 Muon Lam branch 4 crate 1 : J68k
030076 / 037775 / 037777 / 037777 / 000507 / 000600 / 037222 / 037777 / 037777 / 000507 /
Trig 5004 5005 5005 OLDU3 000506
2) → -11-
000104 / 033312 / " / " / " / 000010 / 000004 / " / " / " /
Trig 5599 5600 5600 OLDU3 000507
3) → -4-
042025 / 037757 / " / " / " / 016064 / 033574 / " / " / " /
Trig 7208 7209 7209 OLDU3 000502
4:51 → 005004 / 037777 / " / " / " / 037263 / 037756 / " / " / " /
Trig 9008 9009 9009 OLDU3 000405
... more !! ≈ 10 times until 6:00 h

6:08 From standard-histograms: TOF-MEAN-ADC channel 9 4 times more statistics!! should be fixed by the experts (tomorrow)

6:23 All central chambers tripped.

8:00 Hellenbrand and Kado on shift

LINAC broken → restart ca. 18:00.

8:08 we ran our magnet down

8:23 gas check done → ok.
8:30 magnet off. We think that we can leave the experiment alone.
Temperature etc. will be checked every two hours.
In case the shift crew is needed, dial # 677 280 429 (Euro beeper)

16[00] Swoan Cartwright on shift (Paul Hill phoning Maryland)
16[25] Gas check done, OK. Paul Lee.
PETRA still RESTART CA. 18.00
Also IBM ERROR 54 on colour TV.
18[30] Still no beam. Still RESTART CA 18.00 (liar!). Elsen & Olsson playing.
19[00] Now RESTART 20 UHR. Tassu say that PKR say they got the linac working then a power supply at PETRA failed.
21[30] PETRA TV NOW SAYS RESTART > 24 UHR. Temperature in hardware room 18°C; magnet still off.
We feel like going home. PKR confirm that they will definitely not get PETRA going before midnight. We are going home.

19/3/86
0:00 Matsumura Rancke on shift (In the absence of the shift crew, I was contacted by someone from PKR and asked to come and switch on the magnet. CKB)
0:56 JTCB 68K Error JADE GO
1:10 Muon Crate Missing 4 30A fuse burned Crate 4
1:30 repaired
1:35 Gas check done
2:02 Error Run 24923 LO Ped. Run
A99 Initial Load
4:46 ERR33 missing Lam br 4 crt 1 • J68k 016000/037775/037777/037777/000507/015414/017752/037777/037777/000507
2721/2525/000402/2722/000503/2722
... several times

8[00] Bowdery + Test on shift
8[11] gas check done O.K
9[00] beamformed got worse during the run, complained at PKR, they claim to have nothing done and ask (for a few minutes) to increase the TOF-rate signal — we adjust the TOF rate meter
9[10] PKR managed to get back to reasonable beamformed conditions
12[50] switches jet- and VTX-chambers always, no HV on, no beam

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_0 REF $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 E$_{LG}$ > 6 GeV	T_2 Bit 17 2T.E$_{LG}$.2TR
24915	18/3/86	0:01	1:03	7,97	8,40	32,4	3660	8002	4641	952	308	5339	5144	1094	35
24916	"	1:03	2:08	6,53	6,92	30,8	3816	8002	4367	993	305	5379	4908	1037	831
24917	"	2:09	2:50	5,43	5,79	22,8	2451	4761	2499	637	177	3254	3030	550	18
24918	"	3:58	4:59	9,00	9,21	33,6	3636	8001	4703	947	318	5116	5411	1062	44
24919	"	5:06	6:10	7,05	2,69	31,5	3850	8002	4420	1001	315	5197	5420	985	24
24920	"	6:11	7:25	5,86	6,53	29,5	4069	7941	4097	1058	312	5239	5274	932	23
24922	19/3/86	1:04	2:01	8,92	9,10	34,7	3405	8002	4667	886	307	5282	4922	1035	36
24924	"	2:07	3:09	7,14	7,47	32,2	3720	8002	4577	968	311	5380	5112	1035	34
24925	"	3:10	3:54	5,91	6,21	30,2	2629	5391	2937	684	207	3509	3584	638	27
24926	"	4:31	5:27	9,46	9,72	36,1	3296	8002	4957	858	310	5366	4887	1238	28
24927	"	5:27	6:27	7,77	8,03	32,5	3554	8002	4586	925	301	5385	4289	1094	27
24928	"	~~6:27~~ 7:21	7:31	6,43	6,69	30,3	3794	8002	4190	987	300	5380	5006	918	26
24929	"	~~7:31~~	7:42	5,38	5,63	29,4	567	1196	603	148	44	766	758	124	6
24930	"	8:31	9:22	9,34	9,86	41,8	3025	8001	5002	787	32	4981	5342	1040	31
24931	"	9:22	10:20	7,71	8,36	37,4	~~3735~~	8002	4765	841	31	5300	5060	1011	96
24932	"	10:21	11:11	6,41	6,94	31,1	1744	6477	3921	714	25	4310	4044	783	25
24933	"	14:17	15:17	10,73	10,09	37,5	3080	7570	4965	801	300	4917	4958	1037	33
34 35 36	Ramp up dumps		pedestal	runs		error 56									
24937	"	15:33	15:42	6,28	6,54	33,1	117	376	178	30	10	199	159	42	1
24938	"	15:45	16:33	6,76	6,43	32,3	2595	5565	3053	675	218	3669	3650	729	29
24939	"	17:20	18:12	10,09	10,55	41,1	3067	8002	5278	787	327	5174	5166	1230	30
24940	"	18:15	19:12	8,68	8,64	38,0	3325	8001	5082	865	329	5229	5165	1171	38
24941	"	19:12	19:51	7,14	7,09	34,5	2302	5281	3043	599	206	3496	3303	749	17
24942	"	19:54	20:35	6,22	6,17	31,9	2387	5213	2807	624	199	3141	3317	693	14
24943	"	21:17	21:37	9,77	10,09	39,0	1166	3082	1892	303	118	1962	2020	463	17
24944	"	21:39	22:20	8,81	9,17	34,8	2425	6478	3909	630	219	4271	4069	982	23
24945	"	22:23	22:49	7,62	9,97	33,5	1507	4074	2462	392	131	2798	2388	519	13
24946	"	22:52	23:46	6,92	7,26	31,2	3203	8002	4574	833	259	5430	4757	969	28
24947	"	23:46	0:05	3,80	6,10	28,8	1100	2463	1303	286	82,6	1643	1608	302	11
24948	20/03/86	0:40	1:37	10,18	10,27	35,1	2955	8002	4893	768	270	5315	4915	1222	32
24949	"	1:37	2:34	~~8,23~~ 8,77	~~8,31~~ 6,84	31,8	3256	8001	4605	847	270	5344	5017	1143	23
24950	"	2:36	3:34	~~8,77~~ 8,55	~~6,84~~ 6,79	29,2	3458	8001	4453	900	263	5347	4934	1056	23
24951	"	3:35	4:15	5,65	5,71	27,6	2343	5244	2765	609	168	3540	3224	663	16

PROCESSORS ON/OFF N&O	PROCESSORS ON/OFF AP	PROCESSORS ON/OFF TOF	PROCESSORS ON/OFF FRAMP	<L> 10^{30} cm^{-2}s^{-1}	BHABHA $\int L dt$ nb^{-1}	$\int L dt$ EXP ENERGY	IBM TAPE OUTPUT	AT RUN START ID µA	AT RUN START TOF V	ONLINE REF. SUM T_1&T_2 %	ONLINE REF. NORD-SO T_1&T_2 %	Σ_{BHA} BHA	MH	E_{BEAM}	MAGN FIELD −1×G	Reduced Trigger Y/N	REMARKS
ON	ON	ON	OFF	4,99	19,81	4732,11	IBM	0,2	0,6	53	43	348	4	17501	4838	N	µ crate 5 missing occasionally
"	"	"	"	3,94	15,88	4757,99	"	0,1	0,5	53	47	279	9	"	"	"	
"	"	"	"	3,25	3,77	4766,76	"	0,1	0,4	56	49	154	6	"	"	"	beams dumped
"	"	"	"		19,64	4786,40	"	0,2	0,85	52	43	345	7	"	"	"	
"	"	"	"	3,81	15,49	4801,89	"	0,1	0,7	54	45	272	6	"	"	"	
"	"	"	"	3,14	14,58	4816,47	"	0,1	0,5	54	50	256	2	"	4835	"	beams dumped
ON	ON	ON	OFF	5,07	16,40	4832,87	"	0,2	1,2	51	43	288	3	"	4839	N	
"	"	"	"	4,20	18,10	4850,97	"	0,1	0,6	55	44	318	8	"	4843	"	
"	"	"	"	3,30	8,85	4860,82	"	0,1	0,5	52	47	173	5	"	4844	"	
"	"	"	"	6,33	22,94	4883,76	"	0,2	0,8	52	39	403	8	"	"	"	
"	"	"	"	4,80	19,47	4903,23	"	0,1	0,6	53	44	342	11	"	"	"	
"	"	"	"	3,60	14,35	4917,58	"	0,1	0,5	54	49	252	6	17500	"	"	
"	"	"	"	3,11	1,39	4919,17	"	0,1	0,4	51	52	78	0	17501	"	"	beams dumped
"	"	"	"	25,80	18,87	4939,04	"	0,2	1,1	50	33	349	5	"	"	—	ToF ask mats new adjusted
"	"	"	"	4,97	17,25	4956,29	"	0,3	1,4	53	42	303	6	"	4837	No	
"	"	"	"	3,76	12,35	4968,64	"	0,2	1,2	52	52	217	3	"	4837	"	Beam dumped
"	"	"	"	5,43	17,71	4986,35	"	0,3	1,3	52	36	371	8	"	"	"	run stopped because of shift crew
								0,2	1,1								
"	"	"	"	3,68	0,46	4986,81	"		0,3	42	47	8	0	17501	4840	N	
"	"	"	"	3,39	9,45	4996,26	"	0,2	0,9	54	47	166	3	17500	4841	N	Beams dumped.
ON	ON	ON	OFF	6,10	21,41	5017,67	"	0,4	1,55	52	35	376	6	17501	4838	N	
"	"	"	"	5,02	18,10	5035,77	"	0,3	1,4	53	38	318	4	17501	4840	N	
"	"	"	"	4,34	10,93	5046,70	"	0,2	1,0	53	44	192	1	17501	4840	N	
"	"	"	"	3,71	9,57	5056,27	"	0,2	0,8	53	48	167	5	17501	4840	N	Beams dumped
"	"	"	"	6,28	8,14	5064,35	"	0,4	1,7	51	40	143	1	17502	4837	N	
"	"	"	"	5,68	15,60	5079,95	"	0,2	1,4	52	41	274	3	17500	4838	No	
"	"	"	"	5,04	8,14	5078,09	"	0,2	1,1	52	41	143	0	17500	4838	No	
"	"	"	"	4,16	12,87	5090,96	"	0,2	1,0	52	44	226	5	17501	4838	No	
"	"	"	"	3,39	3,70	5094,66	"	0,2	0,85	56	49	65	2	"	4837	No	Beams dumped
"	"	"	"	6,48	18,67	5113,33	"	0,25	1,7	51	40	328	14	"	4835	N	Normal End of Run
"	"	"	"	5,17	19,59	5132,92	"	0,2	1,0	54	44	344	4	"	4836	N	
"	"	"	"	4,09	15,65	5148,57	"	0,2	0,75	53	49	275	4	17500	4836	N	
"	"	"	"	3,47	7,91	5156,48	"	0,15	0,65	53	49	139	2	17501	4835	N	Beams dumped

15:34 It is 22°C in the hardware room at the far end. 19°C at the door.
Alarm 2 is ON (acoustic alarm has been disabled)
Jan Olsson covers up holes in some crates to stop warm air getting into the room.

14^{20} 1 compressor is broken and service firm is expected today or tomorrow, one of the remaining ones... was in "stirring" but K-Man got it working again and temperature is down 21°C at the far end after 10 min.

15^{20} short break due to transmitter failure, run 24833 stopped
373 (dec)
ToF-trout many bumps during pedestal run
16^{0} (no) Primary LG Pedestals wrong - no expert around

16^{00} Glasser + Hill on shift. (+ Olsson + Ehlen + van der Schmidt)
16^{27} JDAS Readout Error 33. Missing Lam Br. 4 Cr 1 JETC POINT 401
JDAS Readout error 36 Missing Lam J68K Bank.
16^{47} Gas check done all OK.
20^{00} Muon Crate 5 is missing ~~with~~ every couple of minutes.

20^{23} JDAS readout error 33 Missing LAM BR4 CR1 J68K BANK
/0014585/ 37763/ 37777/37777/507/ 7542/ 25665/ 37777/ 37777/
0005071 509/ 4853/000406/ 5010/ 000406/ 5010

0^{00} Greenshaw & Krolbiel on shift
1^{00} JDAS R.Err 36 Miss LAM J68K-Bk 001106, 036605 (037777)×2, 000507 004064 017047 (037777)×2, 000507
1^{02} On Console Illegal contin. Record # 2291, This 0, Previous 2
1^{02} Jackpot hit in chambers, All chambers hard trip.
1^{40} JDAS Err 36 Miss L. J68K 004742 031040 2×(037777) 000507 020350 023675 2× 179 737 000506 780
000506 780
1^{45} Gas check done, all OK
On Console Ill Cont. Rec 756, This 0, Previous 2
1^{50} Another JDAS Error 36. Unless ~~I am prevented by~~ it is warranted that the experts study the printed-out numbers carefully I shall refrain from putting them down. Console Ill cont. rec 7967
2^{10} JETC and UTXC soft trips + 1) Magnet Fluctuation + JETC High Current. Faulty Part 93
2^{20} JDAS ERROR 34 Wrong end word in J68K-Bank. Ill cont Rec 7354 0 Previous 4
} Now and then Muon Crate missing Part 5

Miraculously this was the last JDAS Error for 7.5 hrs.

I ought to have touched wood! There is none around.

3^{45} JDAS ERROR 36 017776 and a second one. Always with console printout.

3^{55} Call from Mark J Dump planned for 4th cancelled. Trouble getting positrons. Old beams kept u.f.n.
4^{16} "Switch off the HV"
4^{50} New fill ready, almost immediately background (we don't have any!) is optimized.
5^{05} Beams promptly lost, needless to say all chambers trip.
5^{40} New fill ready, the lads at PHR are on form tonight! Now if they just leave the background alone.....
6^{50} JDAS readout error 36 wrong end word in J68K bank.
7^{05} " "
7^{08} JDAS readout error 36 missing LAM J68K bank
4× 037777 000507 005060 017054 2× 037777 000507 2× 8557 000501 8558 000501 8556
JDAS readout error 36
006013 017776 2× 037777 000507 013677 3× 037777 000507 182 68 000507 183 000502 187
7^{30} Power failure. All chambers and magnet trip. Cannot reset magnet. JDAS stopped (but not NORD!)
IBM PC stopped. Man IBM paged in vain. MK I phoned the person in the office was of the opinion that someone would come and get our magnet going again, if they don't appear within an hour or so 'phone again! Trigger box power off, switched on again OK

8^{00} Schmidt, Spitzer
8^{05} Gas check done ok.
It is not known when can DETRA start.

8^{20} PKR: Some power cables are melted. Therefore the break will last at least up to the end of this shift. More information will be ~~given~~ given in about one hour.

Fragment is switched off.

8^{45} Schif crew leaves. Regular checks later on.
10^{10} Mark J called to ask whether we prefer 14 GeV running until Monday to no beam at all. Tasso has to do magnet repairs, Mark J and Celio prefer cosmic.
Power cables have been damaged close to the tetrapolis vaccum hall. There seems to be a small chance only to get back to full operation by tomorrow.
~~After Mark J that we prefer no beam, too. After talking to Schmidt (DESY)~~

There will be a meeting at 14^{30} with Reuche to discuss the future running
16^{30} a trapped (Excavator) damaged HV cable this morning. cables will be repaired during tomorrow evening R.Felst
and DETRA can then resume 17.5 GeV running. The TASSO magnet seems to be seriously damaged by this power failure and they will use the time till tomorrow might to investigate the fault and fix it if possible. R.Felst

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RUN	DATE	START	STOP	AT RUN START (mA) I⁺	AT RUN START (mA) I⁻	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL ×10⁶	T RET. ×10⁶	T₁ ACC SUM	T₂ ACC SUM	T₁ BIT 2 (E_cg > 6GeV)	T₂ BIT 17 27. E_cg > 27R
24952	20/3/86	05[51]	05[02]	10·25	10·63	35·1	633	1778	1119	165	57·9	1166	1083	275	7
24953	"	05[52]	06[28]	9·50	10·11	37·6	2676	8002	5319	696	262	5511	4622	1041	34
24954	"	06[28]	07[13]	8·07	8·63	36·9	2514	8002	5573	654	241	6038	3674	803	28
24955	"	07[13]		6·90	7·62										
24956	"	10[57]													
24957	"					Tests runs									
24958	"		11[08]												
24961	22/3/86	0[29]	1[27]	8,59	8,60	36,8	3076	8002	5070	801	294	5011	5244	1203	36
24962	"	1[21]	2[17]	6,65	6,76	34·2	3325	8002	4789	865	256	5070	5343	1133	32
24963	"	2[18]	3[19]	4·71	4·80	32·9	3496	8002	4756	910	299	5058	5391	1094	41
24964	"	3[20]	3[56]	4·70	4·78	32·4	1698	3821	2217	442	143	2400	2562	465	15
24965	"	4[32]	5[27]	8,79	8,62	37,5	3152	8002	5082	820	307	4974	5319	1167	44
24966	"	5[27]	6[27]	6·74	6·67	34·6	3452	8001	4750	899	310	5055	5246	1121	50
24967	"	6[27]	6[43]	5·59	5·54	31·6	895	2030	1182	233	74	1256	1391	280	8
24968	"	8:42	9:48	8·04	7·42	34·3	3408	8002	4758	887	304	5023	5360	1038	34
24969	"	9:48	10:37	6·54	6·03	31·5	2820	6448	3482	734	231	3858	4111	759	23
24970	"	10:41	10:58	5·76	5·29	31·3	992	2217	1213	255	80	1371	1464	240	9
24971	"	17.36	19.55	5.30	6.29	39.3	3396	8002	4440	1014	307	4921	5573	969	35
24972	23/3/86	0 11	1:06	9·45	8·95	38·3	3242	8002	5001	843	323	5102	5351	1237	33
24973	"	1:05	1:54	7·88	7·36	35·3	2685	6146	3751	698	246	3933	4192	873	24
24974	"	4:49	5:40	10·59	10·25	41·1	3023	8001	5381	786	325	4959	5434	1359	43
24975	"	5:41	6:37	8·81	8·50	37·7	3329	8001	5017	866	326	5090	5591	1251	38
24976	"	6:37	7:37	7·34	7·05	35·2	3576	8002	4729	929	327	5059	5472	1158	33
24977	"	7:37	7:48	6·14	5·87	31·5	610	1237	702	158	50	825	823	185	8
24978	"	11:26	12:16	10·71	10·93	42,6	2955	8001	5377	769	328	4949	5492	1306	42
24979	"	12:16	13:11	8·93	9·14	38·7	3228	8002	5083	840	325	5003	5599	1240	27
24980	"	13·11	14:10	7·35	7·55	34·9	3528	8002	4794	917	320	5049	5522	1201	38
24981	"	14.10	14:37	6·12	6·30	33,5	1562	3462	3320	407	136	2231	2328	476	11
24982	"	14·47	15:35	5·99	5·76	30·1	3114	6717	3691	810	244	4330	4461	903	26
24983	"	15:36	15:39	4·85	5·01	30·6	111	283	156	29	9	144	148	33	2
24984	"	16[10]	16[13]	10·15	9·97	30·0	120	1369	1153	31	9	269	255	66	3
24985	"	16[15]	16[33]	10·05	9·87	28·8	866	8001	6570	225	64	1655	1726	416	10
24986	"	16 35	16[58]	8·30	7·65	28·2	—	12002	12002	—	—	—	—	—	—
24987	"	17[03]	17[12]	7·45	7·34	30·2	368	1006	621	95	66	627	637	142	3
24988	"	17[15]	17[23]	703	6·67	40·7		411 ?							

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NSO	MIP	TOF	FAMP	PROCESSOR STATUS	<L> (10³⁰ cm⁻² s⁻¹)	B HARMA ∫Ldt (nb⁻¹)	∫Ldt EXP AT THIS ENERGY	OUTPUT TO IBM/TAPE	AT RUN START ID (μA)	AT RUN START TOF (V)	ONLINE REJ SUM MIPROC T₂ (%)	ONLINE REJ NORD-10 T₁ R T₂ (%)	Σ BHARMA	M/H	E_BEAM	MAGN FIELD (-1+G)	REF. TRIG. (Y/N)	VERY SHORT REMARKS
ON	ON	ON	OFF	2.53	5.01	5161.69	IBM	0·25	1·3	50	38	88	1	17·500	4835	N	Beams lost
"	"	"	"	6.25	18.39	517488	"	0·25	1.5	52	35	323	1	"	4834	"	
"	"	"	"	5·16	12·18	5191.96	"	0·2	1·2	53	21	214	4	"	"	"	
"	"	"	"				"	0·2	0·95								Power failure, magnet trip chamber tr.12, TOF1 flags
"	"	"	"	8,65	21,05	5273,07	"	0,3	1,75	49	38	416	4	16,500	4837	N	Exp 28
"	"	"	"	4·49	17·21	5230·22	"	0,2	1,5	50	41	340	5	"	"	"	
"	"	"	"	3·49	13·86	5303·58	"	0,1	1,0	51	42	264	5	"	"	"	
"	"	"	"	2·82	4·76	5308·34	"	0·1	~~0,09~~	51	44	94	1	0	"	—	Beams dumped.
"	"	"	"	5,02	18,78	5327,72	"	0,4	2,0	49	38	371	3	16500	4839	N	
"	"	"	"	4·23	16·85	5344·57	"	0,2	1,25	50	42	333	8	"	4840	N	
"	"	"	"	3·71	3.64	5348.21	"	0·2	1·0	50	43	72	0	"	4841	N	Beams Lost.
"	"	"	"	3,87	14.12	109.77	"	0,2	1,3	51	42	279	2	"	4842	N	
"	"	"	"	3.11	10.37	12014	"	0.2	1.0	51	45	205	4	"	4844	N	~~Beams Lost~~
"	"	"	"	2.67	2,48	122.62	"	0.2	0.5	49	55	49	3	"	4844	N	Beams lost
"	"	"	"	3,34	15.26	5207.22	"	0,4	1.0	53	46	268	9	17.501	4834	N	Exp 27
"	"	"	"	6·49	23·34	5230·56	"	0·8	2·0	52	39	410	7	"	4837	N	YHDISP died during run
"	"	"	"	5.31	18.39	5248.95	"	0.2	1.25	54	40	323	6	17.500	"	U	Beams lost
"	"	"	"	7·74	26·87	5275·82	"	0·4	2·2	51	34	472	11	17.501	4836	N	Record lumi !!
"	"	"	"	6·05	23·74	5299·56	"	0·3	1·7	53	39	417	8	17·500	4838	N	
"	"	"	"	4.63	18.67	5318.23	"	0.2	1·35	53	42	328	4	17.500	4840	U	
"	"	"	"	3.06	2.45	5320.68	"	0.3	0.8	51	48	43	0	17.500	4841	N	Beam lost
"	"	"	"	7.62	26.64	5347.32	"	0.45	2,1	51	34	468	9	17501	4844	N	
"	"	"	"	6.05	23.63	5370.95	"	0.38	1.8	53	38	415	8	"	"	N	
"	"	"	"	4.97	21.69	5392.64	"	0,25 3.0	1.3	53	42	381	4	17500	"	N	
"	"	"	"	4.38	7.74	540038	"	0,2	1.0	54	44	136	4	17501	4845	N	MCP failure
"	"	"	"	3.70	13.95	5415.33	"	0.2	0.95	53	48	245	4	17500	4846	N	
"	"	"	"	3.12	0.00	5419.33	"	0.2	0.8	46	49	7	0	17501	4845	N	
"	"	"	"	10·01	1.37	5420.70	"	0,4	2	~17(?)	21	24	0	17501	4835	N	Buff readout WRITE error 1187 problem.
"	"	"	"	8.45	7.80	5428.50	JDAS85	0·4	1·5	0	24	137	5	"	"	N	" "
OFF	ON	ON	OFF	7.54 ~~10.83~~	10.03	5438.53	JDAS86	0.4	1.8	0	0	?	?	"	"	N	BUFF WRITE ERROR NSO
ON	"	"	"	6.02	2.28	5440.81	JDAS87	0·4	1·76	50	41	40	2	"	"	N	Buffered readout, otherwise normal
"	"	"	"	4.34	0.74	5441.55	FBM	0.4	1.6					"	"		NORD crash.

20/3/86

18[15] : Gas check done o Kay

: Temperature in hardware room 17°C. Eg. chair.

20[45] " " 17,8°C, leaving -- J.O.

21/3/86

0:00 Experiment checked by H. Kado
temperature in hardware room 17.7°C
gas check done
→ note : the gas mixture is bad (Maihak shows 10.4 mA)
ethane flow is more than 10% too high
day shift : call muon expert to check this ↑

04[00] temperature 17.8°C in rest of hardware room
gas check done reduced the Ar/Eth flow from 18.4 → 17.7 units on flow meter. R. Fiebt

08:15 Experiment checked by C. Bowdery
Gas check done by 8:35
Temperatures are normal.
Disc of NORD-2 regenerated Backedup HEM

16:50 Kado Matsumura
PETRA starts injection, magnet current set to 7500 amps
Gas check done

New experiment number: 28
for 16.5 GeV running.

0:12 so much problems this shift - we didn't had the time to write down one word in the log book.
states : 4 1/2 hours of luminosity and not one byte written to IBM !
problems : 1. several crates and power supplys were off → we found them and switched them on
2. TOF HV refused to work → we called Beate, she came and fixed it (I don't remember what was wrong)
3. lead glass HV was wrong → it was not possible to set the values by computer, so we had to enter them by hand (octal !)
4. lead glass ADC broken → we replaced it by the spare unit → it was also broken
↑ this means that there exists only one
we exchanged all ADC chips in the old unit, put it back and it worked !
5. ???? good luck next shift crew ! we go home.

22/3/86

0[00] Barlow + Hill on shift.

0[29] luminosity Ebeam = 16,501 GeV.
0[29] JDAS readout error 33 JETC POINT 701
1[00] JDAS readout error 36 Missing LAM, J68K Bank.
1[19] " " " 33 JETC POINT 702
1[29] " " " 33 " " 502
1[59] " " " 34 Wrong end word in J68K bank.
2[25] " " " 33 Missing LAM : JETC point 702
2[47] " " " 33 " " " " 702
3[15] Z chamber Trip.
3[20] JDAS Readout error 33 Missing LAM. JETC point 702.
3[50] Jet chamber trip (6V). Vertex chamber value fail. - reset.
4[24] JDAS Readout error 33 JETC POINT 702
4[37] " " " 34 Wrong end word in J68K bank.
4[49] " " " 36 Missing lam J68K bank
4[50] " " " 34 Wrong end word in J68K bank.
4[52] " " " 33 JETC POINT 702
5[01] " " " 33 JETC POINT 403
5[14] Z ch trip
5[14] JDAS readout error 33 JETC point 705
5[16] " " " 36 Missing lam J68K bank
5[37] " " " 33 JETC POINT 701
5[38] " " " 33 Missing lam BPJ Cr 1 ID current (x4 times)
" " " 33 JETC POINT 701
" " " " JETC POINT 702
5[50] " " " " JETC POINT 702
5[52] " " " 33 JETC POINT 401
5[53] " " " 33 JETC POINT 702
6[02] " " " 33 JETC POINT 702
6[12] " " " 34 Wrong end word in J68K bank.
6[30] Gas check done - OK.
5[43] Beams lost all central detectors tripped.

8⁰⁰ W. Bartl, B. Glasser on shift

run 24968

DAS #33 miss lam br 4 cr 1 JETC port 604
" " " " " 701
" #36 " JG84 bk
" #33 " br 4 cr 1 JETC port 702
" #36 " JG8k bk
" #33 " br 4 cr 1 JETC port 702

run 24968

DAS #34 wrong rcd word in JG84 bk
" #33 miss lam br 4 cr 1 JETC port 702
" #33 " " " 702

10¹⁵ K-people from the air condition subgroups come. They have to leave the compressors as they are useful monday. I think we can survive. Electronics 18°C. In the 'software' room it is somewhat warm but not unreasonable

DAS #36 miss LAM JG84 bk
#36 " "

Power supply error:
DAS read out #33 missing lams br 3 cr 1 : ID current
Cure: start new run because Pause/Continue did not work

run 24970

DAS #34 wrong rcd JG84
" #33 miss lams br 4 cr 1 JETC port 703

14⁰⁰ Petra has problems with the pilotthermo circuits which give spurious alarms. There are many of them in Petra so it may take some time before they find the faulty part.

16⁰⁰ Walker + Nowotka on shift.
16²⁵ Gas check done - OK.

17.00 Petra beam at 17.5 GeV ← Sautière & Jacquet !!!
17.09 Magnet tripped, changed exp nr to 27 again.
Background high, K called
TOF = 10 V, → 3 V

17.35 There is a small water leak below the magnet which caused the trip. It seems to be safe to continue running (K said so, Ikorlausen) We have to watch it.

20²⁵ Petra is for "short breaks" rather than continued attempts at injection.

21.50 Waterleak is around 2 drops / minute now. not serious W. Bartl

23.30 Petra shut down: they have found one faulty pilotherm but are now waiting for power supplies.

23/3/86 Zimmer and Boudrey on shift

00:10 New fill ready. Background is initially high but soon improves by factor 4.
00:25 Gas check done o.k.

Luminosity is about $1.1 \times 10^{31} cm^{-2} s^{-1}$ after deadtime correction (40%)
1:10 We rebuild YHDISP after a ring violation error was detected during histogram display (Run 24972)

We have seen several lead glass pick-up "Super Long Events"
1:56 As I was pondering whether we would be better off with a new fill, the beam was lost!
2:05 break => magnet to 1000 A
2:00 Water leak ~ 2 drops / min
4:00 Injection again. Magnet current raised to 7500A.
5:06 Lumi records! The last two displayed corrected lumi values were 14.62 and 15.25 $\times 10^{30} cm^{-2} s^{-1}$. The deadtimes are high though so maybe these values are upward fluctuations.

5:11 Next value is only $12.68 \times 10^{30} cm^{-2} s^{-1}$
5:17 Next value is $14.13 \times 10^{30} cm^{-2} s^{-1}$ → We are probably seeing a true record luminosity. (>13.26 1985)
5:22 $12.08 \times 10^{30} cm^{-2} s^{-1}$
5:27 $11.53 \times 10^{30} cm^{-2} s^{-1}$
5:32 $12.92 \times 10^{30} cm^{-2} s^{-1}$

8:00 Krebbiel & Matsumura on shift
8:30 Gas check done

9:30 Short break
DESY Triggerphobie

11.26 Beams up again JDAS Err 33, Miss LAM 6 3 or 4 Z Chamb Part J
Same 13.50

14:35

Every Event
at End of Run 24987

JDAS 33 4.1 J68 Bank
061230, 010340, 2x(037777), 000507, 010336 016060, 2x (037777), 000507,
4576 4541 000504 -1 177777 000000 177777 4570
00000077 000507

This → Always the same printout, except this number was incremented

Run stopped, MOP reloaded, with JADE60

15:06 JDAS 33 4.1 JETC point 703
000003, 000000, 000003, 000000, 000702, 021407, 036333, 037777, 037777, 000507
4110, 4455, 000505, -1, 177777, 000000, 177777, 4110, 000003

15:08 704
000007, 000000, 000007, 000000, 000703, 005000, 002336, 037777, 037777, 000507
4482, 4462, 000504, -1, 177777, 000000, 177777, 4482, 000000

15:12 701
000000, 000000, 000000, 000000, 000000, 010060, 005000, 037777, 037777, 000507
5046, 5006, 000404, -1, 177777, 000000, 177777, 5146, 000000

23/2/86 16⁰⁰ hrs Barlow a Chrin.
Is gas check done

16⁰⁵ IBM problem. Runs 24985-24987 written to tape.

19⁰⁰ Since Run 24984, Buffered ReadOut (as presented in JADE meeting) is used. Several tests were made, with very short max. record length (1000), with no NSO at all (no run summary!), as well as normal record length (6000) and NSO in use. Although the tests were complicated by bad beams, IBM fallout etc, it seems that buffered readout brings some improvement. With short record length, we don't dare to draw conclusions yet.
There is still a timing problem in the handshake NIO - M68k, which causes missing LAMs in the readout. This confuses dead time numbers somewhat. J.O. / E.E.

19²⁰ Leadglass power supply 6 Tripped., supplying distributor 10 & 11. Switched off and on again to reset.

21⁰⁰ Buffered Read Out seems to run without problems, we will leave it running over night.
Shiftcrew: Please make a note of JETC JDAS errors, if not 32, 33 (these are "normal")
J.O.

22⁴⁰ Checked standard histograms. The 'e⁺ timing test' histogram has changed and looks odd. Maybe the e⁺ timing expert (whoever they may be) should check. ← Checked signals probably scale bias to be readjusted.

3⁴⁰⁰ Naraka, fjeber
Gas OK, Waterleak somewhat less than yesterday

2.14 JDAS RO ERROR 74 WRONG LATI BRANCH 1 CRATE 1 BEAMPIPE CHAMBER
Noticed that on MOP terminal about 30% of the numbers at the bottom are different by 1 from the rest. Larry would have posted.
Do I panick right away? Decide to do nothing.
With the new run (25005) I boldly demanded new statistics. Now they are all equal again.

Muon Crate missing quite often
1, 5, 11, 1, 1, 11, 5, 5, 5, 11, 1, etc

3.20 Z-chamber trip
4.00 Message from Mark J: New filling not possible because of a problem with electron injection. So we keep the odd one.
6:15 Beam ready after a break starting 4¹⁵.

8:00 H. Mills, P. Ramcke on shift
IBM busy a lot due to JADEVIP
8:04 gas check o.k.
← It must be realised that to run with record length of 1000 words is not an option which can be seriously considered HM.

Beate inserted a cable so that hist 75 (E⁺ timing test 2) reappears in the histogram.

8⁴⁷ ~~Beampipe~~ Z-ch trip
9⁰⁰ -"- 09⁵⁰ - Z CH TRIP
New beams ready ~ 11⁰⁰. Not taking data - investigating LG problems
Beampipe chamber valve failure
12²³ LG problems solved
13²⁵ New beams
13⁵⁰ Everything trips
14⁰⁷ Z chamber trips

RON	DATE	START	STOP	AT RON START I⁺	AT RON START I⁻	DEAD TIME %	TIME sec	RECORDS IN	RECORDS OUT	ALL ×10⁶	T0 RES ×10⁶	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT 2 E_{LG}>6GeV	T_2 BIT 17 2T E_{4}>27R
24989	23.3.86	17^{28}	17^{38}	6.73	6.64	27.2	273	768	723	71	19	480	457	98	3
24990	"	17^{41}	18^{17}	6.53	6.45	25.6	1842	4621	2625	357	123	2954	3097	616	16
24991	"	18^{59}	19^{43}	10.21	10.08	28.9	2601	8002	5307	677	195	5016	5375	1302	38
24992	"	19^{43}	19^{50}	8.69	8.53	28.8	375	1188	779	98	28	714	794	195	38
24993	"	19^{54}	20^{07}	8,40	8,27	25,3	773	3033	1424	201	51	1409	1572	333	92
24994	"	20^{11}	20^{20}	7,67	7,48	23,3	534	~~4042~~ 1650	~~1850~~ 773	139	32	1028	1031	233	57
24995	"	20^{23}	20^{43}	7.40	7.20	22.0	1203	3514	2115	313	69	2235	2223	516	13
24996	"	20^{45}	21^{10}	6.95	6.76	19.0	921	2448	1316	240	45	1528	1720	293	7
24997	"														
24998	"	21^{03}	21^{13}	6.67	6.48	20.1	398	1098	609	104	21	697	743	147	4
24999	"	21^{10}	21^{17}	6.47	6.28	18.9	164	517	295	43	8	319	296	63	3
25000	"	21^{31}	22^{41}	10.28	9.94	26.2	2399	8002	5314	624	164	4986	5357	1322	39
25001	"	22^{42}	23^{27}	7.79	7.50	22.5	2690	8002	4900	699	157	5073	5360	1145	30
25002	"	23.28	0.02	6.76	6.48	20.2	1633	4669	2727	424	85	2949	3096	560	17
25003	24.3.86	1.08	1.46	10.67	10.30	28.6	2288	8002	5442	595	170	4678	5751	1005	43
25004	"	1.47	2.29	9.24	8.90	24.4	2516	8001	5160	655	160	4884	5620	1240	37
25005	"	2.29	3.15	7.93	7.61	21.2	2716	8001	4867	706	149	5094	5362	1186	36
25006	"	3.15	4.05	6.86	6.55	19.4	2946	8002	4541	765	148	5116	5471	1125	32
25007	"	4.05	4.14	5.94	5.66	16.0	572	1347	784	133	23	875	875	208	9
25008	"	6:15	7:26	10.55	9.58	26.3	2437	8001	5229	634	167	4852	5539	1184	56
25009	"	7.26	8:18	9.14	8.32	22.5	3080	8002	4976	802	261	4925	5607	1183	43
25010	"	8:18	9:07	7.77	7.01	20.9	2887	8002	4715	751	157	5058	5589	1036	32
25011	"	9:07	10:01	6.91	6.10	19.5	3001	8002	4643	780	152	5088	5475	1102	39
25012	"	10:01	10:22	5.55	5.28	18.6	465	1154	631	121	24	730	791	151	0
25013		12:24	12:31	7.79	6.79	22.2	391	1018	569	101	22	618	671	126	5
25014	"	13:29	14:22	10.01	9.52	24.4	2869	8001	4735	747	182	4945	5661	1145	37
25016	"	14.25	15.15	8.12	7.69	23.9	2850	8001	4768	742	177	4897	5505	1120	34
25017	"	15.27	16.16	6.76	5.93	20.2	2917	7822	4487	759	153	4876	5524	1100	37
25018	"	17:24	17:42	9.67	10.27	27.4	1178	3891	2595	306	84.1	2362	2723	610	22
25019	"								junk – pedestals only						
25020	"	17:50	18:37	8.76	9.33	24.4	2608	8002	5072	678	166	4824	5683	1218	31
25021	"	18:37	19:27	7.49	8.02	21.7	2748	8002	4709	715	155	4990	5745	1154	19
25022	"	19:28	20:10	6.43	6.92	18.9	2383	7676	4265	750	142	4955	4988	1028	29
25023									pedestals only						

PROCESSORS ON/OFF NSO	PROCESSORS ON/OFF NIP	PROCESSORS ON/OFF TOF	PROCESSORS ON/OFF FAMP	$\mathcal{L}L7$ 10^{30} cm^{-2}s^{-1}	Bhabha $\int L dt$ nb^{-1}	$\int L dt$ EXT. ENERGY	FBM/TAPE OUTPUT	AT RUN START ID μA	AT RUN START TOF V	ONLINE REJ SUM MIPROC T_2 %	ONLINE REJ NOLOSC T_1+T_2 %	Σ_{bhabha}	MH	E_{beam}	Magn. field −1746	Kalmus Trigger Y/N	REMARKS
ON	ON	ON	OFF	5.54	1.20	5442.75	IBM	0.4	1.2	47	43	21	3	17.5	−4935	N	
"	"	"	"	5.00	11.27	5454.02	3DAS49	0.4	1.2	53	45	198	4	"	"	"	Beams Lost
"	"	"	"	8.86	25.73	5479.75	IBM	0.4	2.2	51	35	452	9	"	4884	N	
"	"	"	"	8,00	3,93	5483,68	"	0.3	1.3	47	36	69	2	"	"	N	
"	"	"	"	5,87	5,24	5488,92	"	0,35	1,7	53	39	92	2	"	"	N	
"	"	"	"	6.68	3,59	5492,51	"	0.15	1.3	47	42	63	0	"	"	N	
"	"	"	"	5.63	8.60	5501.11	"	0,15	1,2	50	42	151	4	"	"	"	Vtx ch. rec. immediately before Tek in readout.
"	"	"	"	3.43	3.02	5504.13	"	0.3	1.1	53	48	53	1	"	"	"	
								0,2	1.1								B ped erratic only
"	"	"	"	5.17	2.46 ~~2.57~~	5506.58	"	0,2	1,05	53	46	43	2	"	"	"	
"	"	"	"	4.70	0.91	5507.49	"	"	"	46	46	16	0	"	"	"	Beams Dumped
"	"	"	"	9.35	24.14	5531.63	"	0.5	2.3	50	35	424	4	"	"	"	
"	"	"	"	6.86	18.33	5549.96	"	0.3	1.7	52	40	322	8	"	"	"	
"	"	"	"	5.50	11.21	5561.17	"	0.2	1.4	57	43	197	3	"	"	"	beams dumped
"	"	"	"	9.91	28.35	5589.52	"	0.5	2.4	48	33	498	7	"	"	"	1 FDAS ERROR!
"	"	"	"	8.39	23.28	5612.80	"	0.4	1.7	50	37	409	5	"	"	"	
"	"	"	"	7.14	20.50	5633.30	"	0.3	1.4	52	41	360	7	"	"	"	
"	"	"	"	6.47	18.73	5652.03	"	0.2	1.3	53	45	329	3	"	"	"	
"	"	"	"	5.09	3.42	5655.45	"	0.2	1.2	54	43	60	1	"	"	"	beams dumped
"	"	"	"	8.14	21.01	5676.46	"	0.6	2.0	50	36	369	9	"	"	"	
"	"	"	"	6.41	19.64	5696.10	"	0.3	1.6	50	39	345	11	"	"	"	DT in data to 2nd beam
"	"	"	"	4.99	17.99	5714.09	"	0.2	1.4	54	43	316	7	"	"	"	
"	"	"	"	4.52	16.04	5730.13	"	0,2	1.0	54	45	281	4	"	"	"	
"	"	"	"	3.83	1.88	5732.01	"	0,2	0.85	53	47	33	1	"	"	"	beams dumped
"	"	"	"	3.26	1.65	5733.66	"	0,2	1.00	51	47	29	0				beams dump
"	"	"	"	5.62	17.70	5751.36		0,4	1.8	53	42	311	1	"	−4934	N	
"	"	"	"	5.69	17.53	5768,88	"	0,3	1.4	50	42	308	3	"	"	N	
"	"	"	"	4.81	16.23	5785.12	"	0,7	1.3	53	44	285	6	"	"	N	beams dumped
"	"	"	"	8.55	10.87	5795.99	"	0.4	1.9	50	35	191	1	"	"	N	stopped for test
"	"	"	"	7.32	21.69	5817.68	"	0.4	1.7	51	38	381	8	"	"	N	
"	"	"	"	5.98	19.41	5837.09	"	0.25	1.25	51	43	341	8	"	"	N	
"	"	"	"	4.97	15.71	5852.80	"	0.2	1.1	52	46	276	8	"	"	N	beams dumped
																	Vtx chamb. processor error

run 25015 lost due to VTX processors not responding
14:24 Z chamber tripped. & again at 14:32
14:36 all except Z chamber trip
Previous test Vn of NEODAK is now the default

16:00 Weber & Greenshaw
17:50 Gas check done, all Cooks Ok.
18:55 Beam-pipe chamber error, pulse area σ dev. > 80%: 2. To a non-expert the pulse area histograms looked reasonable. How about having some hard copies of "normal" histograms next to the PC so that non-experts can see if they have changed drastically? [Later - found "standard hists" on PC!]
19:30 FAMP crate cooling fan made a few nasty noises - sounded like rich bearings - then settled down again.
21:02 Run 25023 could not be started due to corrupted data in Vtx chamb. processors. Processors reloaded, run 25024 started Ok.
21:40 Z-chamber trips again - alone. Perhaps a threshold can be raised? Seems unlikely that the Z chamber is genuinely in danger when neither the Jet nor vertex chambers trip, and at the moment it keeps disturbing my sleep! "Sort a threshold; it's an alarm from the HT power supply; maybe spurious (eg mains spikes); wont we can do about it
21:45 Vtx-chamber processors must be reloaded again. This time got additional message Steam
"Y. ISMPC bad data command = 127 data: W 23 0" on system console.
27:27 Vtx-chamber processors reloaded (Note run number increasing by 2 due to abortive attempts to start the unbalanced runs - all of which stopped due to vtx chamber processor errors)

0:00 Barton, Kuhlen on shift
0:30 Gas check done - Ok. Magnet leak suspected - still dropping away.
1:50 run 25034 no data
2:03 Chambers trip frequently, ID anode current high for this beam current. Discussed problem with PHR. They know the machine is bad at the moment and inspect some steering magnets
3:15 run 25035 next run
5:00 New fill. Conditions very bad. Frequent soft Trips due to high TOF rate.
VTx chamber processor seems to require reloading at the start of every run.
6:29 NORD hangs. No apparent reason. Master-Clear and restart

8:00 Magnussen & Metcalfe on shift
8:22 Gas check done

9:45 Muon Crate Missing 13
9:50 Z ch trip
The "SPY" terminal had "sparked" again. Turned off/on - works again.
12:00 VTX gas system: valve failure
12:25 " "
Discovered that the Nord-50 was not histogramming inner detector data & a few other ports for filtered out events - not the desired effect so this is fixed. Disc backed up. FAFF
13:25 IBM Link Error Run stopped
13:55 VTX Alarm, BP-Alarm Valve error Zu
15:30 Magnet setting Module repaired

16:00 Cartwright & Chin (20:00 Walker). 16:10 Gas check OK
16:05 TOF spike; JETC & VTXC soft trip; z-ch trip
16:18 All 3 ch trip; beam Lost
~ 18:15 μ crate 10 always missing, Jan goes off to give it the 'indian rubber treatment'
18:28 VXC, JETC soft trip 19:30 2 z-ch trips, VXC valve failure. (again 10 min late)
20:00 " "
20:24 Walker replaces Chin.
20:25 Another VXC valve failure.
20:28 z-chamber trip. + again 6 mins. later + 4 mins. after that + 4 mins after that
Conclusion makes → + 5 mins. later VTX chamber trip + 2 mins later (z-ch trip)
→ + nothing more till run finished @ 21:02!

21:09 z-chamber trip.
22:01 Vertex-chamber trip + 18 mins later.
22:20 z-chamber trip + 2 mins later
22:29 Vertex-ch. trip. valve failures
22:43 Gas system failure in vtx-ch. + 12 mins later + 1 min later
23:56 " " " (vertex chamber) + z-ch + anything else.

26/03/86
0:00 U. Dastl & C. Bowdery on shift
0:10 gas check done high H_2O content on #4
NORD found to have STOP light on and at level 14. (probably been dead a few minutes) [I was responding to a 'cry' from the IBM-PC]
Reloaded okay.

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 (x 10^6)	T_0 REJ (x 10^6)	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT 2 (E_{Lc}>5 GeV)	T_2 BIT 17 (2T. E_{tr} ≥ 2 Tr)
25024	24/3/86	20h3	21h44	10.04	10.30	26.4	2456	8002	5214	638	169	4882	5535	1320	42
25025	"							→							
25026	"	21 46	22 37	8.66	8.90	23.3	2614	8002	4920	680	158	5023	5458	1218	27
25028	"	22 35	23 23	7.62	7.65	20.5	2890	8001	4721	752	154	5091	5404	1199	30
25030	"	23 27	007	6.37	6.58	20.9	1807	5166	2936	496	103	3260	3450	728	21
25031	25/3/86	008	021	5.70	5.90	19.2	739	2023	1119	192	36	1305	1321	302	6
25032	"	055	149	9.85	9.91	28.0	2440	8002	4875	634	177	4744	5471	1123	39
25034	"	151	240	7.58	7.58	30.0	2245	7628	4331	584	175	4195	5072	972	28
25036	"	454	610	9.58	10.23	22.6	2660	8002	4861	692	157	5176	5251	1017	33
25037	"	612	629	6.96	6.77	22.7		2075	1251						
25038	"	636	732	6.52	6.33	19.7	2836	7888	4407	738	146	5069	5114	1031	31
25039	"	820	852	9.63	10.21	18.7	1655	4331	2359	430	80	2801	2869	545	17
25040	"	922	943	9.21	8.72	21.8	1062	3179	1935	276	60	2018	2083	485	17
25041	"	945	1036	8.59	8.11	19.8	2867	8002	4712	745	147	5095	5347	1155	33
25042	"	1038	1124	7.18	6.49	17.9	2588	6903	3781	673	120	4498	4462	957	24
25043	"	1127	1216	6.31	5.67	17.0	2914	7328	3851	758	129	4758	4818	1044	11
25044	"	1219	1231	5.56	4.95	15.2	698	1676	875	181	27	1077	1128	232	1
25045	"	1306	1325	9.67	8.78	21.2	1053	3226	2048	274	58	2092	2048	574	15
25046	"	1329	1428	8.98	8.12	25.4	3055	8002	4803	794	231	5096	5273	1311	40
25047	"	1429	1502	7.45	6.65	19.0	1958	5417	3174	510	97	3486	3541	849	15
25048	"	1504	1521	6.71	5.94	18.4	937	2551	1434	244	45	1627	1675	371	11
25049	"	1603	1619	8.61	8.58	22.2	507	1438	884	132	29	897	985	212	4
25050	"	1800	1853	9.05	9.04	19.8	2945	8001	4593	766	152	4938	5673	1154	21
25051	"	1853	1957	7.71	7.70	17.4	3208	8004	4408	835	145	5134	5369	1060	24
25052	"	1957	2109	6.47	6.40	16.3	3587	8002	4472	933	157	4951	5907	1337	27
25053	"	2156	2249	7.96	10.36	23.6	2553	8002	5164	664	156	4922	5406	1300	42
25054	"	2250	2336	8.17	8.64	20.4	2774	8002	4401	722	147	5167	5212	1265	25
25055								Run Summary lost							
25056	26/3/86	0:12	1:02	6.26	6.68	17.7	2512	6338	3533	653	115	4136	4184	914	24
25057	"	1:32	1:33	10.25	10.63	27.9	15	98	70	39	11	54	30	18	0
25058	"	1:40	2:29	9.97	10.35	23.4	2640	8001	5014	686	160	4932	5632	1216	35
25059	"	2:29	3:18	8.51	8.83	23.3	2759	8001	4924	717	167	5192	5217	1312	31
25060	"	3:18	4:06	7.23	7.52	19.5	2846	8001	4622	741	145	5096	5299	1212	38
25061	"	4:07	4:32	6.22	6.49	19.3	1320	3543	2011	343	66	2246	2326	495	10

NSD	MIP	TOF	FAMP	<L> (10^{30} cm^{-2} s^{-1})	SHARKA $\int L\,dt$ (nb^{-1})	$\int L\,dt$ AT THIS ENERGY	O/P (EDM TAPE)	AT RUN START IO (μA)	AT RUN START TOF (V)	ONLINE REJ. SUM MIROC T_2 (%)	ONLINE REJ. NORDTO T_1+T_2 (%)	Σ BHA BHA	M.H	E_{cm}	MAG. FIELD (-1.2 G)	REV. TRIG.	VERY BRIEF REMARKS
ON	ON	ON	OFF	8.27	25.90	5878.70	19M	0.4	2.0	51	36	455	7	17.500	4835	N	
						→											No data as the check processor data corrupted.
"	"	"	"	6.93	21.69	5900.39	"	0.35	1.5	52	40	381	11	"	"	N	
"	"	"	"	5.67	18.16	5918.55	"	0.3	1.25	52	43	219	9	"	"	N	
"	"	"	"	4.53	10.59	5929.14	"	0.2	1.0	52	45	186	3	"	"	N	
"	"	"	"	3.77	2.79	5931.93	"	0.2	1.1	52	46	54	0	"	"	N	Beams dumped
"	"	"	"	6.51	16.05	5947.98	"	0.4	2.0	49	41	282	5	"	"	N	
"	"	"	"	5.59	15.37	6003.35	"	1.2	1.8	42	45	270	4	"	"	N	Beams lost
"	"	"	"	4.97	14.01	6017.36	"	0.5	2.0	53	41	246	5	"	"	"	-
"	"	"	"	4.74	3.76	6021.12	"	0.3	1.5	54	39			"	"	"	NORD crash. No Run Summary.
"	"	"	"	4.02	12.90	6034.02	"	0.3	1.0	52	46	226	4	"	"	"	Beams Dumped.
"	"	"	"	4.58	10.08	6044.10	"	0.5	2.0	53	47	177	7	17501	4832	N	Beams Dumped
"	"	"	"	7.38	9.45	6053.55	"	0.35	1.5	51	40	166	0	17500	4832	N	
"	"	"	"	6.37	20.66	6074.21	"	0.3	1.3	51	42	363	5	17500	4834	N	
"	"	"	"	5.12	17.91	6089.12	"	0.2	1.0	52	47	262	1	"	"	N	Stopped to change HSPY
"	"	"	"	4.19	14.23	6103.35	"	0.2	0.75	53	49	256	9	"	"	N	stopped to test FADC
"	"	"	"	3.82	3.53	6106.88	"	0.15	0.7	53	50	62	0	17501	"	N	Beams Dumped
"	"	"	"	9.22	11.15	6118.03	"	0.3	1.3	51	38	196	2	17500	4841	N	ZDM Error
"	"	"	"	6.66	24.19	6102.22 / 6142.22	"	0.2	1.3	52	41	425	7	"	"	N	
"	"	"	"	6.10	14.46	6116.68	"	0.2	1.0	52	43	254	3	17501	4842	N	
"	"	"	"	5.39	5.92	6122.60	"	0.2	0.9	51	46	104	3	"	4843	N	
"	"	"	"	7.88	3.93	6127.53	"	0.3	1.2	52	40	69	2	17500	4844	"	Beams Lost
"	"	"	"	6.47	20.04	6147.57	"	0.3	1.2	53	44	331	7	"	"	"	
"	"	"	"	4.70	15.71	6163.28	"	0.2	0.9	53	47	276	5	17501	"	"	
"	"	"	"	2.31	7.97	6171.25	"	0.2	0.7	54	50	140	2	"	"	"	Beams dumped
"	"	"	"	8.78	26.64	6197.89	"	0.4	1.5	50	37	468	11	17.500	"	"	
"	"	"	"	7.44	22.54	6220.43 / 6219.43	"	0.2	1.1	52	41	396	10	"	"	"	
						?		0.2	0.9								NORD hang up
"	"	"	"	5.31	16.74	6236.17	"	0.2	0.8	54	46	294	3	17501	4843	N	Beams dumped
"	"	"	"	10.56	0.46	6236.63	"	0.4	1.5	10	34	8	0	"	"	"	FADC hang up
"	"	"	"	7.29	22.77	6259.40	"	0.4	1.5	51	39	400	5	17500	4844	"	Luminosity dipped
"	"	"	"	7.90	24.42	6283.82	"	0.2	1.2	53	40	429	8	"	"	"	
"	"	"	"	6.46	20.89	6304.71	"	0.2	1.0	52	44	367	6	17501	4843	"	
"	"	"	"	4.58	6.78	6311.49	"	0.2	0.85	52	45	119	3	"	4844	"	beams dumped

0:30 IBM PC died while trying to report some error. (I would recommend a posthumous award for bravery....)
Switched off and on again. Restarted okay but NORD has not reset colour-TV flashing message.

00:45 All 3 chambers tripped (hard). Also soon after VTXC valve failure alarm.
New fill at 1:00.

Shift record (missing μ crates)

1	2	3	4	5	6	7	8	9	10	11	12	13	14
III										1	11	1					
													11		

There are a number of muon crates going missing for 1 event.
Ole YSPY message about an FADC. Let's see if it repeats.
⇒ The hardware seems to be restless tonight. They say there are spikes on the mains supply.....

00:55 Third VTXC valve failure.
1:00 FAMP fan has become rather noisy. If it does not cease sounding like a diesel engine, I may switch it off.
1:15 I decided to switch ~~FAMP off~~ before fan gets damaged.

1:40 FADC missing LAMs required reload from MOP terminal to clear readout hang up.

Howard ‖ Looking at the number of ID hits drawn on the display and the number printed out, it seems to me that the printed number is about twice the number on the display. Is it counting mirror hits?
— by default you only get ½ the hits displayed. Nothing to do with mirrors HFF!

2:20 Luminosity suddenly dropped to 3×10^{30} from about 9×10^{30} or more. (PKR are now restoring the luminosity for all expts)
2:40 $\mathcal{L}_{corr} = 11.71\times10^{30}\,cm^{-2}s^{-1}$ at last! CELLO has $13\times10^{30}\,cm^{-2}s^{-1}$

2:55 YSPY reports error in T3 input ST 21 GP 4 Looks okay though.
3:00 VTXC valve failure.
3:12 2 z chamber hard trips
3:46 z chamber hard trip. (Can't we afford a bigger capacitor in the HT box?)
3:50 " " " "
4:30 frequent VTX-chamber gas alarms. There is something wrong with the system both lamps for 'failure' and 'ok' went on (red + green lamps)
6:00 takes many (~6) attempts to reset gas failure or does one have to wait before the failure can be reset?
6:05 Again the luminosity falls to about 3×10^{30}.
6:10 Recovering again.
6:22 $\mathcal{L} = 12.77\times10^{30}\,cm^{-2}s^{-1}$ Too good to be true with 6.4mA > 7.1mA ?

JADE ONLINE EVENT DISPLAY

02:42:20 26/03/1986

EXPT 27 RUN 25859 EV 1853

ACT Tlacpt Tipost TZbits TZc
171 004002 040401 17 100211

Fimid -4044 G Beam 17.500 GeV
Current e+ 8.17 mA e- 8.48 mA

HADRONIC EVENT* MULT.=12

Z-V N-50 9 (3) & 0 (-3)
No. ID tracks found = 12

Length=	5575	
IDHITS=	677	
ELQTOT=	2564	
MUHITS=	46	
LGCVL=	2528	
LGCAPS=	0	36

$e^+e^- \to q\bar{q}g$

599

They are still there! Long live the gluon and QCD

Long live the photon and QED

$e^+e^- \to e^+e^-\gamma$ ↳ e^+e^-

Run	Date	Start	Stop	I^+	I^-	Dead time %	Time sec	Rec in	Rec out	NI $\times 10^6$	T_0 Rate $\times 10^3$	T_1 Rate sum	T_2 Rate sum	T_1 3:12 $E_4 > 6$ GeV	T_2 B.17 $27 E_4 \geq 27$ R
25062	26/03	5.20	6.28	8.62	7.93	20.0	2850	8002	4793	741	148	5129	5407	1258	240
25063	"	6.29	7.22	6.88	6.28	18.6	2703	7284	4412	703	130	4636	4972	1136	27
25064	"	8.04	8.46	10,32	10,84	21,6	2494	8001	5262	649	160	4960	5511	1419	34
25065	"	8.46	9.26	8.85	9.34	23.4	1988	6099	3836	517	121	3847	4186	1024	21
25066	"	9.25	10.13	7.79	7.77	21.1	2829	8002	4750	736	155	5106	5372	1260	36
25067	"	10.13	11:05	6.74	6.51	19.2	3079	8002	4494	800	153	5165	5506	1215	26
25068	"	11:05	11,46	5.86	5.82	17,9	635	1623	863	165	29	1037	1109	222	7
25069	"	11,44	12,31	9,03	8,97	20,9	2817	8001	4919	732	153	5114	5294	1253	33
25070	"	12:31	13:21	7.71	7.65	19.8	2927	8002	4669	761	150	5089	5304	1200	24
25071	"	13:21	13:56	6.60	6.51	18.0	2044	5256	2916	532	95	3398	3448	792	23
25073	"	14,43	15,29	10,10	10,04	23,3	2592	8002	5016	674	157	5074	5311	1348	37
25074	"							No events (CVTX process problem)							
25075	"	1531	1615	8.61	8,56	21.9	2662	8001	4909	692	159	5141	5063	1294	30
25076	"	1618	1648	7.34	7.30	18.8	1780	5086	3025	463	87	3379	3223	826	12
25077	"	1652	1733	6.62	6.58	17.8	2180	5994	3415	567	101	3936	3892	894	17
25078	"	1843	1929	10.13	10.02	21.7	2565	8002	5098	667	145	5067	5336	1264	33
25079	"	1920	2016	8,03	7,63	18,8	2806	8001	4785	731	138	5155	5355	1247	34
25080	"	2017	21:07	6.44	6.03	18.0	2982	8002	4447	775	139	5248	5262	1139	27
25081	"	21:07	21:46	6,09	5,67	16,2	2228	5800	3096	579	94	3697	3821	775	14
25082	"	22:12	22:24	9,72	9,28	20,3	712	2354	1484	185	38	1480	1537	369	9
25083	"	22:27	22:42	9,25	8,82	18,0	884	2859	1762	230	44	1835	1788	486	12
25084	"	22:45	23:03	8,73	8,32	18,6	1086	3450	2168	283	53	2249	2176	549	11
25085	"	23:06	23:12	8,15	8,07	16,9	1358	572	342	152	49	851	845	209	8
25086	"	23:19	23:36	7.81	7.41	33.6	1816	572	242	146	49	891	892	209	2
25087	"	23:36	23:42	7.82	7.17	33.3	652	1544	912	170	57	989	939	246	2
25088	"	23:45	0:33	7.23	6.84	16.2	2857	8002	4630	742	120	5268	5207	1287	28
25089	27/03	0:33	1:20	6.29	5.92	15.6	2750	8002	4336	715	111	5434	4692	1738	19
25090	"	1:20	1:31	5.56	5.21	14.4	627	1681	870	163	23	1104	1071	221	3
25091	"	2:10	2:54	8.82	10.50	13.6	2577	8002	5230	670	131	5160	5185	1278	35
25092	"	2:57	3:40	7.55	9.17	17.3	2720	8002	4856	707	122	5253	5233	1247	31
25093	"	3:40	4:33	6.47	7.95	16.2	2899	8002	4540	754	122	5191	5124	1216	32
25094	"	4:33	4:49	5.49	6.87	14.3	900	2487	1291	234	34	1535	1559	325	8
25095	"	5:30	6:47	8.63	9.24	15.4	2973	8002	4502	773	119	5182	5334	1126	23
25096	"	6:47	7:54	6.35	7.33	15.3	3022	8002	4382	786	121	5253	5156	1222	20

NSD	DIP	TOF	FADP	$\langle L \rangle$ 10^{30} cm^{-2} s^{-1}	Shot Stat. μb^{-1}	SLAC Exp	IBM Type	Shot TD μs	Shot TOF V	Reject ΣDIP T_2 %	Reject NSD $T_1 T_2$ %	Σ_{BHB}	nh	E_{Beam}	B Gauss	Real Time	Remark
ON	ON	ON	OFF	7.26	24.08	6335.57	IBM	0.3	1.5	53	41	423	5	17.500	4843	"	
"	"	"	"	5.67	16.91	6352.48	"	0.2	1.0	53	45	287	7	"	4844	"	beams dumped
"	"	"	"	10.07	28.58	6381.06	"	0.4	1.5	51	35	502	9	17.501	4844	N	
"	"	"	"	7.89	18.79	6399.85	"	0.35	1.5	52	39	330	8	"	4843	N	
"	"	"	"	6.51	20.72	6420.57	"	0.2	1.5	53	42	364	5	"	4844	N	TOF TDC139 died in this run.
"	"	"	"	4.69	17.08	6437.65	"	0.2	1.0	54	45	300	5	"	4844	N	
"	"	"	"	4.86	2.62	6440.27	"	0.2	1.0	54	49	46	4	"	"	N	beams dumped.
"	"	"	"	7.99	25.11	6465.38	"	0.4	1.5	51	40	441	11	17501	4844	N	
"	"	"	"	6.38	19.18	6484.56	"	0.2	1.0	52	43	337	6	"	"	N	
"	"	"	"	4.88	12.81	6497.37	"	0.2	0.8	53	46	225	6	"	"	N	beams dumped 25072 is running
"	"	"	"	8.24	26.93	6524.30	"			51	38	463	8	17501	4845	N	
								"	0.4	1.25						"	TOF TDC139 discovered dead!
"	"	"	"	8.03	24.48	6548.78	"	"	"	50	40	430	11	"	4844	"	
"	"	"	"	6.57	14.80	6563.58	"	0.25	1.0	53	42	260	5	"	"	"	Run stopped for testing.
"	"	"	"	5.50	14.86	6578.44	"	"	"	"	45	261	3	"	"	"	Beams dumped
"	"	"	"	9.41	23.11	6601.55	"	0.4	1.7	51	37	476	5	17.500	4843	"	
"	"	"	"	6.98	22.20	6623.75	"	0.3	1.4	52	41	390	13	"	4841	"	
"	"	"	"	5.52	16.47	6640.22	"	0.25	1.0	54	46	323	10	"	4842	"	
"	"	"	"	4.58	19.01	6659.23	"	0.20	0.85	52	48	211	3	"	4841	"	Beams dumped.
"	"	"	"	9.11	7.46	6657.69	"	0.35	1.3	50	38	131	3	"	4841	"	
"	"	"	"	8.82	8.65	6668.34	"	"	"	49	40	152	8	"	4840	"	
"	"	"	"	8.37	10.53	6678.87	"	0.3	1.2	51	38	185	3	"	4841	"	
"	"	"	"	7.38	1.31	6686.26	"	0.25	1.05					"	4840	"	Disk Crash by logon!
"	"	"	"	5.57	3.19	6689.44	"	0.20	1.05	44	44	56	1	"	4841	"	VMS - not hang-up
"	"	"	"	5.19	3.38	6692.82	"	0.2	1.00	49	45	78	0	17.501	4840	"	
"	"	"	"	5.89	18.05	6710.87	"	0.20	1.00	54	44	317	7	17.500	4841	"	
"	"	"	"	4.77	14.31	6725.78	"	0.20	0.90	53	47	262	11	"	4841	"	
"	"	"	"	4.32	3.25	6729.03	"	0.20	0.80	53	50	57	2	17.501	4841	"	Beams dumped
"	"	"	"	8.79	24.99	6754.02	"	0.30	1.40	52	36	439	8	17.500	4840	"	
"	"	"	"	7.47	23.00	6777.02	"	0.25	1.15	53	41	404	8	17.500	4841	"	
"	"	"	"	5.85	20.49	6797.51	"	0.20	0.95	52	45	360	6	17.500	4840	"	
"	"	"	"	5.46	4.84	6802.35	"	0.20	0.80	51	48	85	2	17.500	4841	"	beams dumped
"	"	"	"	5.43	21.24	6823.59	"	0.35	1.30	53	45	373	7	17.501	4840	"	
"	"	"	"	5.51	18.90	6842.49	"	0.25	0.90	54	47	332	9	17.500	4841	"	

8⁰⁰ Pieckmann + Hill on shift.
8³⁰ Gas check done. Flow meter on the oxygen monitor is oscillating wildly. Will call expert. (Channel not yet changed)
RCH says this is normal. All is OK.

9¹⁰ Z-ch trip
9⁵⁰ Z ch trip
10²⁰ Z ch trip. + BP ch valve failure.
&
New JDAS Manual installed.
12⁵⁰ Zch trip.
14:45 Run ~~#####~~ #25072 is missing (empty anyway, no connection to IBM could be established) (probably wrong link program !!)

15:56 Everything trips

15:30 Run #25074 missing (VTX Processors not loaded) ~~run~~ empty
15⁴⁵ Empty channel found in TOF TDC II channel 40
16⁰⁰ Elsen / Olsson
17.00 Gasalarm Beampipe TOF TDC 40 fixed.
17.05 trip of all Sectors Discriminator was defective
Valve failure alarm on VTXC - IBMPC happened several times in this shift.
IBM-PC now complains about 40% deviation in Silr-mgn. There is no obvious way to find what is wrong! CJ tried subtracting stand. histograms, looking at del ons). Decide that this is low statistics, since beams are low.
21⁵ Z-chamber trip, reset OK. Many Z-chamber trips this shift!
23:20 After disc crash: have to go back to older version of ZDES etc. ⇒ deadtime >30% again
System disc is now temporary disc from 22.3.86. Buffered readout has been reinstalled, as of yesterdays version.

27/03/86

0.00 Zimmer + Kuhlen on shift
0.30 Gas check o.k.
2:10 Muon crate 13 (and 14) needs a reset ~~on~~ (white button at crate) after run start (3 ×)
2:11 Z-Chamber Trip
2:44 "
3:10 VTXC Valve failure (green button is touchwise pushed)

3:14 IBM-PC died → switching OFF and ON helps
3:44 Z-ch Trip
3:46 VTXC Valve failure
3:49 Z-ch Trip
4.00 everything trips + valve failure
4:08 Z-ch trip
5:35 pt ch. + VTXC down
7:10 VTXC u. Z chamber alarms
7:50 Z-ch trip

8⁰⁰ Becker, Mills

8¹⁰ Gas check done o.k.
8²⁰ Missing HATT DETC point 701
8³¹ Beams dropped. Copying BACKUP D ⇒ SYSTEM.
10³⁰ BPch/Zch both trip
11⁰⁵ All trip - high background - cannot switch on for ½ hr or so ---
11⁴⁰ Vacuum leck in NW - in the ring. Restart ~ 14.00 Magnet ⟹ 500A
13²⁹ Raise magnet
YCLRTV changed - message "PICKUP? EVENT" instead of "LC barrel >250 hits".
Test version of N50DAR tries to detect these (& hence not as Mhadrons).
14⁰⁵ New beams
14⁴⁰ All tripped
Run 25102 lost due to VTX processors. Hikado swaps processors 1&2. branch 1 cr 1

15¹² Temperature Alarm - call MK3 Beampipe chamber Valve failure
Run 25104 lost due to VTX processors branch 1 crate 2 - informed Hikado
16⁰⁰ M. Kuhlen, V. Schneekloth
16¹⁵ gas check done, beams lost, short break
17¹⁵ start, RUN 25106
18⁰⁰ runs 25107 and 25108 don't exist, VTXC Processor can't automatically started, reloaded by hand
18⁴⁴ run 25110 doesn't exist
21⁰⁰ FAMP switched on for 2 last runs, all OK. Power supply needs replacement however, fan is increasingly noisy. Leave off until further!
Disc copy System ⟶ Temporary backup made

a spare processor lies on the PC table, in case of serious trouble, change the processor in crate 2. (1+1)

Frohe Ostern! J.O.

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME %	TIME sec	REC IN	REC 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 $2T \cdot E_{LG} \geq 2$ TR
25097	27/03	7.55	8.31	5.17	6.08	14.6	2048	5235	2749	534	78	3503	3362	498	18
25098	"	9.09	9.56	10.30	10.46	21.3	2610	8001	5071	679	144	5000	5432	1291	34
25099	"	9:57	10:47	8.40	8.19	20.0	2781	8002	4764	723	144	5003	5369	1156	29
25100	"	10:48	11:32	7:19	7.13	17.9	1036	2941	1645	267	48	1845	1937	412	10
25101	"	14:07	14:52	9:82	10.03	23.9	2479	8002	5032	645	154	4737	5228	1255	32
25103	"	15:00	15:46	8.21	8.41	20.5	2706	8002	4946	704	144	5050	5464	1255	24
25105	"	15:47	16:04	7.02	7.16	20.0	108	429	276	28	5	276	205	81	7
25106	"	17^{15}	17^{56}	10.36	9.52	21.7	2444	8002	5373	636	138	4871	5440	1296	25
25109	"	17 59	18 42	8.92	8.13	19.4	2585	8002	5165	673	130	4979	5472	1264	25
25111	"	18 44	19 06	7.69	6.95	18.0	1274	3748	2237	332	60	2411	2463	586	16
25113	"	19^{11}	19 45	7.10	7.09	16.4	1880	5295	3099	489	80	3369	3538	798	15
25114	"	19 48	20^{49}	6.40	5.72	16.7	3084	8002	4369	802	134	5062	5530	1092	30
25116	"	20^{50}	21^{01}	5.45	4.82	14.4	604	1568	804	157	22	1002	1076	216	1
25118	1.4.86	Cosmic run													
25119	2.4.86	4:08 5^{07}	4:58			16.3	3074	8002	5061	~~5073~~ 4784	127	5013	5673	1074	39
25121	"	~~7.26~~	~~6.00~~	7.26	6.24	14.2	3340	8002	4608	869	123	5054	5678	940	34
25123		6:02	6:53	5.45	4.66	11.3	2865	6240	3794	745	84	3989	4466	618	27
25124	"	stopped during pedestals VTX - pressure cannot be reached													
25125	"	"													
25126	"	8^{12}	8^{55}	9.87	10.10	20.5	2538	8002	5785	660	134	4989	5432	1185	41
25127	"	9^{00}	9^{54}	8.29	8.22	17.1	2942	8002	4872	765	130	5000	5754	1073	31
25128	"	9^{57}	10^{53}	7.15	7.09	15.0	3167	8002	4541	822	123	5055	5658	1061	30
25129	"	10^{58}	11^{47}	6.05	5.99	13.8	3021	7408	4085	786	108	4690	5067	927	31
25130	"	12^{33}	13^{09}	8.73	9.73	17.4	2142	6171	3762	557	97	3883	4284	912	31
25131	"	14^{09}	14^{57}	7.96	8.68	17.1	2847	8002	4805	740	126	5126	5480	1230	40
25132	stopped during pedestals taking														
25133	"	14^{59}	15^{51}	7.21	7.90	15.2	3059	8002	4505	795	121	5119	5562	1117	27
25134	"	15:52	16:50	6.21	6.84	13.6	3272	8002	4461	856	116	5116	5559	974	26
25135	"	16:52	17:25	5.31	5.90	12.7	1952	4495	2322	508	64	2851	3242	537	22
25136	"	18:17	18:46	8.94	10.13	19.0	1759	5379	3393	457	87	3454	3614	903	25
25137	"	19:08	20:05	7.51	8.58	16.5	2891	8002	4972	752	124	5135	5358	1168	34
25138	"	20:08	21:07	6.10	7.17	14.6	3181	8002	4755	827	121	5058	5574	1104	28
25139	"	21:09	21:15	5.17	6.11	14.2	358	840	517	93	13	606	603	114	0

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	$\langle L \rangle$ 10^{30} cm^{-2} s^{-1}	BHABHA $\sqrt{Ldt}$ nb^{-1}	$\sqrt{Ldt}$ EXP. ENERGY nb^{-1}	IBM/TAPE OUTPUT	AT RUN START ID μA	AT RUN START TOF V	ON LINE REJ SUM MIPROC T_1/%	ON LINE REJ NORD-50 T_0 T_2 %	Σ BHABHA	MH	E_{beam}	MAGN FIELD	Reel TU.	
ON	ON	ON	OFF	4.41	11.50	6853.99	IBM	0.20	0.70	55	49	202	5	17.5	4841	N	beams dumped
"	"	"	"	8.17	24.65	6878.64	"	0.40	1.60	51	38	433	9	"	4838	N	
"	"	"	"	5.70	18.22	6896.86	"	0.25	1.20	52	42	320	6	"	4838	"	
"	"	"	"	6.05	6.77	6903.63	"	0.20	1.00	50	46	119	3	"	"	"	beams slowly lost!
"	"	"	"	8.88	25.16	6928.79	"	0.40	2.00	46	39	442	13	"	4841	N	
"	"	"	"	6.88	22.71	6951.50	"	0.30	1.30	52	39	398	5	"	4840	"	
"	"	"	"	6.34	108	6952.58	"	0.4	1.30	39	38	19	0	"	4844	"	beams lost
"	"	"	"	9.87	24.42	6977.00	"	0.4	1.8	51	34	429	13	"	4850	N	runs 25107/25108 don't exist
"	"	"	"	8.12	22.20	6999.20	"	0.4	1.4	50	52	390	6	"	"	N	run 25110 missing
"	"	"	"	6.64	9.39	7008.59	"	0.3	1.2	52	42	165	3	"	"	N	25112 "
"	"	"	"	5.75	12.92	7021.51	"	0.3	1.1	51	43	227	3	"	"	N	
"	"	"	ON	4.43	13.95	7025.46	"	0.2	1.0	52	47	245	5	"	"	N	run 25115 missing
"	"	"	"	3.54	2.39	7027.85	"	0.2	0.8	53	50	42	0	"	"	N	beams dumped
							IBM	~~0.2~~	~~2.5~~								
"	"	"	OFF	5.54	18.16	7046.01	"	0.2	2.5	53	38	379	5	17.501	4853	N	run 25120 missing
"	"	"	"	4.28	17.25	7063.26	"	0.2	2.0	54	44	303	4	17.500	4853	N	run 25122 missing
"	"	"	"	2.69	8.71	7071.97	"	0.2	1.2	54	50	153	1	17.500	4853	N	beams dumped
								0.4	1.7					17.501		N	
"	"	"	"	8.82	24.31	7096.28	"	0.4	1.7	51	36	427	5	17.501	4853	N	
"	"	"	"	5.40	18.56	7114.84	"	0.3	1.4	53	40	326	5	17.500	4854	N	
"	"	"	"	4.99	17.99	7132.83	"	0.2	1.1	54	45	316	5	17.500	4856	N	
"	"	"	"	4.42	15.20	7148.03	"	0.2	0.8	54	46	267	5	17.500	4856	N	
"	"	"	"	8.65	19.92	7167.95	"	0.4	1.4	52	40	350	8	17.500	4859	N	Beams lost
"	"	"	"	7.37	24.82	7192.77	"	0.4	1.4	53	41	436	2	"	"	N	
								0.2	1.0								
"	"	"	"	6.00	21.29	7214.06	"	0.2	1.0	54	45	374	2	"	4838	N	
"	"	"	"	4.49	15.54	7230.60	"	0.2	0.85	54	46	273	4	"	4837	N	
"	"	"	"	3.51	8.43	7239.03	"	0.2	0.7	55	50	148	1	"	4837	N	dumped
"	"	"	"	9.24	18.79	7258.82	"	0.4	1.7	53	38	330	5	"	"	N	
"	"	"	"	7.02	23.34	7282.16	"	0.3	1.2	53	39	410	6	"	4836	N	
"	"	"	"	5.25	19.47	7301.63	"	0.2	0.8	53	42	342	5	"	"	N	
"	"	"	"	4.53	2.16	7303.79	"	0.2	0.8	53	47	38	1	"	4835	N	beams dumped

28/3/86 9^{45} Gas check ok. blocked around, nothing blatantly obvious wrong. CH
18^{15} alles klar U. Barthel
19^{10} Gas check completed. CH.
29/3/86 09^{20} ID & VTXC Alarms were in evidence. Accepted & reset. Gas check completed.
blocked around Hall and control room. Alles klar. CH
17^{15} VTXC value failure reset → OK R
19^{15} Gas check completed. blocked round the hall and control room. Nothing serious out of order. CH
30/3/86 09^{30} Gas check completed. Nothing untoward in the Hall or Control Room. CH
30.3.86 12:30 Vertexchamber (and rest of experiment) checked, seems all ok. (HV)
30.3.86 16:00 alles paletti U. Barthel general inspection
22^{50} Gas check completed. All in order. CH
31/3/86 10^{10} Hall clear CH
19^{00} Gas check. Hall & control room inspection. CH

1.7.86
8^{00} Try to fix the water leaks underneath the magnet on the far side of the hall.
Seidel fixed two of the leaks two small leaks remain.
à 4 drops per minute
10^{35} Startup Nord using JDAS System Disc Nord I. Was not able to read HEN.to have
him do it. └ Since disc NOT warmed up there is now a
risk that this will be lost. I was on my way
in here - the Notice was not written for fun.
VTX-chamber ~~gas~~ value failure. If the disc breaks due not to following Teske's instructions
we are in for trouble.
JDAS clock ⇒ SUMMER TIME
11^{00} Pillat & Co will repair the magnet after lunch
12^{45} New NORD-50 program installed – detects pickup events better.

15^{00} H. Mills on Shift
Our IPS screen has no contact to IBM. R2 experts summoned. – they succeed.
JADE System disc directory regenerated (no significant problems), backups made
(both standard and "3.0"). Tape backup in progress
Magnet ⇒ 500A
19.06 Gas check completed, P18 and P22 somewhat low.
22.00 "Wiederbeginn ca 23.00 h". Desy has a cable with ground connection.
Start Test Run Cosmix, everything on

Muon Crate 10 missing, cannot be reset.
Do test runs.
All Seems to be working except muon-crate 10.
Have to reload VTX processor at every run-start.

23.30 Petra says Desy seems to be in the process of being switched on. There's hope.

24.86 0:00 Kuhlen + Schmidt on shift
0:00 Gas check done ok.

3:05 Beams again but TOF rate > 10 Volts
3:30 The TOF-signal is too large so that PWR cannot see any changes while optimising the background. We have attenuated the signal but it stays constant. That means the incomming rate could not be handled.
4:10 PWR found a mistake in the beam optics. Now all is fine. We take out the attenuator. TOF-rate: 2.5 Volt.
4:16 muon crate 10 still missing
4:26 ~~muon~~ YSPY: muon digitisers missing: 106 - 117
5:00 VTXC - processor reloaded
5:05 since run 25119 "PETRA information link down". We had to enter beam currents and energy by hand as displayed on the TV.
5:52 2-ch-trip
6:29 VTXC - value failure reset
6:44 YSPY: muon digitisers missing: 106 - 117

8:00 Reinboy, Fest on shift
Muon-crate 10 still missing, we still have to reload the VTX mirrors at every run start
8:32 H. Mills got the flue, in case of problems don't hesitate to call him, he stays at home
8:33 Gas-check O.K.
9:55 PWR still mismatch problem with PETRA-telegram
10:05 Muon-crate 10 had a bent contact on its single card computer that wasn't making proper contact in the crate back-plane. Hopefully crate 10 will now be Ok TJG.
11:00 still problems with Muon-crate 10

12^{30} damaged VTXC-Processor moved from Crate 2 to Crate 8 (BR3 CR6) with least temperature (1 FADC bus). Hopefully its working now. In case of trouble reload the processor C.K.

12^{50} muon-crate seem to be O.K. now

13^{10} beam loss

14^{05} New fill is ready
VTXC-Processor has to be reloaded

We seem to have been lucky - the thunderstorm on Saturday night destroyed many links apparently - including CELLO's. Ours works but that could account for why the IPS screen did not work yesterday evening (106) when I called R2 people. Its a good job that we stopped the Nord's disc!! (HEM)

15^{45} muon-crate 10 shows again every 2 minutes up as missing

Tomorrow (Thursday 3. April) after 10 a.m. there will be a break of ½ to 1½ hours (access for Tasso to exchange a pump). At the same time the IBM link will be down

16^{00} Bartel, Bethke on shift

16^{54} zch trips, nothing else.

18^{30} " "

19^{14} H.Kado had no success to change Vxch-processor. So we have to reload them shortly before each run start.

19^{30} gas check done ok

20^{02} walk to start up µ-crate #10

20^{25} Chamber trip

22^{45} chamber trip but: chamber trips also with HV off. That occurred

2^{50} " " when Petra was filled

2^{55} chamber trip due to beam loss

2/4/86 0^{00} Duesdotth / Elsen

10^{30} Gas check done.

2^{55} Anode current hard trip on channel 62 with chamber voltages off when PETRA looses beam.

3^{35} Beam at last. Muon crate 14 & 10 error messages again & YSPY senses no hits in 106-117 again

3^{55} After pushing & pulling on cables & modules, incrate 10, & reset button, in crate (These are tagged. 50)
it works again! But not for long!

6^{25} 2 chamber trip.

7^{08} Standard Histos: Muon Crate 10 missing
Bunch Marker (Pre pulse) — wide?
LG Hit Map Barrel II. noisy?

8^{00} Becker, Walker

8^{08} Gas check done.

8^{09} Source quantities = 0 in Run summary Run # 25146

8^{21} VTXC-Processor seems to work again (no memory fail since 3 o'clock)
So do not reload the processors at run start until the system console suggests it.
if there are again problems with the processor, please inform Vertex chamber expert. (HV)

10^{00} Deadtime ≈ 98% i.e. beam conditions not so good. (Live time < 2% maybe may it better)

10^{05} Missing xxxx in 3 or 4 z-ch. parts (xxx) × 3 ⟷ TASSO magnet off till ~ 10.30 (hopefully)

10^{15} IBM link down (repair work)

10^{30} VTX-ch µ-processors reloaded.

10^{40} From 10^{05} muon chambers 552 and 553 disconnected from HV (these chambers are in crate 14) With the high currents now in the machine at run start these chambers were overloading their power supply.
Note that the number of inoperative chambers in the "Muon chamber status report" (last page of standard histograms) will now be 11. TJG.

11^{24} VTX-ch processors reloaded again.

11^{29} VTX-ch trig - run stopped
IBM up again.

11^{50} I changed the Fluid for the Gould printer/plotter — the resultant output is readable! VST

There is a large number of leadglass blocks on per event

YSPY says digis 52-61 missing - (6000 event mark) — NO crate missing msg. May looks OK
could have just developed?

12^{30} Magnet ⇒ 500

13^{25} PETRA TV went ~~goes~~ ~~black~~ work - what can it mean?!? (Ask Alex)
Magnet ⇒ 7600

Run	Date	Start	Stop	I^+	I^-	Dead time %	T_{run} sec	Rec in	Rec out	N_{cl} $\times 10^6$	T_0^{acc} $\times 10^6$	T_1^{acc} Sum	T_2^{acc} Sum	T_1^{bal} E_{23765}	T_2^{bal}
25140	2/4	21.51	22.34	9.43	10.18	20.9	2515	8002	5227	654	137	4773	5586	1224	46
25141	"	22.35	23.06	8.55	8.78	16.2	1430	3739	2267	371	60	2308	2774	493	17
25142	3/4	3.55	4.26	10.52	9.57	21.1	2676	8002	6327	696	147	4694	6010	1076	34
25143	3/4	4.27	5.16	9.16	8.29	17.8	2920	8002	4745	760	135	4864	6026	1034	35
25144	3/4	5.17	6.15	8.10	7.29	16.3	3085	8002	4711	802	131	4950	5784	999	30
25145	"	6.15	7.12	7.12	6.36	14.5	3229	8002	4402	859	121	5018	5824	914	38
25146	"	7.14	8.08	6.30	5.58			8003	4419			5058		837	28
25147	"	8.11	8.23	4.80	4.57	13.7	657	1561	861	171	23	967	1116	171	38
25148	"	9.36	10.19	10.39	10.22	max 952	~~771~~	3573	2523	202	193	723	3076	32	0
25150	"	10.33	11.19	8.51	8.35	16.5	2779	8002	4766	722	133	4946	5817	1225	29
25152	"	11.25	11.29	7.29	7.13	16.7	153	409	248	39	6	252	279	69	2
25153	"	11.32	12.22	5.58	5.48	12.6	2828	6445	5703	736	93	4116	4562	705	22
25154	"	17.18	17.24	9.80	9.97	29.9	185	695	446	48	12	411	403	121	0
25155	"	17.25	17.31	8.23	8.49	21.6	322	1008	649	83	18	581	673	159	7
25156	"	17.31	18.17	7.94	8.19	19.2	2613	7973	5037	682	131	4781	5436	1145	35
25157	"	18.19	19.09	6.85	7.09	16.5	2965	8002	4186	772	128	5053	5702	1086	36
25158	"	19.09	20.07	5.93	6.16	14.2	3243	8002	4308	844	120	5178	5688	1061	25
25159	"	20.08	20.15	5.10	5.32	14.1	390	1025	557	1018	14	624	696	110	4
25160	"	20.57	21.36	10.13	10.27	29.9	2235	8002	4969	592	236	3962	6128	1065	32
25161	"	21.36	22.14	8.87	9.01	25.3	2262	8002	4586	589	208	3972	5669	964	31
25163	"	22.18	23.02	7.78	7.91	28.1	2420	8002	4486	689	177	4255	5619	1084	33
25165	"	23.05	23.57	6.70	6.8	23.6	2701	8002	4527	703	166	4580	5622	1012	29
25166	"	23.58	1.01	5.76	5.89	—	—	8003	4257	—	—	4618	—	973	19
25167	4/4	1.01	1.14	4.91	5.03	18.1	733	1987	1032	191	35	1179	1431	256	5
25168	"	03.02	04.22	10.34	10.24	26.7	2550	8002	6964	868	161	4573	6198	1077	35
25169	"	04.22	5.09	8.09	8.05	20,1	2774	8002	4764	722	145	4787	6019	1076	30
25170	"	5.10	6.00	7,24	7,20	17,9	2998	8003	4543	780	140	4788	6073	995	35
25171	"	6.01	6.59	6,48	6,45	16,5	3153	8002	4344	820	135	4886	6102	920	30
25172	"	6.59	8.02	5.76	5.73	15.2	3284	8002	4215	854	129	4922	6118	906	29
25173	"	8.07	8.22	5.05	5.02	14.5	904	2247	1164	235	34	1399	1649	257	15
25174	"	11.04	12.09	9.10	9.40	20.9	2606	8002	4760	678	141	4865	5554	1110	35
25175	"	12.09	13.07	6.79	6.68	16.7	2429	6638	3767	632	105	4173	4595	940	27
25177	"	13.41	13.45	5.37	5.26	15.3	262	707	392	68	10	419	485	86	2
26179	"	15.04	15.33	9.56	9.83	22.4	1947	5903	3423	480	107	3485	4219	670	30

NSO	NIP	TOF	FANA	$\langle L \rangle$ 10^{30}	$\int Ldt$ est.	$\int Ldt$ EXP	IBM/TAPE	ID μA	TOF V	Σ_{NIP} T_2 %	NSO T_1 & T_2 %	Σ_{BAB}	MH	E_{Beam}	$\vec{B}$ Sawn	Real $T_{2,1}$	
ON	ON	ON	OFF	8.72	23.06	73.26.85	IBM	06	2.0	52	36	405	7	17.500	4834	N	
-	-	-	-	4.73	7.97	7334.82	-	0.4	1.6	53	41	140	1	"	4834	N	beams dumped
"	"	"	"	6.07	11.52	7346.38	"	.6	2.3	52	22	205	2	"	4834	N	
"	"	"	"	4.79	16.11	7362.49	"	.6	1.5	53	42	283	3	"	4832	N	
"	"	"	"	3.80	14.06	7376.55	"	.6	1.3	53	43	247	7	"	4832	N	
"	"	"	"	3.35	12.18	7388.73	"	.2	1.1	54	46	214	3	"	4832	N	
"	"	"	"		14.17	7403.90	"	.2	1.0		46	248	4	"	4831	N	sum summ. not correct
"	"	"	"	2.82	7.16	7406.06	"	.2	1.0	53	47	38	0	"	4832	N	beams dumped
"	"	"	"	0.55	0.63	7406.69	"	2.9	3.2	64	30	11	0	"	4831	N	Long beam! Run 25149 don't exist.
"	"	"	"	6.81	23.17	7429.86	TAPE JDA505	03	1.8	53	39	407	6	"	"	N	Neither does 25151.
"	"	"	"	5.94	1.25	7431.11	"	0.2	1.4	55	42	22	0	"	4832	N	
"	"	"	"	3.19	10.42	7441.53	IBM	0.2	0.6	54	44	183	4	"	4832	N	beams dumped
ON	ON	ON	OFF	9.79	2.56	7444.09	IBM	1.0	2.4	40	37	45	0	17.501	4847	"	
"	"	"	"	7.96	3.25	7447.34	"	0.8	1.6	45	37	87	3	17.522	4848	"	energy jump
"	"	"	"	7.48	21.07	7468.41	"	0.5	1.6	50	38	370	5	17.501	4850	"	fed to original energy
"	"	"	"	5.97	19.75	7488.16	"	0.3	1.3	53	49	347	3	17.500	4850	"	
"	"	"	"	4.61	16.74	7504.90	"	0.8	1.2	55	47	294	4	"	"	"	
"	"	"	"	4.00	1.82	7506.72	"	0.2	0.9	48	52	32	1	"	"	"	Beams dumped
"	"	"	"	7.40	19.76	7526.48	"	~2	~3	46	39	347	8	17.501	"	"	
"	"	"	"	6.27	14.92	7541.40	"	1.6	2.8	40	45	262	5	"	"	"	R 25162 died during petrotab
"	"	"	"	6.16	16.51	7557.91	"	1.4	2.2	43	42	290	2	"	"	"	R 25104 " " "
"	"	"	"	4,99	16,34	7574,25	"	1.1	1.7	46	45	287	4	"	"	"	
"	"	"	"	—	14,52	7588,77	"	0.9	1,5	—	48	255	6	"	"	"	sum summ. not correct!
"	"	"	"	3.33	3.36	7592,13	"			50	50	59	0	"	"	"	beams dumped
"	"	"	"	5.27	16.00	7608.13	"	1.0	3.5	51	39	281	2	"	"	"	
"	"	"	"	4,46	13,38	7621,51	"	0.6	2.4	52	42	235	5	"	"	"	
"	"	"	"	3,57	11,56	7633,07	"	0,5	1,8	52	45	203	2	"	"	"	
"	"	"	"	2,80	9,62	7642,69	"	0,4	1,4	54	47	169	4	"	"	"	
"	"	"	"	2.59	9.22	7651.91	"	0,4	1,3	54	49	162	2	"	"	"	
"	"	"	"	3.08	3.19	7655.10	"	0.2	1.1	54	50	56	3	"	"	"	Beams dumped.
"	"	"	"	7.45	18.96	7674.06	"	0.8	2.0	50	42	333	6	"	4852	"	
"	"	"	"	5.29	15.60	7689.66	"	0.4	1.2	52	45	274	6	17.500	4853	"	stopped — Main Frame 64.
"	"	"	"	8.56	1.02	7690.68	"	—	—	48	47	18	0	17.501	4854	"	25176 is SHORT, JUNK. Beam Lost.
"	"	"	"	5.91	12.18	7702.86	"	0.8	1.9	49	44	214	4	17.501	4854	"	stopped due to 14xc-processor exchange

Create 10 almost always missing

Create 10 OK

16²⁰ L Cartwright & Haidt on shift
Problem with linac
17³⁰ Muon crate 10 missing again — called in Ian Duerdoth – he got it working
19⁴⁶ Inner detector hard trip (+ consequent VXC, ZC) anode current.
22²⁰ Several BPCH ERROR messages — except more hits than normal. IBMPC complaining of wiremap deviations. But nothing seems to be wrong as far as I can see. Phone VXC expert (Klaus Kleinwort) – he says it's just a consequence of bad beam. Beam is bad – deadtime 35% of 20% last fill.
22³⁰ All chambers trip (jet-ch anode current)
23⁰⁵ R 25164 died during pedestals with system crate watchdog flag TAKMS= 067563 177777 oct
Run without output survives pedestals OK – so try again – successfully
23²⁰ Soft trip of jet and vx chambers

4/4/86 0⁰⁰ Ambrus + Greenshaw
0³⁰ Gas check done
0³⁰ After 381 records in run 25168 TOF rate shoots to above 10 V, not surprisingly the chambers dijest and stop. PKR phoned, they will try and do something about it, meanwhile let's hope the TOF rate meter's needle doesn't get permanently bent.
0³⁸ We can run again, thanks to the struggles of the men in the control room at PETRA.

0800 Duerdoth & Rancke Gas check OK.
9⁴⁰ New Fill – background terrible – after 20 mins of 'background optimisation' PKR dump + try again.
9²⁰ spurious trip of ID. – can't reset – 3 experts working on it. 11⁰⁰: it works again.
11⁰⁰ since a few days we have an increasing number of spurious Anode current Alarms in channel 62 (all 13.3) mainly during PETRA injection and when ID-HV is off. There are slow fluctuating signals coming over the anode current line from the detector. The call works normal (wires 1152-1167).
Herr Matsumura will decrease the sensitivity of the Anode current Monitor for this cell by ~ a factor of 2 during the next filling. Please call him. 3368
11⁵³ JOAS READOUT ERROR 33 – Missing LAM branch 4 crate 1: JETC point 701 10 x 17777, 2 x -1, 17777, -1, 3 x 17777 (R)
15⁰⁹ JOAS ERROR 52 TOF/PWTOF HV FAIL? control word 000 002 MAIN FRAME 54. HV RESET doesn't work (17777)
Call expert. B.N. fixes it. (says a big cosmic shower (monopole?) must have gone through).
15⁰⁴ Beam. Had to reload VTX microprocessor. ∴ Run 25178 has no events.
15³³ VTXC-Processor in BR3CR6 exchanged by C. Kleinwort

16:00 MILLS + HEINTELMANN
16:30 Missing LAM at FEP Ready (JETCH). Reload μ-proc. → ok
17:50 Gas check done
18:34 BPCH IBMPC claimed a wiremap deviation.
19:51 New beams – bad background. – improves
23:55 BPCH claims wiremap deviation.
→ the PC is right, it seems that we have got a new beam position (orbit correction?), so in fact the wiremap looks quite different. I saved this as a new standard histogram. (HK)

5/4/86
0:00 Walker and Krado on shift – gas check done
0⁵⁹ Z-ch trip
1:12 " " (twice)
5⁰⁰ " "

8.00 Cartwright & Rancke
8⁰³ Missing LAM br 2 cr 6 : LG ADCs
8²⁰ Gas check ok
8¹⁰ ERR 52 combined 00002 RT-Chan HV-Fail?
8¹⁸ YSPY says muon digitiser 145 missing.
8²³ JETC & VXC soft trip
~~YSPY is quite right.~~ Tim Greenshaw will come & look at it
↑ Hole in histogram was not in fact connected with YSPY message, but was a ch which is switched off. YSPY message therefore probably only statistics.

11³² Soft trip of JETC & VXC at beginning of new fill. Then super-high TOF rate. Also one LG power-supply trips with overcurrent. 1mA of both beams lost.
13¹⁶ Missing LAM br 3 cr 4 Z-ch part 1
14⁰³ Z-ch trip
14⁴² " " . Poor running conditions at start of this fill — TOF rate & chamber anode currents unstable, deadtime 40%
15⁵⁰ Violent kicks in the TOF rate. Pop some miracle the chambers don't trip!
15³⁶ Wing LAM br 1 cr 1 : BP chamber
15⁵⁰ Beam has deteriorated again after a very clean period around 15³⁰. Maybe it will improve again.
15⁵² All 3 chambers trip. I said the beam had deteriorated!!
16.00 Duerdoth & Matsumura
16⁰⁵ Gas check done
18⁵⁰ HV Error LG Power supply 10, 14 overcurrent Power switch off – on OK
23⁵⁰ Chambers trip. Half beam lost. During the PWT 24 hours we have come close to breaking the record for the most integrated luminosity in a Day (which still stands at 570 nb⁻¹ since 1982). Good luck for Sunday!

RUN	DATE	TIME RUN START	TIME RUN STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME [%]	TIME [sec]	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	T_0 RE7 $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT 2 $E_{LG} > 6$ GeV	T_2 BIT 17 $2T \cdot E_4 \geq 2TR$
25180	4.4.86	15:43	16:38	8.60	8.86	21	2741	8002	4415	712	153	4427	5554	1018	28
25181	"	16:38	17:24	7.42	7.66	19	2780	8002	4672	710	131	4996	5392	1056	25
25182	"	17:24	18:14	6.51	6.73	17	2955	8002	4321	708	126	5114	5398	939	23
25183	"	18.19	18:57	5.66	5.87	15.6	2297	6005	3174	597	93	3828	3998	690	22
25184	"	19.54	20:37	10.19	9.27	19.5	2546	8002	5120	662	129	5100	5299	1221	26
25185	"	20:37	21:23	8.82	7.97	18.0	2700	8002	4927	702	126	5177	5304	1216	24
25186	"	21:23	22:13	7.68	6.88	16	2917	8002	4668	759	123	5181	5477	1135	21
25187	"	22.12	23:04	6.69	5.93	15	3056	8002	4479	794	120	5205	5440	1053	29
25188	"	23:05	23:09	5.85	5.14	14	250	650	335	65	9	468	428	79	2
25189	5/4/86	23:45	0:21	9.79	9.97	25.4	2338	8002	5136	603	154	4563	5490	1224	36
25190	"	0.22	1.05	8.40	8.65	22.1	2518	8002	4833	654	144	4750	5425	1225	29
25191	"	1.05	1.52	7.34	7.52	19.9	2666	8002	4623	693	137	4823	5493	1184	23
25192	"	1.52	2.41	6.36	6.54	17.6	2698	8002	4505	753	132	4939	5627	1064	30
25193	"	3.20	4.03	9.90	10.15	20.1	2516	8002	5066	654	131	5082	5426	1295	33
25194	"	4.03	4.49	8.50	8.74	19.3	2716	8002	4856	706	136	5151	5265	1235	21
25195	"	4.49	5.44	7.32	7.54	15.7	2924	8002	4644	761	119	5193	5438	1193	30
25196	"	5.44	6.37	6.21	6.41	14	3177	8002	4435	827	115	5192	5470	1094	28
25197	"	6.41	7.21	5.31	5.50	13.2	2369	5647	2900	616	81	3690	3917	679	11
25198	"	7.52	8.36	9.48	10.31	24.5	2419	8002	5049	630	154	4707	5515	1259	31
25199	"	8.37	9.20	8.08	8.88	20.7	2572	8002	4928	669	139	4875	5485	1255	29
25200	"	9.20	10.06	7.02	7.77	19.1	2749	8002	4632	715	137	4904	5530	1089	32
25201	"	10.06	10.55	6.06	6.76	17.4	2897	8002	4483	753	131	4912	5552	1040	31
25202	"	10.55	11.03	5.22	5.88	16.1	431	1169	607	112	18	709	808	133	3
25203	"	11.31	12.21	9.38	10.29	19.8	2609	8002	4918	679	135	4987	5448	1260	34
25204	"	12.21	13.07	7.31	7.80	17.3	2758	8002	4653	718	124	5127	5252	1206	33
25205	"	13.08	13.57	6.17	6.73	15.8	2936	8002	4476	764	121	5177	5160	1076	29
25206	"	13.57	14.03	5.38	5.82	15.8	330	919	517	86	14	563	596	117	3
25207	"	14.45	15.26	10.48	10.52	22.1	2453	8002	5151	688	141	4986	5331	1331	29
25208	"	15.26	16.13	9.06	8.94	19.2	2606	8002	4839	677	130	5043	5291	1285	32
25209	"	16.15	17.03	7.54	7.52	16.5	2847	8002	4701	740	122	5243	5267	1240	31
25210	"	17.04	17.54	6.44	6.43	15.2	3005	8002	4621	781	119	5236	5349	1224	39
25211	"	17.54	18.02	5.53	5.53	14.3	455	1231	667	118	17	800	778	196	3
25212	"	18.48	19.32	10.68	10.62	19.7	2529	8002	5297	658	129	5144	5338	1413	33
25213	"	19.32	20.19	8.97	9.01	18.3	2641	8002	5039	687	126	5178	5247	1363	30

PROCESSORS ON/OFF NSO	MIP	TOF	FAMP	$\langle L \rangle$ 10^{30} cm^{-2}s^{-1}	BHABHA $\int L dt$ nb^{-1}	$\int L dt$ Exp Energy	IBM/TAPE OUTPUT	AT RUN START ID [μA]	AT RUN START TOF [V]	ONLINE REJ SUM HIPEDS T_0 [%]	ONLINE REJ KEEP 50 T_1&T_2 [%]	σ BHABHA	MH	$\bar{I}$ BEAM	MAG. FIELD mG	REDUCED TRIGGER Y/N	REMARKS
ON	ON	ON	OFF	5.64	16.62	~~1739.48~~	IBM			51	46	292	3	17.501	4856	N	
"	"	"	"	6.11	16.69	~~1736.17~~	"			50	43	340	5	17.581	4856	N	
"	"	"	"	4.76	16.34	7752.51	"	0.4	1.0	53	48	287	5	17.501	4856	N	
"	"	"	"	3.98	9.05	7761.56	"			51	48	159	2	"	"	N	beams dumped
"	"	"	"	9.15	23.86	7785.42	"	0.4	1.5	51	37	419	6	"	4837	N	
"	"	"	"	7.53	21.69	7807.11	"	0.3	1.2	52	40	381	5	"	4955	N	
"	"	"	"	6.18	21.41	7828.52	"	0.25	1.0	53	43	376	8	"	"	N	
"	"	"	"	4.86	16.85	7845.37	"	0.20	0.8	54	45	296	6	17.500	4835	N	
"	"	"	"	4.71	0.97	7846.34	"			52	51	17	0	"	4834	N	
"	"	"	"	9.44	24.93	7871.27	"	1.1	1.8	45	37	438	4	"	"	N	
"	"	"	"	7.62	23.12	7894.39	"	1.0	1.5	47	41	406	10	17.501	"	N	
"	"	"	"	6.31	21.12	7915.51	"	0.7	1.3	49	44	371	10	17.500	4835	N	
"	"	"	"	5.24	13.94	7934.35	"	0.6	1.1	50	45	331	7	"	4833	N	
"	"	"	"	9.81	25.96	7960.31	"	0.5	2.0	52	38	456	7	"	4832	N	
"	"	"	"	7.80	25.11	7985.42	"	0.3	1.2	51	41	441	5	17.501	4831	N	
"	"	"	"	6.41	21.75	8007.17	"	0.2	1.0	53	43	382	3	17.500	4832	N	
"	"	"	"	5.03	17.02	8024.19	"	0.2	0.9	54	46	299	7	"	4831	N	
"	"	"	"	4	9.91	8034.10	"	0.2	0.9	55	50	174	3	17.501	"	N	beams dumped
"	"	"	"	8.90	24.14	8058.24	"	1.1	2.0	47	38	424	8	17.500	"	"	
"	"	"	"	7.44	22.26	8080.50	"	0.8	1.5	49	40	391	5	"	"	"	
"	"	"	"	6.42	18.85	8099.35	"	0.6	1.25	50	43	381	6	17.501	"	"	
"	"	"	"	5.32	17.08	8116.43	"	0.65	1.1	50	46	300	8	17.500	4832	"	
"	"	"	"	4.40	2.33	8118.76	"	0.55	0.9	51	50	41	1	17.501	4834	"	Beams dumped
"	"	"	"	8.33	25.62	8144.38	"	0.75	1.7	50	40	450	9	17.500	"	"	
"	"	"	"	7.09	22.43	8166.81	"	0.6	1.2	51	43	394	8	"	"	"	
"	"	"	"	5.75	18.62	8185.43	"	0.5	1.0	50	45	327	8	"	4837	"	
"	"	"	"	4.69	2.11	8187.54	"	0.45	0.8	48	46	37	0	"	"	"	Beams dumped
"	"	"	"	9.04	27.61	8215.15	"	1-1.2	3-4	49	37	485	6	"	4836	"	
"	"	"	"	8.27	24.71	8239.86	"	0.35	1.1	50	41	434	11	17.501	4837	"	
"	"	"	"	6.81	21.18	8261.04	"	0.3	1.0	53	42	372	6	17.500	4836	"	
"	"	"	"	5.58	19.87	8280.91	"	0.25	0.95	53	43	349	3	"	4835	"	
"	"	"	"	4.62	2.85	8283.76	"	0.25	0.85	52	48	50	2	"	4834	"	Beams Dumped
"	"	"	"	11.05	31.25	8315.01	"	0.4	1.8	52	35	549	7	"	4835	"	
"	"	"	"	8.82	26.08	8341.09	"	0.3	1.4	52	38	458	8	17501	"	"	

6.4.86

0⁰⁰ R Hedgecock, U. Schneekloth
0 10 Gas check done
0 28 new fill ready, started run 25218, terminated after 2 events. Errormessage: Syst. cr. PARAMS= 067563 177777
0 32 start run 25219, now it is O.K.
01 24 Z-chambers tripped. 01 35 ALL CH. TRIP 01 45 ALL CH. TRIP BEAM LOSS!
5 05 Z chamber tripped, VTX CH. error deviation in wiremap
5 55 " " , there is a spike in the wiremap at #162
6 40 " " "
7 13 The message: µ Crate 5 missing appears once in a while

9⁰⁰ Ambrus + Kuhlen
8 10 all chambers tripped
8 30 gas check done
11 26 IBM PC says BPCH - error found. It seems to complain about a spike in the wireside map, which wasn't there in the last standard histograms.
14 00 Noticed that the spike vanished
14 30 beams dumped, because PETRA lost quite a lot of it's beams during this run.

16⁰⁰ Kleinwort and Feist
16 20 gas check O.K.
18 55 Y-spy finds ZFETCH FAOC no hit: 1180 but can't find anything unusual in wiremap etc. acknowledge error and wait to see further. After MOP-terminal broken normal.
20⁰⁰ new fill ready, VTX + BETA chamber had trips
23 40 Had trouble up, crate 2, no reaction on Terminal, no lights flashing, reload seems to be O.K.

7.4.86

0⁰⁰ Cartwright and Ramcke on shift
0 05 Gas check done, OK
0 34 IBMPC complains about VXC wiremap & pedestals.
0 49 Z-ch trip
1 34 Problem with IBM ?! Message: IOM BUSY appears very often
1 40 No IBM BUSY any more, seems to be o.k.
1 52 Z-ch trip
2 38 -"-
4 39 Missing LAM 4 or 2 or 6: LG FTCS
7 17 >210 nb⁻¹ this shift makes it a new all-time record!

8⁰⁰ Ambrus & Haidt on shift
Gas check O.K.
9 31 PKR asks for 1/2 h access

16⁰⁰ Pfister + Middleton on shift
16 25 gas check done
17 05 Z-chamber trip.
19 07 over current on LG distributors 10+11 .. switched off & on .. OK.
19 15 hard trip (beam loss)
23 26 ~~missing~~ JDAS READOUT ERROR 32 - missing LAM at FEP Ready (JETCH) many times. Not cured by PAUSE/CONTINUE so reloaded FEP's.
23 35 Z-chamber trip.
23 58 JDAS READOUT ERROR 74 - wrong LAM branch 1 crate 1 : beamgas chamber

8.4.86

0⁰⁰ Hagemann Matsumura on shift
0 20 Gas check done OK
4 00 Z Ch. Trip.
4 55 "
7 35 MOP Error JADEGO reloaded OK

8 00 Foster, Kleinwort here. Gas check done 8 25
8 10 YSPY : TT output missing, Histogram looks normal
8 30 Z Ch Trip
8 51 YSPY : Finds no hits : 13 16, wiremaps looks O.K.
9 10 Z Ch. Trip
9 46 IJO Trip, Z-Ch Trip, VTX Trip Beams lost - short break (problem with cooling water) Magnet down
10⁰⁰ Tarso wants 1 hour for a repair
11 10 Injection Magnet up
11 48 New fill established. Mills + Hodgcock are present. Run 25282 without Zchamber to test it. it is
13 50 all chamber trip. rare at PICKUP events — it isn't!
14 45 Beams dumped for new fill.
15 32 New fill established
16⁰⁰ Ambrus + Kuhlen
16 30 gas check OK.

RUN	DATE	TIME RUN START	TIME RUN STOP	At Run Start I^+	At Run Start I^-	Dead Time %	Time Sec	Records In	Records Out	All $\times 10^6$	To Rej $\times 10^6$	T1 Acc Sum	T2 Acc Sum	T1 Bit2 Eea766.6	T2 Bit 19 2T. Ea ≥ 2TR
25214	5.4.86	20:19	21:10	7.59	7.62	17.0	2835	8002	4868	737	126	5139	5450	1209	35
25215	"	21:10	22:01	6.43	6.46	15.6	3007	8002	4567	782	122	5292	5401	1238	24
25216	"	22:01	22:29	5.51	5.54	13.8	1654	4180	2257	430	59	2785	2681	600	12
25217	"	23:16	23:50	9.69	9.47	21.5	1787	5874	3804	465	100	3724	3961	1004	23
25218	6.4.86	0^{29}				2 FEE TAL EVENTS		0002							
25219	"	0^{32}	0^{44}	10.02	10.22	20.2	2472	8002	5224	644	130	5114	5382	1408	35
25220	"	0^{14}	0^{25}	8.52	8.73	14.7	3027	8002	4543	787	116	5243	5383	1196	23
25221	"	0^{24}	0^{35}	5.17	4.68	12.2	1187	2875	1463	309	37.6	1896	1841	356	6
25222	"	0^{39}	0^{401}	9.44	10.07	19.8	2493	8002	5153	648	128	5156	5279	1349	35
25223	"	0401	0447	8.47	8.59	17.1	2716	8002	4939	707	121	5271	5255	1300	34
25224	"	0447	0537	7.22	7.33	15.5	2921	8002	4742	760	118	5277	5289	1240	28
25225	"	5^{38}	6^{31}	6.13	6.23	13.8	3124	8002	4381	812	112	5267	5285	1161	26
25226	"	06^{31}	07^{21}	5.24	5.33	123	2940	7102	3897	764	94	4756	4704	938	23
25227	"	07^{54}	8^{40}	9.74	10.03	20.5	2467	8002	5267	641	131	5120	5306	1398	32
25228	"	8^{40}	9^{26}	8.19	8.48	17.6	2697	8002	4868	701	123	5200	5276	1314	32
25229	"	9^{26}	10^{14}	7.00	7.26	16.3	2832	8002	4685	737	119	5219	5238	1289	28
25230	"	10^{14}	11^{06}	6.01	6.26	14.4	3109	8002	4403	808	116	5248	5375	1126	22
25231	"	11^{07}	11^{57}	5.16	5.40	13.2	3001	7306	3751	780	103	4777	4974	969	15
25232	"	12^{56}	13^{41}	10.35	10.28	20.3	2504	8002	5267	651	132	5115	5399	1389	41
25233	"	13^{41}	14^{38}	8.62	8.55	14.4	2983	7708	4235	776	112	5024	5236	1091	25
25234	"	15^{57}	15^{52}	10.10	10.34	18.5	2560	8002	5239	665	125	5232	5492	1398	33
25235	"	15^{53}	16^{40}	8.52	8.78	16.2	2798	8002	4875	727	118	5241	5234	1296	30
25236	"	16^{41}	17^{31}	7.21	7.45	15.41	2991	8002	4560	778	120	5212	5256	1195	24
25237	"	17^{31}	18^{24}	6.15	6.37	13.7	3161	8002	4289	822	112	5242	5389	1094	22
25238	"	18^{25}	19^{01}	5.27	5.49	12.2	2151	5045	2650	559	68	3366	3355	630	11
25239	"	19^{52}	20^{44}	10.50	10.63	19.6	2533	8002	5191	659	120	5244	5219	1324	33
25240	"	20^{45}	21^{30}	8.22	8.27	17.4	2721	8002	4978	707	123	5246	5284	1348	36
25241	"	21^{31}	22^{20}	7.50	7.07	15.7	2903	8002	4702	755	119	5209	5261	1240	23
25242	"	22^{20}	23^{12}	6.49	6.08	14.4	3109	8002	4432	808	116	5176	5311	1189	26
25243	"	23^{12}	23^{40}	5.58	5.20		↯	4144	2179						
25244	7/4/86	0^{20}	1^{02}	10.09	10.15	19.8	2467	8002	5266	642	127	5256	5086	1472	44
25245	"	102	154	8.59	8.74	26.8	1977	8002	4953	775	108	5256	5212	1323	27
25246	"	157	2:46	6.03	6.15	15.6	2856	8002	4686	743	116	5275	5150	1286	34
25247	"	247	3:29	6.00	6.12	15.2	2389	6192	3362	622	95	4125	3991	899	14

Processor ON/OFF N50	MIP	TOF	FAMP	<L> 10^{30} cm^{-2} s^{-1}	Blubbe $\int L dt$ nb^{-1}	$\int L dt$ Exp Energy 8341.09	IBM/TAPE Output	At Run Start ID nA	At Run Start TOF V	ON Line Rej Sum Mpmx To 28	ON Line Rej Nord So To 2 To 2	Σ Blubbe	MH	E_{beam}	Mag. Field −1 kG	Reduced Trigger Y/N	Remarks
ON	ON	ON	OFF	6.88	21.01	8362.10	IBM	0.3	1.0	53	40	369	6	17.500	4834	N	
"	"	"	"	5.65	20.98	8381.09	"	0.2	1.0	56	44	367	5	"	"	N	
"	"	"	"	4.80	9.62	8390.71	"	0.2	0.9	55	47	169	1	"	"	"	Beams Dumped
"	"	"	"	10.08	20.49	8411.20	"	0.55	~2.6	52	36	360	9	"	4832	"	half lost : half dumped.
"																	no events
"	"	"	"	10.56	32.11	8443.31	"	0.4	1.7	51	36	564	7	17.500	4831	N	
"	"	"	"	6.32	21.41	8464.72	"	0.25	1.1	54	44	376	9	17500	4832	N	
"	"	"	"	3.69	5.07	8469.79	"	0.20	0.55	53	51	89	1	17500	4831	N	BEAMS DUMPED
"	"	"	"	10.35	30.85	8500.64	"	0.4	1.7	51	37	542	11	17500	4831	N	
"	"	"	"	8.75	26.70	8527.34	"	0.25	1.2	53	39	464	10	—"	—"	N	
"	"	"	"	7.02	21.69	8549.03	"	0.2	1.0	54	42	381	8	"	"	N	
"	"	"	"	5.35	20.15	8569.18	"	0.2	0.8	53	47	354	5	"	"	N	
"	"	"	"	4.25	15.87	8584.55	"	0.2	0.7	55	51	270	5	"	4831	N	BEAMS DUMPED
"	"	"	"	10.10	32.05	8616.60	"	0.45	1.7	51	35	563	9	"	4828	N	
"	"	"	"	8.18	2380	8640.40	"	0.35	1.3	52	40	418	8	"	4834	N	
"	"	"	"	6.47	21.46	8661.86	"	0.2	1.1	52	43	377	7	17.501	4834	N	
"	"	"	"	5.06	17.31	8679.17	"	0.2	0.9	54	46	304	5	17.500	"	N	
"	"	"	"	3.87	13.49	8682.66	"	0.15	0.8	54	50	237	5	17.500	4835	N	beam dumped
"	"	"	"	10.45	27.67	8710.33	"	0.45	1.8	52	35	486	9	"	4837	N	
"	"	"	"	5.21	18.79	8729.12	"	0.4	1.3	54	46	330	9	"	"	N	beams dumped
"	"	"	"	10.23	31.48	8760.60	"	0.4	1.7	52	36	553	7	"	"	N	
"	"	"	"	8.42	25.73	8786.33	"	0.3	1.2	53	39	452	6	"	"	N	
"	"	"	"	6.40	22.14	8808.47	"	0.2	1.0	53	44	389	4	"	4838	N	
"	"	"	"	5.26	18.50	8826.97	"	0.2	0.8	54	48	325	8	17501	4836	N	
"	"	"	"	4.12	9.96	8836.93	"	0.15	0.65	55	49	175	2	"	4835	N	beams dumped
"	"	"	"	10.07	27.56	8864.49	"	0.3	1.6	53	36	484	6	"	4837	N	
"	"	"	"	8.19	26.93	8891.42	"	0.25	1.3	53	39	423	6	17.500	"	N	
"	"	"	"	6.41	21.35	8912.77	"	0.2	1.2	53	43	375	5	"	4838	N	
"	"	"	"	5.31	1980	8932.07	"	0.2	0.9	54	46	339	5	"	4837	N	
					8.20	8940.27										N	Mod Ramp up
"	"	"	"	11.03	33.99	8974.26	"	0.4	1.6	52	35	597	10	17.501	4838	"	
"	"	"	"	7.92	23.60	9003.80	"	0.25	1.2	53	39	520	7	"	4837	"	
"	"	"	"	6.82	22.15 ~~35.42~~	9025.95 ~~9038.22~~	"	0.2	1.0	52	43	389	10	"	4838	"	
"	"	"	"	5.17	14.23	9040.18 ~~9053.45~~	"	0.2	0.8	54	47	240	3	"	4838	"	beams dumped

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME %	TIME sec	RECORDS IN	RECORDS OUT	ALL 10^6	To REJ 10^6	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{LG}>66eV$	T_2 Bit 17 $2TE_422TR$
25248	7.4.86	3:57	4:40	10.06	10.24	18.1	2508	8002	5184	652	124	5257	5177	1447	38
25249	"	4:41	5:25	8.53	8.70	17.9	2637	8002	5000	686	123	5320	5096	1348	19
25250	"	5:25	6:12	7.26	7.42	15.3	2829	8002	4725	736	113	5389	5075	1305	27
25251	"	6:13	6:25	6.20	6.35	13.9	713	1819	1035	186	26	1168	1220	289	6
25252	"	6:52	7:35	9.84	10.04	18.7	2550	8002	5057	663	124	5137	5372	1396	35
25253	"	7:35	8:21	8.41	8.60	17.0	2714	8002	4880	706	120	5226	5191	1334	30
25254	"	8:21	9:09	7.18	7.35	15.7	2874	8002	4722	748	117	5366	5035	1335	28
25255	"	9:12	9:21	6.08	6.24	15.3	504	1446	819	130	20	926	919	228	2
25256	"	10:22	11:15	10.16	10.36	19.4	2556	8002	5091	665	129	5135	5406	1322	27
25257	"	11:15	12:26	8.70	8.88	17.7	2742	8002	4946	713	125	5258	5369	1265	37
25258	"	12:26	13:17	7.32	7.49	16.4	2789	8002	4768	725	119	5263	5181	1227	27
25259	"	13:21	13:52	6.32	6.48	15.0	2120	5630	3142	551	82	3713	3706	853	15
25260	"	14:19	15:03	10.45	10.57	20.4	2471	8002	5130	642	131	5038	5487	1325	23
25261	"	15:33	15:48	8.84	8.94	17.9	2619	8002	4854	681	122	5154	5256	1359	24
25262	"	15:49	16:31	7.56	7.65	15.5	2807	8002	4599	730	113	5239	5158	1252	29
25263	"	16:39	17:23	6.37	6.46	13.9	3052	8002	4435	793	110	5277	5240	1174	36
25264	"	17:36	18:08	5.37	5.45	13.2	1840	4668	2412	478	63	3021	3012	700	14
25265	"	17:52	19:55	10.60	10.56	17.6	2725	8002	4993	708	124	5220	5258	1343	42
25266	"	19:55	20:43	7.83	7.58	15.2	2851	8002	4684	742	113	5351	5023	1312	32
25267	"	21:01	21:54	6.35	6.11	13.8	3172	8002	4397	824	113	5257	5349	1150	29
25268	"	21:57	22:11	5.41	5.19	13.6	846	1451	793	141	19	954	894	198	4
25269	"	23:19	0:03	10.47	10.78	28.5	2483	8002	5444	646	184	4963	5459	1299	33
25270	8.4.86	0:03	0:43	8.87	9.15	21.2	2286	8002	5435	594	126	4206	5323	1087	21
25271	"	0:43	1:26	7.72	7.98	20.6	2569	8002	4917	667	137	4961	5587	1283	34
25272	"	1:27	2:13	6.73	6.98	18.3	2754	8002	4658	716	131	5049	5384	1167	34
25273	"	2:13	2:29	5.90	6.13	17.3	908	2503	1408	236	41	1592	1673	344	11
25274	"	3:33	4:20	10.09	10.56	18.2	2671	8002	5076	695	127	5100	5495	1317	26
25275	"	4:20	5:08	8.60	9.04	16.5	2749	8002	4874	715	118	5247	5274	1324	38
25276	"	5:08	5:57	7.28	7.69	15.2	2922	8002	4511	760	116	5286	5165	1199	32
25277	"	6:57	6:00	6.21	6.60	13.8	139	447	244	36	5	278	226	63	1
25278	"	6:50	7:35	10.08	10.38	17.4	2651	8002	5060	690	120	5156	5248	1301	26
25279	"	7:37	8:23	8.55	8.83	15.8	2793	8002	4724	728	115	5272	5082	1288	37
25280	"	8:24	9:15	7.23	7.48	14.1	2785	8002	4486	778	110	5265	5152	1221	31
25281	"	9:16	9:39	6.14	6.38	13.1	1407	3576	1958	367	48	2390	2331	521	12

PROCESSORS ON/OFF NSD	HIP	TOF	FAMP	⟨L⟩ $10^{30}\,cm^{-2}s^{-1}$	BHA/BHA $\int L dt\ nb^{-1}$	$\int L dt$ EXP ENERGY	IBM/Tape OUTPUT	AT RUN START ID μA	AT RUN START TOF V	ONLINE REJ SUM MIPROC T_2 %	ONLINE REJ N-50 T_1+T_2 %	$Z_{BHA/BHA}$	MH	E_{BEAM}	MAGN FIELD −1×6	RED. TRIGGER Y/N	REMARKS
on	on	on	off	11.05	33.19	9073.37 9086.64 9101.78 9115.05	IBM	0.4	1.7	52	36	583	11	17.500	4837	N	
"	"	"	"	8.94	28.41	"	"	0.3	1.2	53	39	499	8	17.501	"	"	
"	"	"	"	7.18	25.73	9127.51	"	0.25	1.0	54	42	452	6	"	"	"	
"	"	"	"	5.83	4.72	9132.23	"	0.2	0.9	53	45	83	0	17.500	4836	"	Beams dumped
"	"	"	"	9.99	29.66	9161.89	"	0.4	1.6	52	38	521	4	"	4835		
"	"	"	"	8.60	25.84	9187.73	"	0.25	1.2	52	40	454	8	17.501	4835	"	
"	"	"	"	7.25	25.05	9212.78	"	0.20	1.0	53	42	440	8	17.500	4834	"	
"	"	"	"	6.35	3.58	9216.76	"	0.20	1.0	51	45	470	1	"	4835	"	beams dumped
"	"	"	"	9.71	28.46	9245.22	"	0.35	1.5	52	37	501	7	17.500	4841	"	
"	"	"	"	7.90	25.85	9271.07	"	0.30	1.3	54	39	454	13	17.501	4841	"	
"	"	"	"	6.41	21.41	9292.48	"	0.20	1.0	53	42	376	7	"	4840	"	
"	"	"	"	5.26	12.30	9304.78	"	0.20	0.9	54	45	216	11	17.500	"	"	beams dumped
"	"	"	"	10.21	28.24	9333.02	"	0.40	1.7	51	37	496	12	17.500	4842	"	
"	"	"	"	8.73	23.89	9360.91	"	0.30	1.3	51	41	430	10	17.501	4844	"	
"	"	"	"	7.27	20.46	9381.37	"	?	?	52	44	414	9	17,501	4843	"	
"	"	"	"	5.85	19.91	9401.28	"	0.2	0.8	53	46	349	2	17.500	4843	"	
"	"	"	"	4.65	10.08	9411.26	"	0.15	0.7	53	49	177	5	17.501	4844	"	Beams dumped.
"	"	"	"	9.18	28.24	9439.50	"	0.35	1.7	53	39	496	6	17.501	4844	"	
"	"	"	"	7.31	25.62	9465.12	"	0.2	1.1	52	43	450	6	17.500	4843	"	
"	"	"	"	5.52	18.74	9483.91	"	0.2	0.8	54	46	330	6	17.501	4842	"	
"	"	"	"	4.92	2.73	9486.64	"	0.2	0.7	51	47	48	1	17.500	4842	"	beams dumped
"	"	"	"	9.55	23.91	9510.55	"	0.40	2.0	51	33	420	6	"	4841	"	
"	"	"	"	8.28	18.67	9529.22	"	0.4	2.4	55	33	328	5	17.501	4843	"	
"	"	"	"	6.69	19.92	9549.14	"	0.4	1.9	51	40	350	2	17.500	4843	"	
"	"	"	"	5.28	15.65	9564.79	"	0.4	2.0	51	43	275	4	17.500	4841	"	
"	"	"	"	4.30	5.01	9569.80	"	0.3	1.2	52	45	88	1	17.501	4841	"	beams dumped
"	"	"	"	9.28	26.41	9596.21	"	0.4	2.3	52	38	554	9	17500	"	"	
"	"	"	"	8.72	26.82	9623.03	"	0.3	1.2	52	38	471	2	17501	4840	"	
"	"	"	"	6.69	22.49	9645.52	"	0.2	0.9	53	45	395	10	17.500	4841	"	
"	"	"	"	6.41	1.20	9646.72	"	0.2	0.8	38	48	21	0	17.500	4840	"	beams dumped
"	"	"	"	10.01	29.32	9676.04	"	0.3	1.4	51	38	515	8	17.501	4841	"	
"	"	"	"	8.55	27.50	9703.54	"	0.2	1.0	51	42	483	7	"	4840	"	
"	"	"	"	6.71	24.19	9727.73	"	0.2	0.8	52	45	425	7	17.500	4840	"	
"	"	"	"		9.79	9737.52	"	0.2	0.7	55	47	172	2	17500	4840	"	Beam lost

RUN	DATE	START	STOP	AT RUN START I+	AT RUN START I−	DEAD TIME %	TIME sec.	RECORDS IN	RECORDS OUT	ALL ×10⁶	To REJ. ×10⁶	T₄ ACC SUM	T₃ ACC SUM	T₁ Bit 2 E_LG > 6GeV	T₂ Bit 17 2T.E_LG > 2TR
25282	8.4.86	11:47	12:34	10.70	10.43	16.9	2780	8002	4872	724	122	5071	5397	1189	20
25283	"	12:35	13:22	9.21	9.00	15.9	2808	8002	4701	731	116	5242	5097	1309	24
25284	"	13:23	14:20	7.92	7.73	14.3	3051	8002	4485	795	114	5226	5301	1148	21
25285	"	14:21	14:46	6.48	6.52	13.1	1485	3767	2050	387	51888	2498	2498	490	12
25286	"	15:33	16:20	9.21	8.63	16.2	2804	8002	4862	731	119	5182	5277	1276	28
25287	"	16:32	17:22	6.52	6.08	14.8	2938	8002	4583	765	113	5237	5167	1223	14
25288	"	17:22	18:25	6.51	6.07	13.4	3179	8002	4377	828	110	5367	5184	1127	24
25289	"	18:35	19:35	5.36	4.96	12.0	3443	1602	4290	896	107	5293	5392	1043	25
25290	"	19:52	20:58	4.46	4.08	10.5	3707	8002	3881	964	101	5364	5305	942	31
25291	"	21:00	21:04	3.54	3.17	9.8	194	423	197	50	4	268	269	43	0
25292	10/4/86	18^{13}	20^{15}	10,21	10,10	59,2	952	3280	2289	247	146	1232	2562	360	21
25293	"	21^{43}	22^{01}	9,51	9,57	53,0	1032	4112	3065	266	158	1484	3087	450	37
25294	"	23^{29}	0^{04}	10.42	10.25	46.7	2102	8002	5841	547	255	3735	6279	1177	47
25295	11.4.86	0 05	0 44	9.10	8.95	41.3	2180	8003	5450	566	233	3724	6405	1082	34
25296	"	0 45	1^{07}	7.91	7.77	36.1	1318	4751	3193	342	123	2340	3706	639	21
25297	"	2^{50}	3^{32}	10.29	10.24	20.8	2512	8002	5173	653	135	4204	5466	1178	37
25298	"	3^{35}	4 19	8.68	8.62	19.7	2589	8002	5062	674	133	4983	5434	1219	35
25299	"	4^{21}	4 42	7.46	7.40	20.4	1288	4003	2573	335	69	2364	2861	590	18
25300	"	4 45	5 26	6.89	6.83	24.0	2373	7593	4857	618	148	4187	5637	1001	37
25301	"	6^{27}	6^{43}	10.69	10.57	41.2	861	3341	2385	224	92	1612	2603	485	21
25302	"	6^{45}	7^{22}	9.92	9.85	44.4	2158	8002	5581	560	249	3859	6238	1180	49
25303	"	7^{24}	7^{38}	8.63	8.56	41.5	787	2956	2094	204	84	1405	2272	409	10
25304	"	14.46	15.38	10.91	11.03	20.8	2440	8002	5357	635	132	4980	5209	1299	34
25305	"	15.39	16.39	8.94	9.03	21.7	3207	8002	4682	834	181	5076	5597	1092	38
25306	"	16.39	17.30	7.48	7.58	14.6	3064	8002	4524	797	116	5111	5414	1083	52
25307	"	17.35	18.31	6.31	6.39	13.0	3315	8002	4351	862	112	5233	5480	1029	35
25308	"	18.31	19.28	5.34	5.42	12.9	3245	7174	3589	844	109	4709	4885	838	30
25309	"	20.22	21.08	11.50	10.05	18.9	2578	8002	4958	671	127	5204	5300	1291	35
25310	"	21.09	21.55	9.70	8.32	17.4	2734	8002	4857	711	124	5128	5355	1192	27
25311	"	21.55	22.44	8.37	7.08	15.9	2909	8002	4605	756	121	5243	5317	1148	28
25312	"	22.44	23.31	7.21	6.00	14.5	2794	7266	4038	727	105	4769	4866	956	19
25313	12/4/86	0 09	0^{52}	10,80	10,31	18,7	2568	8002	5254	668	124	5144	5185	1269	30
25314	"	0 52	1.27	9.22	8.75	16.0	1664	4743	2835	433	70	3094	3119	709	18

PROCESSORS ON/OFF NSO	MIP	TOF	FAMP	⟨L⟩ 10^{30} cm^{-2} s^{-1}	BHABHA ∫Ldt nb^{-1}	∫L dt EXP ENERGY	IBM/TAPE OUTPUT	AT RUN START IO µA	AT RUN START TOF V	ONLINE REJ SUM MIPROC T_2 %	ONLINE REJ NORD-50 $T_1 \cdot T_2$ %	Σ BHA BHA	MH	E_{BEAM}	MAG. FIELD -1 × G	REDUCED TRIGGER Y/N	REMARKS
ON	ON	ON	OFF	8.13	25.05	976257	IBM	.3	1.3	51	40	440	6	17.501	4838	N	No Schwinker (test)
"	"	"	"	8.21	25.11	9787.68	"	.2	1.0	51	43	441	7	"	"	"	standard restart
"	"	"	"	6.08	20.95	9808,63	"	.2	0.8	53	45	368	2	17500	4838	"	" "
"	"	"	"	5.08	9.34	9817.97	"	.2	0.7	51	47	164	2	17.501	4838	"	" " beams dumped
"	"	"	"	8,35	27,33	9845,30	"	.3	1.1	52	40	480	3	17.500	4839	"	
"	"	"	"	6,39	22,03	9867,03	"	-	—	52	44	387	4	"	4840	"	
"	"	"	"	4.96	20.10	9887.13	"	.2	0.7	54	47	343	6	"	4838	"	
"	"	"	"	3,56	15.37	9902 50	"	0.15	0.6	55	48	270	6	"	"	"	
"	"	"	"	2.47	11.50	9914.00	"	0.11	0.5	55	53	202	2	"	"	"	
"	"	"	"	1.65	0.46	9914.46	"	0.1	0.4	53	57	8	0	"	"	"	beams lost
"	"	"	"	3,11	2,79	9917,2 5	"	1.2	4,0	43	33	49	1	A501	4842	"	beams lost.
"	"	"	"	3,70	3,02	9920,27	"	0.7	6.2	45	28	53	1	17501	4844	"	beams lost.
"	"	"	"	6.62	15.94	9936.21	"	0,6	5,0	47	29	280	3	17.500	4844	"	
"	"	"	"	5.82	13.49	9949.70	"	0.5	4.0	47	34	237	5	"	4845	"	
"	"	"	"	5.13	7.57	9957.27	"	0.5	3.6	47	35	133	3	"	4845	"	beams lost
"	"	"	"	8.82	22.54	9979.81	"	0.3	2.0	48	37	396	3	"	4841	"	
"	"	"	"	8.28	25.90	10005.71	"	0.2	1.5	52	38	455	5	"	4841	"	
"	"	"	"	7.08	9.91	10015.62	"	0.2	1.3	50	37	174	3	"	4841	"	
"	"	"	"	5.52	15.14	10030.76	"	0.2	1.8	50	35	266	2	"	4841	"	beams lost
"	"	"	"	7.50	6.83	10037.59	"	0.5	4.0	47	31	120	0	"	"	"	
"	"	"	"	5.96	14.40	10051.99	"	0.5	4.0	48	32	253	4	"	"	"	
"	"	"	"	5.22	5.29	10057.28	"	0.7	4.0	46	37	93	1	"	"	"	beams lost
"	"	"	"	10.88	27.44	10084.72	"	1.02	1.4	49	34	482	8	17500	4846	"	New beam full.
"	"	"	"	6.11	22.66	10107.38	"	0.2	0.9	53	43	398	7	17.501	4844	"	! new
"	"	"	"	6.38	22.20	10129.58	"	0.4	0.7	51	45	390	4	17.500	4844	"	Ta bene shots this is previous
"	"	"	"	5.48	19.57	10149.17	"	0.1	0.7	54	47	344	6	17.501	4846	"	
"	"	"	"	3.97	12.75	10161.92	"	0.1	0.6	54	51	224	5	17.500	4847	"	beams dumped
"	"	"	"	9.58	27.61	10189.53	"	0.2	1.4	53	37	485	8	17.500	4846	"	
"	"	"	"	8.13	23.00	10212.53	"	0.2	1.3	52	41	404	7	17.501	4847	"	
"	"	"	"	6.87	22.94	10235.47	"	0.2	1.1	53	44	403	9	17.501	4847	"	
"	"	"	"	5.51	17.08	10252.55	"	0.2	0.9	54	46	300	2	17.501	4847	"	beams dumped.
"	"	"	"	10,31	30,00	10282,55	"	0,3	1,5	50	35	527	6	17,501	4846	"	
"	"	"	"	8.37	16.74	10297.29	"	0,2	1,1	52	41	294	3	17,500	4846	"	beam dumped

16:52 YSPY: muon digitizers missing appear
muon crate 14 missing, can't be reset
17:08 muon crate 14 reset in the hall
18:34 PKR says that due to a magnet problem with DESY it will probably not be possible to have a new fill until tomorrow. So we keep this one.
19:56 muon crate 10 missing. Can't be reset even in the hall. The timing map shows a hole at the corresponding position
20:41 IBMPC reports an error: the spike in the ~~the~~ wiremap is back again
21:04 beams lost, all chamber tripped
magnet current lowered to 0. Pressing "isolator off" did not make the light switch over. "Emergency off" ~~other~~ pressed, but the breaker lamp stayed on
Reason: We didn't switch off the computer control.☺

9/4/86

0⁰⁰ Haidt: everything quiet
Gas check done

4¹⁰ Middleton: anode current alarm on JETCH although no HV ... strange! Anyway, reset OK and now all quiet. (Perhaps the alarm wasn't reset when the chambers tripped at 21:04 ?)

8⁰⁰ H. Hills. Alarms everywhere. - Trip OK ID (similar to drain I guess). Reset OK.
8⁰¹ Gas check done - fire last on limit at 9.9, otherwise OK
IBMPC stopped with "Parity Check 1"

Modifications made to JDAS:-
New histogram for Lead glass - BLOCKS/EVENT ... histograms number of blocks which fired for each event. Peak should be in first two bins. If not then LG is troublesome ... the YSPY program checks this histogram. IBM disc backed up.

13:33 anode current alarms for ID (ch. 62) was ringing, when I entered the hall PWA.
14:25 "Restart" ca. 17:00" Was no alarm either when I entered hall. T.S.
15:00 µcrate #10 and #14 contacts cleaned, both are working now in a testrun PWA
µmuon ch's #552+553 reconnected ⇒ therefore total of dead muon ch's now 9 only.
phonecall from IBM: no IBM link until 17⁰⁰

Herr Henneke(?) PKR rang questioning our luminosity constants. It seems that PKR see about 30% less at our region than rest. However our TV/summary values are similar to others. He has the same constant as we have in tagging lumi: →

the fact that our tagging lumi & bhabha lumi agree should not be given too much weight since I think some "fudging" was done. The Japanese believed the figures for the bhabha lumi PKR. Herr L asked me to see if offline lumi agrees - but our LA expert says that since the Japanese left no one understands the programs - - - - (HER)

16⁰⁰ Nastka and Greenhow
16⁴⁷ Message on TV changes from "restart not before 17:00" to "restart not before 18:00".
IBM link functioning again.
17:00 Gas check done, all OK.
17⁸⁰ Message on TV "restart not before 27⁰⁰". PKR are waiting for the vacuum to improve.

10th April 23⁵⁹ Foster + Glasser on shift.
01 00 Restart beam rescheduled for 03.00 !
02 00 Restart now is unknown.
0400 NO BEAM TONIGHT

8⁰⁰ ~~Magnusson~~ + Middleton on shift
restart ca 10:00, 11:00
8⁴⁰ gas check done

11³⁰ injection, magnet run up to 7500 A.

16⁰⁰ Hill, Bethke
ask PKR how long they will need to fill PETRA, but nobody knows. So run down Magnet to 1000.

16⁰⁹ "Injection"
16⁴² Magnet back to 7500 A.
18⁰⁰ Gas check done - all OK.
18⁴⁴ Beam back, start data taking. TOF 4V ~~[illegible]~~, but: 50% deadtime.
Muon crate 10 missing, reset does not help (also in the hall). OK now - pushed in CAMAC module.
ID+ BF ch soft trip. The jokers in PKR try to optimise the background causing our TOF reading to jump from 6V → >8V. (?!!). We complain and they try again
20⁰⁹ Run at TOF = 6.4 V (enabled ID-trip) to see what happens. ID-current 1.1, deadtime ~60%.
Still complain at PKR, they still say they do the best they can. Leinecke will come in later and try (lets hope..). Orbit correction at the moment not possible due to tripping program.
Also: IBM sometimes busy, adds to dead time...

high background in the ID. around the beampipe ("Halowalle").

20^{05} beam lost

21^{15} beam back, BP > 6V

21^{40} Still bad, PKR seem to be unable to do the orbit correction. I proposed to call Lemuche. They will do.
Meanwhile, we run with TOF-alarm for ID enabled (no common procedure, but expert is present...)

22^{00} μ crate 10 cannot be reset. Cleaned contacts of status board & SCC with rubber. OK for now.

22^{01} all central detectors tripped - beams lost.

23^{25} beam ready. BP = 5V, start run with normal conditions. deadtime ≈ 50%.
→ so slight improvement visible.
Lemuche called. They found a broken Quadrupole powersupply. There is some hope to improve...

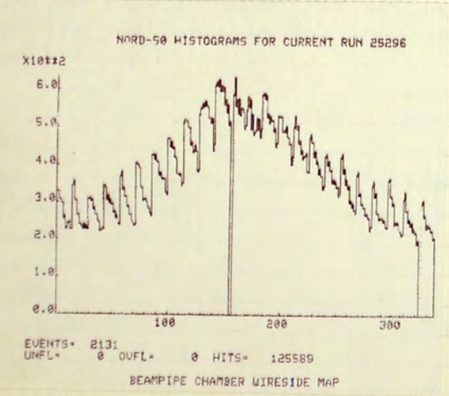
11.4.86

0^{00} M. Kuhlen and H. Riesberg on shift.

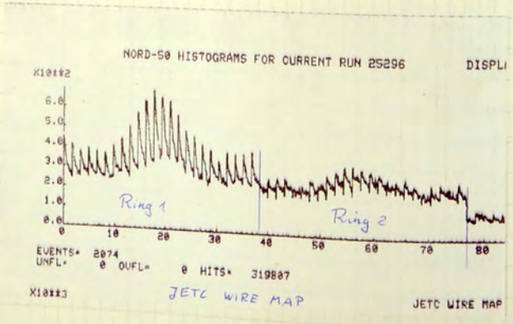
0^{20} Gas check ok.

1^{01} IBMPC finds a lot of errors. Wiremap shows a broad hill and pulse area distribution over noisy region. This is probably due to the bad beam conditions.

1^{08} beams lost



There was a high background rate at -x (horizontal, outside of PETRA ring)



Problems during the last fill - besides the high background and the high dead time:
- Muon crate 10 had to be reset very often on the CAMAC crate or in the hall
- The high background caused a fluctuating high anode (over) current in channel 51 (cell 11-2). The ID has to be switched off, if the rate of ovc current errors increases! I think this current is not a pick-up, but comes from the cell. R

1^{15}-2^{25} SHORT BREAK to repair a power supply. Magnet 2000 A

2^{45} New fill is ready
Much better conditions: TOF rate 2V, deadtime 24%

4^{10} impossible to reset μ-crate 10. Will try again at start of next run - power off/on

4^{40} After 10 min running: μ-crate 10 cannot be reset

4^{45} Stop run to move boards of μ-crate 10
Mr. Matthiessen (PKR) says that power supply of Quad is not really repaired. Error may happen again. He is still optimizing the beam and proposes to keep it a bit longer.

5^{15} Again μ crate cannot be reset

5^{25} beams lost

6^{22} New Fill ready: TOF rate again 4V, deadtime 40%, Muon crate 10 dead

8^{00} Becker, Foster
Gas check done ✓ Short break — Peter quads.

8.29 Injection

9.00 Extremely high - background - PKR try to optimize.

9.34 Still no improvement - we contact again PKR.
Muon crate 10 working again, but for how long! TJG
(chip found in crate computer with bent leg, making only sporadic contact?)

9.50 TOF rate even worse >8V - other parameters are OK for data taking - problem is program for orbit correction - they are working on it (still!).

10.50 Still can't run - Colls have also high background. PKR agree to make a new filling very soon. TOF rate >10V
Well at least the PHONE works!

11.05 PKR inform us they have vacuum problems - would like ½/2 hrs break. We agree!
Set magnet to 1000A.

12:56 Synchrotron down - restart ambaum.

14:20 magnet → 7500 A

15:07 YSPY: μ digitizer missing ← what does? any action?

15:25 VTrd + IO trip, Tare.

15 33 " "

15 39 JOAS Readout error 32 - Muinis LAM at FEP Ready (JETCH) appears many times. Reload MOP

1602 Trigger 1 output missing reported on YSPY.

1600 Knies + Middleton on shift.

1612 YSPY errors Trigger 3 I/P missing ST 29 GP 5
Muon digitizers missing 151

1621 ID + VTXC soft trip.

1622 JDAS readout error 32 – missing LAM at FEP Ready (JETH) ... many times ... reload MOP ... OK now.

1627 JDAS readout error 65 – TIMEOUT whilst reading J68K processors ... many times ... reload MOP ... OK now.

1630 Gas check done

1815 YSPY errors Trigger 1 O/P missing 35
Muon digitizers missing 153
" " " 187
Trigger 2 I/P missing 163
1 I/P 73
2 I/P 163

1814 Under Howard Mills instructions, changed the ~~YSPY~~ interval between displays from 500 to 1000 events (as it should normally be). We will come into effect next run.

1856 JDAS Readout error 32 – missing LAM at FEP Ready (JETH) ... many times ... reload MOP ... OK now.

2053 ID + VTXC soft trip

2309 Muon crate missing 5 (but occasionally 1 or 3) has been briefly appearing on the colour monitor every 5 – 10 mins for most of the shift! (no action taken).

0000 Stephens + Hill on shift.

0020 Gas check done Athan reduced from 18.4 → 18 (Kr/Ad Zn L = 10.4)

0110 Current in Z, VTX, ID all had trip.
Currents down by ~ 50% everyone agrees to need fill.

200 "Short break" Does a problem with one of the "transport" magnets in the synchrotron – should take ~ 3/4 – 1 hr

400 Magnet cannot be fixed this shift. Prospect no more beam tonight.
No restart before 800.

Magnet at 500 amps

530 INJECTION !!! Magnet up to 7500 amps

727 JDAS readout error 33 – missing lam board 2 crate 3 TOF1 counters.

800 H2 + P.S. on shift.

817 Gas check done

1340 beams lost : "short break"
very frequent chamber alarms (Jet + VTX - chamber) without beam & HV

1500 beam are back again

1600 Zimmer and Greenshaw

1615 Gas check done, all OK.

1650 Repeated ID soft trips and hard trips with HV input alarm (alarm source 7)

1648 JDAS readout error 74 wrong LAM br 1 cr 1 b.p. chan. 1101
—— " —— 33 br 4 cr 1 JETC print 702
10 * 177777 2 * -1 177777 -1 3 * 177777 1182 177772
1700 ... Trips the last ... (every 5-10 min) 1185 , JETC print 703

2000 After one of the many trips the Inner detector HV ramping motor gave up the ghost while attempting to lower the HV. It stuck with perhaps ~ 1/4 of the normal running HV still on the chamber. Riesberg is on his way, the motor doesn't seem to be getting hot. Rensberg, Matsumura & Zimmer discover short circuit in crate containing alarm modules. Replaced crate. Carry on at run 25727, time 22:30

They forgot to reset the taboo inject switch above the general HV control Ken

13.04.86

000 Smolik & Magnussen on shift

020 Gas check o.k.

130 ID + VX soft trip

154 — " — beams lost

244 —— " —— beams lost

402 ID + VX + Z hard trip (Anode current alarm ID ch. 62)

426 —— " ——

455 —— " ——

508, 512, 518 —— " ——

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	T1 ACC SUM	T2 ACC SUM	TIBIT 2 EL6>16eV	T2 BIT 4 2T.E4>2T2
25315	12/4/86	6.11	6.57	10.48	10.71	17,2	2766	8002	4817	719	123	5128	5366	1156	35
25316	"	6.58	7.49	9.09	9.28	16,5	2874	8002	4804	748	123	5671	5508	1148	30
25317	"	7.49	8.27	7.61	7.63	15.6	2166	5862	3368	564	88	3756	3996	764	21
25318	"	9.04	9.43	11.61	11.27	23	2346	8002	5183	610	141	4964	5567	1231	22
25319	"	9.44	10.26	9.94	9.54	21	2513	8002	5002	654	136	5013	5689	1210	40
25320	"	10.27	11.11	8.43	7.99	17	2443	6890	4036	636	106	4330	4816	987	33
25321	"	12.12	12.58	11.69	10.28	21	2498	8002	5238	650	138	4925	5570	1184	35
25322	"	13.01	13.46	8.82	7.61	18.	2683	7365	4432	698	127	4611	5283	1073	28
25323	"	15.08	16.29	10.04	9.50	27.8	3156	8003	4843	821	228	5077	5492	1227	34
25324	"	16.35	17.03	7.55	7.06	17.2	941	2538	1393	244	42	1593	1717	345	7
25325	"	17.48	13.42	11.23	10.41	20.2	2530	8002	4341	673	136	4046	5557	1147	34
25326	"	19.42	20.02	7.62	7.17	16.2	955	1269	718	121	19.6	785	884	166	2
25327	"	22.36	23.22	9.35	9.20	19.3	2638	8002	4962	686	133	4977	5569	1172	30
25328	"	23.21	0.11	8.02	7.87	15.9	2952	8002	4672	768	122	5140	5572	1136	23
25329	13/04/86	0.12	0.57	6.88	6.73	14.5	2714	6945	3776	706	102	4444	4862	868	20
25330	13/04/86	1.28	1.56	11.01	11.22	21.2	5829	4445	2826	353	74	2774	3026	663	178
25331	"	2.41	2.44	10.78	10.96	23.8	165	635	397	43	10	338	395	108	32
25332	"	3.41	4.33	9.93	10.13	21.1	2552	8002	4965	664	140	4874	5833	1120	27
25333	"	4.33	5.35	8.45	8.62	17.5	2780	8002	4681	724	127	5074	5570	1090	22
25334	"	5.35	6.27	7.03	7.17	15.1	3061	8002	4345	796	120	5134	5539	1064	33
25335	"	6.30	6.31	6.06	6.19			84	40						
25336	"	7.07	7.49	10.59	10.89	20.9	2486	8002	4990	644	134	4955	5536	1191	27
25337	"	7.48	8.33	9.20	9.46	18.3	2674	8002	4827	696	127	5072	5466	1223	33
25338	"	8.34	9.22	7.93	8.16	16.2	2851	8002	4568	742	120	5102	5334	1103	35
25339	"	9.22	10.15	6.82	7.04	14.6	3110	8002	4418	810	118	5210	5470	1080	27
25340	"	10.54	11.28	11.42	11.29	35.4	2015	8002	5694	524	186	4212	4277	929	37
25341	"	11.28	12.14	10.07	9.91	19.4	2550	8002	5119	663	129	4722	5341	1130	22
25342	"	12.15	12.27	7.99	7.54	17.2	90	272	179	24	4	176	153	38	0
25343	"	12.25	12.35	7.76	7.32	16.2	620	1763	997	161	26	1091	1223	223	8
25344	"	14.06	14.49	11.06	10.46	19.5	2540	8002	4938	661	129	5000	5346	1177	28
25345	"	14.50	15.35	9.60	9.00	18.6	2657	8002	4887	691	129	5085	5446	1193	33
25346	"	15.36	16.23	8.31	7.74	16.6	2821	8002	4596	733	121	5120	5384	1139	27
25347	"	16.24	16.44	7.22	6.69	16.0	1170	3245	1776	304	48	2105	2143	432	8

PROCESSORS ON/OFF NSO	MIP	TOF	FAMP	CL) 10^{32} cm^{-2}s^{-1}	BHABHA SLdt nb^{-1}	SLdt EXP ENERGY	IBM/TAPE OUTPUT	AT RUN START TOF V	AT RUN START I D mA	ONLINE REJ SUM MIPROC T2 %	ONLINE REJ NORDSO T.T2 %	Σ_{BHA} BHA	MH	EBEAM	MAG FIELD -1×G	REDUCED TRIG Y/N	REMARKS
ON	ON	ON	OFF	8,47	25,62	10324,31	IBM	1.25	0.2	52	41	450	11	17501	4843	N	
"	"	"	"	7,94	24,36	10349,27	"	1,2	0.2	52	41	428	8	17500	4844	"	
"	"	"	"	6.44	15.54	10364,81	"	0.9	0,2	53	44	255	6	17.501	"	"	
"	"	"	"	10.35	26.47	10391.28	"	1.5	0.2	51	36	465	7	17.501	4847	N	
"	"	"	"	8.73	24.76	10416.04	"	1.5	0.3	52	39	435	7	17.500	4849	N	
"	"	"	"	7.13	19.07	10435.11	"	1.2	0.2	52	43	385	7	17.501	4850	N	beams dumped
"	"	"	"	8.81	22.00	10457.11	"	1.7	0.4	51	36	448	5	17.501	4853	N	
"	"	"	"	6.90	14.30	10476.41	"	1.2	0,25	53	41	301	5	"	"	N	beam lost
"	"	"	"	7.02	23.46	10499.87	"	1,7	0,4	53	41	412	5	"	"	"	
"	"	"	"	5.48	5.75	10505.62	"	1.1	0.3	51	47	101	3	17.500	4856	"	beams dumped
"	"	"	"	8.62	23.23	10528,85	"	1.5	0.3	51	40	408	12	"	4856	"	
"	"	"	"	6.24	2.85	10531,70	"	1.2	0.3	53	45	50	2	"	"	"	Izer detector HV problems forced run stop
"	"	"	"	8.18	2901	10555.78	"	1.5	0.4	52	39	423	5	"	"	"	
"	"	"	"	6.48	22.03	10577.81	"	1.2	0.3	54	43	387	9	"	"	"	
"	"	"	"	5.23	13.78	10591.59	"	1.0	0.3	53	37	242	7	"	4850	"	beams dumped
"	"	"	"	8.77	14.35	10605,94	"	1.7	0,4	51	38	252	5	17.501	4848	N	beams lost
"	"	"	"	9.95	1.82	10607.76	"	1.7	0.4	47	39	32	1	17.500	4847	N	beam lost
"	"	"	"	7.96	21.07	10628.83	"	1.6	0.4	52	39	370	6	17.501	- " -	N	
"	"	"	"	6.36	20.50	10649.33	"	1.3	0.35	53	43	360	4	17.501	"	N	
"	"	"	"	4.97	18.16	10667,49	"	1.0	0.3	53	47	319	5	17.500	"	N	
				4.48	0.06	10667,55	"										beams dumped
"	"	"	"	8.97	22.94	10690.49	"	1.5	0.4	50	39	403	5	17.501	4847	N	
"	"	"	"	7.90	22.37	10712.86	"	1.3	0.3	52	41	393	10	"	"	N	
"	"	"	"	6.57	20.55	10733.41	"	1.1	0.22	51	44	361	4	17.500	4849	N	
"	"	"	"	5.36	16.91	10750.32	"	0.9	0.2	54	46	297	5	17.501	4850	N	
"	"	"	"	8.40	17.02	10767.34	"	1.5	0.35	46	30	299	2	17.500	4853	N	
"	"	"	"	6.67	20.04	10787.38	"	1.8	0.4	53	37	352	3	17.501	4853	N	condition are a bit worse now
"	"	"	"	6.24	0.63	10788.01	"	1.4	0.3	54	37	11	0	17.501	4853	N	
"	"	"	"	5.22	3.93	10791.94	"	1.1	0.3	51	45	69	2	17.500	4837	N	beams lost
"	"	"	"	9.16	25.67	10817.61	"	1.5	0.4	50	40	451	12	"	4838	N	
"	"	"	"	7.87	22.09	10839.70	"	1.35	0.35	52	40	388	7	17.500	4839	N	
"	"	"	"	5.97	13.35	10853.55	"	1.2	0.35	52	44	331	2	17.501	4841	"	
"	"	"	"	5.33	5.24	10863.79	"	1.1	0.3	52	46	92	4	17.500	"	"	Beams lost

13.4.86 8^{00} Middleton and Kvehbiel on Shift.
There is a hole (not absolutely zero) in the Z-chamber wire map. We call Hedgecock
On Colour Display the numbers MON4 and MON5 change every update. Whats on them?
In the new JDAS manual it is said that MON5 shows events looked at ... but the event display is
not active # MON5 shows a number about halfway between N50 and IBM
MON4 shows random numbers between zero and 99 (all MON's)
I called HEM for advice. He said that these numbers had been occupied by J.O. and we
need not to worry about them.

8^{40} gas check done, OK.
10^{55} muon crate 10 permanently missing. will not reset in Hardware room or hall. Jan Chin will come +
investigate. Problem traced to a faulty Camac module. SC.
11^{00} Z-chamber saw me coming! Hole has now disappeared although I didn't do anything to it! SC
12^{35} beams lost — short break — cooling problem with PETRA bending magnets.
12^{45} Jan Chin eventually fixed muon crate 10 problem by exchanging CAMAC module.
12^{46} run magnet down to 1000A.
13^{40} Injection — magnet back up to 7500A.
15^{32} Z-chamber trip

16^{00} Bartel & Walker on shift
16^{43} Beams lost - all chambers tripped.
17^{42} Jet-ch. ~~off~~ trip.
21^{45} Std. histograms: • Timing signal from old pick up shows a
#25352 small additional peak in channel ~ 118.
No action taken, experts should check it tomorrow
• Trigger channel ~ 150 nearly dead. Seems to be
so since long. No action.

14.4. 0.00 Naroska Hoffmann-Brand, 4.00 Zimmer replaces Hellenbrand
5:21 Z-chamber trip.
Somehow then all voltages were off (TOF, LV...) ← ??
Restart ok.
5:45 Missing LAM J68 4-Bank → Jadego
7.30 Frequent trips of Counters. PKR tries to optimize lumi, they will do it
more carefully.

8^{00} Chmi, Felst on shift

8^{10} Gas check O.K
8^{10} Hard trip all chamber
8^{25} " "
10^{42} " "

16^{00} E. Elsen & J. Hagemann on shift

16^{23} Gas check done, O.K.
17^{10} Hard trip, call 62
19^{25} —"—, call 62
21^{55} Power failure due to overtemperature in branch 1. (Vertex - FADC). Exchange power pack.
23^{40} N50 timeout when starting first run after fill. Abort - N50 (2x) does not help.
Restart N10 → Memory error.
Start run anyway. Seems to work ...

15.4.86 00^{00} WALKER + BECKER on shift.
0^{10} Gas check o.k.
3^{10} 10 x VTX-ch.
3^{21} Self trips from "spiky" background, i.e. TOF rate occasionally leaves scale...
3^{33} ...and again
4^{45} Missing LAM tr. 1 cr. 1 ~~BP~~ ch.
6^{22} Z-chamber trip.
6^{44} " "
6^{53} All chambers hard trip

8^{00} Schmidt + Komamiya
Gas check O.K. reset VTX ch gas alarm

9^{25} Magnet => 500A - This should have been done 2 hours ago - SAVE MONEY !!! DM 600/hour I'm told
12^{00} 14^{00} - 15^{00} NO ONLINE CONNECTION (Magn. Calib.)
Petra restarts CA 22^{00}

RUN	DATE	START	STOP	AT RUN START I⁺	AT RUN START I⁻	DEAD TIME %	TIME (sec)	RECORDS IN	RECORDS OUT	ALL *10⁶	T₀ REQ *10⁶	T₁ ACC SUM	T₂ ACC SUM	T₁ BIT 2 ERGEBN	T₂ BIT 7 ZTR = ZTR	PROCESSORS, ONLINE N50	M.A	TOF	Fm
25348	13/4/86	17.26	18.13	10.90	11.17	24.2	2615	8002	5029	680	164	4944	5341	1202	36	ON	ON	ON	Off
25349	"	18.13	19.00	8.95	9.14	16.8	2772	8002	4651	720	120	5143	5429	1207	30	"	"	"	"
25350	"	19.01	19.52	7.69	7.86	14.9	3024	8002	4448	786	117	5214	5428	1123	36	"	"	"	"
25351	"	19.51	20.17	6.57	6.72	14.2	1489	3773	1998	387	55	2437	2619	468	8	"	"	"	"
25352	"	21.11	21.51	11.37	11.47	22.3	2403	8002	5184	624	139	4987	5615	1219	39	"	"	"	"
25353	"	21.52	22.34	9.80	9.83	20.7	2510	8002	4953	652	135	4977	5494	1145	26	"	"	"	"
25354	"	22.35	23.22	8.50	8.53	16.6	2944	8002	4636	739	122	5094	5453	1142	32	"	"	"	"
25355	"	23.23	23.59	7.26	7.28	14.5	2095	5490	3054	544	79	3558	3790	767	16	"	"	"	"
25356	14/4/86	0:34	1:11	11.04	11.11	27.6	2140	8002	4911	557	153	4920	4989	1076	35	on	on	on	off
25357	"	1:11	1:57	9.68	9.73	22.7	2368	8002	4815	676	140	4854	5400	1061	39	"	"	"	"
25358	"	1:57	2:37	8.50	8.42	17.9	2731	8002	4610	710	127	4997	5511	1065	39	"	"	"	"
25359	"	2.38	3.02	7.41	7.43	16.0	1410	3955	2240	366	58	2525	2684	502	15	"	"	"	"
25360	14/4/86	3:55	4:38	10.97	11.15	19.2	2582	8002	4986	672	129	5089	5543	1241	38	on	on	on	off
25361	"	4:38	5.33	9.40	8.30	17.4	2736	8002	4768	711	123	5108	5405	1225	28	"	"	"	"
25362	"	5:34	5:45	7.85	7.28	15.3	496	1391	790	128	20	832	902	210	8	"	"	"	"
25363	"	5:48	6:21	7.52	6.96	14.1	2004	5253	2948	521	73	3406	3521	755	23	"	"	"	"
25364	"	6 57	8 16	10.68 7.84	10.84 7.59	17.8	2657	8002	5039	691	123	5198	5270	1228	38	"	"	"	"
25365	"	8 16	9 01	7.79	7.55	15.4	2605	7226	4101	678	104	4752	4610	1077	21	"	"	"	"
25366	"	9 35	10 25	9.91	10.02	17.4	2743	8002	4442	713	124	5174	5359	1237	28	"	"	"	"
25367	"	10 24	11 17	8.33	8.38	15.6	2879	8002	4673	749	116	5183	5260	1244	23	"	"	"	"
25368	"	11 17	12 10	7.05	7.09	14.4	3074	8002	4457	799	115	5223	5333	1151	21	"	"	"	"
25369	"	12 10	12 17	6.00	6.03	14.2	359	937	519	93	13	563	626	117	2	"	"	"	"
25370	"	12 52	13 41	10.33	10.48	18.9	2598	8002	5021	676	127	206 5288	5295	1302	35	"	"	"	"
25371	"	13 41	14 28	8.62	8.73	17.2	2758	8002	4918	717	123	5211	5298	1231	24	"	"	"	"
25372	"	14 28	15 15	7.41	7.52	16.2	2860	8002	4595	743	120	5130	5296	1175	29	"	"	"	"
25373	"	15 15	15 47	6.40	6.50	14.6	1822	4678	2646	474	69	3024	3210	661	14	"	"	"	"
25374	"	17 13	17 58	11.12	10.39	20.1	2552	8002	5181	664	133	5091	5573	1317	37	"	"	"	"
25375	"	17 58	18 45	9.44	8.76	18.7	2625	8002	4954	683	128	5080	5433	1240	42	"	"	"	"
25376	"	18 46	19 38	8.07	7.41	17.2	2834	8002	4618	737	127	5151	5358	1230	26	"	"	"	"
25377	"	19 39	20 02	6.88	6.26	15.3	1389	3725	2100	362	55	2452	2459	541	7	"	"	"	"
25378	"	20 36	21 16	11.28	11.36	21.3	2357	8002	5294	613	131	5132	5238	1404	39	"	"	"	"
25379	"	21 16	21 52	9.64	9.70	20.1	2129	6944	4391	554	112	4470	4499	1188	21	"	"	"	"
25380	"	21 57	22 16	8.29	8.34	17.6	1033	3161	1939	269	47	2092	2090	508	12	"	"	"	"
25381	"					junk				no event						"	"	"	"

⟨L7⟩ 10^{27} cm^{-2} s^{-1}	SHABNA SL dN/dt s^{-1}	SL ∫dt EXP. ENERGY	IBM TAPE ATTACH	AT RUN START TOF V	AT RUN START ID nA	ONLINE REC. SUM MARAC T_2 %	ONLINE REC. HARD-SP T_1+T_2 %	Σ SHABNA	MA	E_{BEAM}	MAGN FIELD 1+5	REMARKS
8.55	24.06	10897.87	IBM	1.75	0.5	49	38	423	4	17.500	4842	
7.23	23.29	10911.16	"	1.15	0.3	52	43	409	6	17.501	"	
6.16	15.98	10931.14	"	0.95	0.25	54	46	351	3	17.501	4840	
4.76	8.77	10939.91	"	0.75	0.20	54	49	154	2	17.500	4841	Beams dumped.
10.01	23.86	10963.77	"	1.7	0.45	51	36	419	2	17.501	4838	
8.23	20.21	10983.98	"	1.6	0.45	51	39	355	7	17.500	"	
6.97	20.33	11004.31	"	1.25	0.4	52	43	357	5	17.501	"	
5.50	12.98	11017.29	"	0.9	0.3	54	46	224	4	17.500	"	Beams dumped.
9.11	21.58	11038.87	IBM	1.8	0.7	46	40	379	3	17.500	4839	
7.90	19.47	11058.34	"	1.6	0.8	48	41	352	6	"	4838	
6.35	18.73	11077.07	"	1.3	0.4	51	44	329	5	"	4838	
5.83	7.46	11084.53	"	—	—	52	45	131	2	"	"	beams dumped
9.71	26.25	11110.78	IBM	2.0	0.4	52	39	461	7	17.500	4837	
7.75	26.41	11137.19	"	1.2	0.3	51	41	464	8	"	"	
6.85	3.70	11140.89	"	0.8	0.2	52	45	65	2	"	"	
6.41	13.66	11154.55	"	0.8	0.2	53	45	240	4	"	"	beams dumped
9.22	25.39	11179.94	"	1.8	0.5	52	38	446	10	17.501	4838	
6.44	19.53	11199.47	"	0.9	0.2	52	45	343	7	17.500	4838	beams dumped
8.89	25.34	11224.81	"	1.4	0.35	52	39	445	6	17.501	"	
7.41	22.71	11247.52	"	0.9	0.25	51	43	399	7	17.500	"	
5.92	13.18	11266.70	"	0.8	0.2	53	46	337	10	17.500	4840	
4.86	1.88	11268.58	"	0.7	0.2	51	46	33	0	17.501	"	dumped
9.80	26.19	11294.77	"	1.3	0.3	52	38	460	12	17.500	4842	
7.28	21.69	11316.46	"	1.2	0.3	53	40	381	6	"	4841	
6.27	18.10	11334.56	"	1.0	0.2	51	44	318	3	17.501	4842	
4.94	10.42	11344.98	"	0.8	0.2	53	45	183	3	"	"	dumped
10.22	29.38 27.88	11374.36	"	1.5	0.2	53	36	516	6	"	4844	
8.35	24.03	11398.39	"	1.2	0.15	51	39	422	5	"	"	
6.72	21.52	11419.91	"	1.1	0.25	52	44	378	2	"	4843	
5.69	9.11	11429.02	"	0.8	0.2	53	45	160	1	"	4842	Beams dumped
11.79	30.17	11459.19	"	1.5	0.2	50	35	530	6	"	4840	
9.56	23.17	11472.36	"	1.2	0.3	50	38	407	9	"	4840	Power off in CAMAC crate
8.59	10.25	11482.61	"	1.0	0.2	52	40	180	4	17500	4840	Beam loss
												N50 hang up

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 E_EG > 6GeV	T2 BIT17 2T·E+ ≥2TR	PROCESSOR ON/OFF N50	MIP	TRF	FAN
25382	14.4.86	23 40	0 29	10.11	10.43	18.8	2532	8002	5045	658	123	5244	5152	1322	22	ON	ON	ON	OFF
25383	15/4/86	0 30	1 18	8.49	8.70	16.0	2843	8002	4698	789	117	5210	5356	1224	28	"	"	"	"
25384	"	1.18	2.09	7.24	7.44	14.2	3018	8002	4433	784	111	5337	5171	1196	29	"	"	"	"
25385	"	2.10	2.17	6.21	6.39	13.9	391	1076	596	101	14	696	660	152	1	"	"	"	"
25386	"	3:14	4:05	10.48	10.39	18.2	2579	8002	5015	671	128	5090	5410	1250	32	"	"	"	"
25387	"	4:06	4:51	8.75	8.56	17.9	2718	8002	4663	707	127	5121	5416	1143	33	"	"	"	"
25388	"	4.52	5.41	7.62	7.44	16.8	2919	8002	4448	759	127	5228	5334	1128	32	"	"	"	"
25389	"	5.42	6.35	6.65	6.48	15.0	3103	8002	4413	807	120	5229	5319	1041	26	"	"	"	"
25390	"	6.39	7.00	5.80	5.64	14.3	829	2066	1108	215	30	1322	1443	263	2	"	"	"	"
25391-92	17.4.86					Junk										"	"	"	"
25393	"	19:21	19:27	7,18	6,86	15,9	292	787	397	76	12	418	559	102	2	"	"	"	"
25394	"	19:28		7,17	3,45	14,9		155	84							"	"	"	"
25395	"	17.33	17.34	9.59	9.67			23	17							"	"	"	"
25396		17.38	17.49	9.37	9.67	20.1	449	1242	727	116	23	754	933	229	9	"	"	"	"
25397	"	17.49	17.56	8.91	9.20	19.7	360	1132	665	93	18	672	778	134	2	"	"	"	"
25398	"	18.36	18.37					15											
25399	"	18.40	19.26	9.80	10.12	21.4	2542	8002	5109	669	143	4775	5725	1222	41	"	"	"	"
25400	"	19.37	20.34	8.26	8.57	18.7	2896	8002	4798	729	136	4933	5754	1088	40	"	"	"	"
25401	"	20.26	21.19	7.19	7.48	16.9	3000	8002	4624	780	131	5166	5677	1093	39	"	"	"	"
25402	"	21.25	21.41	6.08	6.35	14.8	935	2311	1254	242	35	1523	1637	301	10	"	"	"	"
25403	18/4/86	0.42	1.26	10.60	10.69	18.5	2608	8002	5044	678	120	5158	5406	1301	39	R	R	R	R
25404	"	1.25	2.12	7.92	8.07	16.7	2793	8002	4685	727	121	5126	5564	1189	28	R	R	R	R
25405	"	2.12	3.05	7.80	8.05	15.4	3058	8002	4633	795	122	5173	5684	1128	38	R	R	R	R
25406	"	3.05	3.48	6.86	6.95	13.9	2556	8542	3457	663	92	4046	4480	841	19	R	R	R	R
25407	"	4.37	5.18	11.50	11.30	20.9	2410	8004	5245	629	131	5060	5411	1316	23	"	"	"	"
25408	"	5.18	6.01	9.97	9.78	20.4	2541	8002	5094	661	135	4907	5826	1255	34	"	"	"	"
25409	"	6.01	6.48	8.68	8.51	17.4	2780	8002	4758	723	126	4945	5734	1128	33	"	"	"	"
25410	"	6.51	7.42	7.51	7.35	15.4	3022	8002	4568	786	121	5073	5695	1103	31	"	"	"	"
25411	"	7.42		6.54	6.39	13.6	838	2159	1142	218	29	1392	1472	280	10	"	"	"	"
25412	"	08 53	09 29	8.32	7.82	16.9	2115	5577	3184	553	88	3440	4062	721	25	"	"	"	"
25413	"	09 30	10 22	7.51	7.03	16.4	3019	8002	4526	785	130	5144	5449	1136	28	"	"	"	"
25414		STOPPED		AFTER		APPROX			15	EVENTS.	—	—	—	—	—	"	"	"	"
25415	"	10 28	10 41	6.44	5.99	16.8	742	1930	1043	193	32 ~~193~~	1219	1411	249	9	"	"	"	"
25416	"	12 24	12 27	10.54	10.91	22.0	79	317	210	20	4	184	177	46	3	"	"	"	"

<L> 10^{30} cm^{-2}s^{-1}	BHABHA SLAT nb^{-1}	SLAT EXP. ENERGY	IBM TAPE OUTPUT	AT RUN START TOF [V]	AT RUN START ID [μA]	ONLINE REJECT SUM MUPERC T2%	ONLINE REJECT NORD50 T1+T2%	Σ BHABHA	MH	EBEAM	MAGN. FIELD -1×G	REMARKS
9.74	27.53	11509.94	IBM	1.5	0.15	51	38	490	8	17.501	4840	
7.89	24.19	11534.13	"	0.9	0.25	53	42	425	7	17.500	4841	
6.13	21.01	11555.14	"	0.75	0.2	53	46	369	8	17.501	4840	
5.08	2.39	11557.53	"	0.65	0.2	51	46	42	1	"	"	Beams dumped.
8.57	23.29	11580.82	"	1.3	0.25	51	38	409	11	"	"	
6.56	18.50	11599.32	"	1.2	0.20	52	43	325	11	"	"	
5.05	16.97	11616.29	"	1.0	0.18	53	46	298	7	"	4841	
3.93	13.21	11629.50	"	0.9	0.2	53	46	232	5	17.500	4840	
3.26	3.30	11632.80	"	0.75	0.2	55	48	58	0	"	"	Beams dumped
												New ID-gas
-	1.54	11634.34	"			49	48	27	0	17.500	4843	
	0,06											System broken
			"									
<<15.96"	3.81	11638.15	"	1.8	0.4	54	43	67	2	"	4838	NOR hang up. Signal after limi problems. Ignore trigger limi signals.
7.26	2.50	11640.65	"	1.6	0.4	47	43	44	0	"	4839	Beams lost.
				2.1	0.5							
8.10	24.31	11664.96	"	2.4	0.5	53	37	427	6	17.501	4842	
6.40	18.06	11683.02	"	1.5	0.35	52	41	355	6	17.500	4844	
6.13	18.79	11701.81	"	1.0	0.2	55	43	330	8	"	"	
4.88	5.01	11706.82	"	0.9	0.2	58	48	86	1	"	"	Beams lost.
9.89	30.03	11736.85	"	1.6	0.2	53	38	528	6	"	4842	
8.02	22.77	11759.62	"	1.25	0.2	53	43	400	9	"	4841	
6.39	21.23	11780.85	"	1.05	0.15	55	44	373	3	"	4842	
5.08	14.40	11795.20	"	0.8	0.15	54	47	253	4	"	4841	
10.56	29.20	11824.40	"	1.8	0.4	51	35	513	9	"	4840	
8.76	25.11	11849.51	"	1.6	0.3	52	37	441	6	"	"	
7.19	20.72	11920.23	"	1.1	0.2	52	42	364	3	17501	"	
5.78	20.21	11940.44	"	0.95	0.2	54	44	355	8	17500	4840	
5.31	4.78	11945.22	"	0.80	0.2	53	49	84	0	17501	4841	Beams dumped
5.21	12.33	11957.55	"	1.0	0.3	53	44	216	2	17522	4840	
5.25	18.22	11975.77	"	1.0	0.2	53	45	320	4	17501	4843	
—	—	—	"	0.8	0.2	—	—	—	—	—	—	BEAM LOST (e^-)
4.35	4.88	11980.15	"	0.7	0.2	56	48	77	2	17500	4837	
10.14	1.02	11981.17	"	1.3	0.3	40	37	18	0	17500	4838	Trigger hung up. Run stopped

15/4/86

16⁰⁰ Stephen & Schneekloth on shift

Still restart ca 22⁰⁰
Problem in the rebuild of a DESY magnet.

16¹⁵ Gas check OK.

Telephone saga – the expert knows what is wrong but some boards have to be repaired – this requires a few days. They will contact us when it all works. In meantime 2563 is routed across to 3236. HEH

21¹⁵ Messages changes to "Restart not before 10am"

we check with PKR. They have found more problems with magnet and are trying to power it up.
We inform the night shift of the latest development.

Magnet set at 100 amps.

Message now – "Restart not before 14⁰⁰ hrs"

so we turn Magnet ~~off~~ to 0 amps.

16/4/86

0:15 gas check o.k. HHH

8.00 Restart not before 2pm 16.4.
Gas check ok.

11⁰⁰ Vtx-8. Valve Error Reset o.k. (H.2)

As PETRA is still down*) we begin to exchange the gas of the Inner Detector.
→ I.D. not available until 2 AM on 17.4.86 (Thursday)
If at that time the beam conditions are not good, we would like to continue the gas exchange till 8 am. Please call me at any time if there are problems Rossberg

*) and no further shut down is expected since Herkules has already passed underneath PETRA in the night 14/15 April.

16⁰⁰ Olsson, Spitzer Gas-check done.
17²⁵ Injection. Ring magnet up to 7500 A.
18⁰⁰ On TL: Restart 1830 Ring magnet down to 2500 A
18¹⁵! Injection, Magnet to 7500

17/4

0000 Stephen 00 → 6⁰⁰ Kleinwort 600 → 800
0020 gas check done.
750 New ID gas fill ready – We missed 3 PETRA fillings R

08 00 Dreckmann Greenshaw

Test run revealed two faults: ① mm crate 4 missing (fuse burnt out, replaced now OK)
② Next refused to get pat pulse event 12 (first try) and then
1 (second try). Take ypara, zmonx and zdat were rebuilt. Retry run start, get message
ypardt (error 14 in 75451) keeput. Try to rebuild ypardt.
Get:

```
L.ADR:  0  U.ADR. 27112  C.LADR: 27113
* END
* Y
* EXIT
```

} normal (?)

output file: } not normal!

Jan Olsson told us that this probably means the system will have to be rebuilt.
We call Howard, he is in a his way here. Another minor point, ~~VSPY~~ terminal is sick. Looks like

09 00 Gas check done. The O_2 and H_2O monitors had been left on channel 8 with the result that there was no flow through them and hence the readings on the meters were meaningless. The monitors were set to channel 4. Please note, we read channels 4, 5, 6 and 7 only! After having switched monitor channel check that gas is flowing through the monitors! (Flowmeter is in panel above switches)

Reluctant to go to a backup disc, I rebuild the SINTRAN System and JDAS Tapings OK offline.

IBM link checked as far as the MUX for ~ 8 minutes – no problem. HEH

11[00] Having finally got hold of a working JADE, PETRA decides to do something peculiar. CELLO say something about measuring magnet positions after repair work. Possibly no CELLO data for 36 hrs although "it has not been decided yet and I don't really know anyway" was the best I could get from the CELLO man.

11[38] CELLO coolant lines acting up one, Feldt phoned to confirm the above, Magnets must be re-surveyed as a result of Uranium piping under PETRA and causing subsidence.

14[42] Magnet trip. Called HK1. Repair ok?

11[49] Despite above comments we now have luminosity at our disposition

12[07] Magnet back up to 7500 A try to run. Two pedestal events then everything stops. Watchdog ref param = 104 on system console. JDAS terminal says

JDAS readout error ST - system crate watchdog flag PARMS = 067563 177777 (oct)

13[00] After loading Backup System we forgot to update Experimental Parameters
→ There are two very short (100-200 events) runs with Run number 25391.
One of them is junk (corrupt) anyway (System was overwritten) → delete both?

13[15] Restart 16[00] Magnet adjustment in the tunnel.
JADE magnet run down to 500 A.

15[00] Jet chamber anode current alarm. No beams.

15[45] "Injection" Magnet back up to 7500 A. Nord still happily churning through its memory test

16[00] Walker & Steffen on shift.
Call from CELLO: the machine group hopes to get the magnets adjusted and beam again during this shift. We too.

17[15] LUMINOSITY !!!

17[17] Background optimization - TOF meter needle stops trying to escape!

17[32] All chambers trip - PETRA are optimising again.

17[42] No tagging lumi - but HT was on. Problem was crate with no power; on switching on lumi figures went crazy, so run stopped.

17[49] New run - no problem (yet!)

17[50] VTX-ch. and jet-ch. trip. twice.

17[56] Beam back. HT on VTX-ch. and jet chamber were off but no messages appeared.

20[05] VTX-ch. + jet-ch. trip.

21[25] YMAIL rebuilt.

21[40] Beams back - all chambers trip.

22[00] We had several NIO hangups today, due to broken task. It is not clear if this is due to a hardware damage (HV sparking in terminal this morning) or software. We are now copying the backup from 9/4-86 onto the system disc. This backup version was running fault free for several weeks. Please watch out for hangups during the night: In case of trouble, try to rebuild the tasks (known by the RT descriptor in the teletype printout); commonly these are ZDAS, YMAIL, YPARA, YPAROT, ZMONX. A description of how to rebuild broken tasks is found in the JDAS Manual.
Please note in the logbook what you do, in a careful, readable way. If you cannot take data in spite of the above, call HEM or me
(P.S. For loading M68 in JETC, use DOWNL FEPOLD) J. Olsson no, use standard procedure again. E.E.

Please read!

23[00] Gas deck done.
The "Kreislauf"-flow rate was at the lowest acceptable mark. It needed readjustment. Please check the flow rate after 2 h.

18.4.86 Krehbiel, Bethke on shift (0:00)

0:40 **Beams ready, 2× 10.5 mA. TOF: 1.6 V ID: 0.2 V Deadtime: 20 %.**
congratulations to PKR !!
Small HV deviations reported from Tagging System. This is propably a result of the backup disc use. We take no action.
YSPY Mu digitizer missing 146 once.
BPCH ERROR PULS something ≥ 80%
YSPY Mu dig. miss. 145

2.45 Z-Ch Trip II Z-Ch Trip seems to be related with Pickup Event. Sparking ?
Frequently Mu crates missing (all No's), but no manual reset necessary

Problems for the Day-Shift: → Olsson or Lancaster: Stop the HV wrong printout *
(We docked with volts off. Still some events occured) CKH → Rutherford: Possibly sparking Z-Chamber
→ Mauch: Check Muon Histograms
→ VTXCH: In the beginning of the shift there were two Wire-map deviation messages, but then they stopped.

08[00] MAGNUSSEN & HEDGECOCK.
Gas deck completed.

* USING JDAS MANUAL, RESET TAGGING HV'S TO DISC VALUES.
0945 Z-CHAMBER TRIP.

RUN	DATE	START	STOP	AT RUN START I+	AT RUN START I−	DEAD TIME %	TIME SEC	RECORDS IN	RECORDS OUT	ALL *10⁶	T0 REJ *10⁶	T1 ACC SUM	T2 ACC SUM	T2 Bit 2 E_Lg > 6 GeV	T2 Bit 17 2T.EA ≥ 2 GeV
25417	18.4.86	—	—	10.31	10.68	20.4		792	519						
25420	18.04.86	15.13	13 36	8.96	9.33	17.9	1303	3909	2364	339	61	2500	2633	636	8
25421	"	15 40	16:28	10.44	10.67	17.4	2692	8002	5034	701	122	5117	5362	1246	32
25422	"	16:29	17:18	8.50	8.65	15.4	2955	8002	4586	769	118	5209	5487	1166	32
25423	"	17:18	18:06	7.36	7.49	13.6	2248	5607	2923	585	79	3625	3889	708	19
25424	"	20.58	21:46	9.57	9.21	15.6	2888	8002	4765	751	118	5135	5569	1172	28
25425	"	21.47	22.37	8.26	7.94	15.0	2982	8002	4500	777	116	5243	5354	1127	29
25426	"	22:38	22:32	7.18	6.88	13.6	3233	8002	4268	842	114	5202	5533	1036	30
25427	"	22.32	23:45	6.28	5.94	12.5	740	1730	877	193	24	1143	1181	234	3
25428	19.04.86	0:34	1:18	10.32	10.18	18.2	2633	8002	5028	684	124	5059	5497	1260	28
25429	"	1:21	2:09	8.96	8.81	16.1	2867	8002	4671	745	120	5100	5557	1156	33
25480		2:09	2:59	7.84	7.72	14.7	3012	8002	4503	783	115	5148	5514	1094	23
25431	"	3:06	3:21	6.75	6.64	13.6	1268	3162	1681	330	45	1984	2301	400	15
25432	"	4:15	5:04	8.59	9.15	15.3	2907	8002	4620	756	115	5191	5325	1173	25
25433	"	5:05	5:57	7.39	7.30	13.7	3142	8002	4402	817	112	5293	5294	1112	25
25434	"	5:58	6:42	6.40	6.35	13.3	2581	6386	3299	671	89	4247	4134	812	18
25435	20.04.86	1:28	2:16	9.06	8.90	16.6	2846	8002	4716	740	123	5172	5483	1136	30
25436	"	2:16	3:12	7.63	7.47	15.1	3093	8002	4537	804	121	3797	5621	1074	31
25437	"	3:12	4:08	6.38	6.24	13.7	3316	8002	4253	863	118	5177	5630	941	40
25438	"	4:08	4:17	5.13	5.30	12.8	537	1303	666	140	18	835	900	160	4
25439	"	5:03	5:47	10.25	10.47	18.7	2618	8002	5111	681	127	5186	5411	1257	31
25440	"	5:47	6:44	8.70	8.92	18.0	2813	8002	4768	731	132	5044	5666	1121	35
25441	"	6:45	7:36	7.18	7.28	15.5	3066	8002	4628	797	124	5101	5819	1086	29
25442	"	7:36	7:52	6.14	6.24	13.8	917	2363	1284	239	33	1520	1581	116	9
25443	"	8:56	9:47	9.32	8.02	14.9	3089	8002	4460	804	120	5046	5734	1023	32
25444	"	9:53	10:46	7.88	6.78	14.2	3148	8002	4336	820	116	5206	5518	1078	26
25445	"	10:47	10:53	6.81	5.80	13.2	334	847	466	87	11	546	551	107	2
25446	"	11:40	12:26	10.01	9.97	17.3	2733	8002	4927	771	122	5115	5377	1175	27
25447	"	12:26	13:15	8.45	8.48	15.8	2924	8002	4674	760	120	5159	5579	1156	27
25448	"	13:16	14:10	7.29	7.32	14.0	3208	8002	4269	834	116	5060	5767	969	30
25449	"	14:10	14:37	6.33	6.35	13.3	1590	3931	1999	414	55	2504	2696	474	11
25450	"	15:13	16:27	9.35	8.43	16.1	2318	8002	4723	759	122	5151	5468	1138	31
25451	"	16:28	17:25	7.46	7.32	14.1	3106	7803	4523	808	114	5213	5341	1075	30
25462	"	18:01	18:46	10.51	10.66	17.9	2696	8002	4884	701	125	5114	5438	1224	28

PROCESSORS ON/OFF NSO	M/P	TOF	FAMP	⟨L⟩ 10^{30} cm^{-2}s^{-1}	BHABHA $\int L dt$ nb^{-1}	$\int L dt$ EXP ENERGY	IBM TAPE OUTPUT	AT RUN START TOF √	AT RUN START ID MA	ONLINE REJ SUM MIPROC T2 %	ONLINE REJ NORD-50 T4T2 %	Σ ^{48}A GHA	M/H	E_BEAM	MAG FIELD -1 * G	REDUCED TRIG. Y/N	REMARKS.
ON	ON	ON	OFF	9.98	3.42	11984.59	IBM	1.3	0.3	—	—					N	NORD hung up
"	"	"	"	7.40	11.39	11995.98	"	1.1	0.3	52	41	200	6	17500	4838	N	BEAMS LOST.
"	"	"	"	9.15	28.18	12024.16	"	1.4	0.35	52	38	495	5	17500	4838	—N	
"	"	"	"	7.35	22.89	12047.05	"			54	44	402	8	17501	"	N	
"	"	"	"	4.69	11.73	12058.78	"	0.75	0.2	54	44	206	3	17501	4838	N	beams dumped
"	"	"	"	8.37	26.53	12085.31	"	1.3	0.2	53	42	466	7	17500	4834	N	
"	"	"	"	6.54	22.03	12107.40	"	0.8	0.2	54	45	388	7	17500	4834	N	
"	"	"	"	5.29	18.22	12125.62	"	0.8	0.2	54	48	320	7	17500	4834	N	
"	"	"	"	4.82	4.55	12130.17	"	0.6	0.2	56	51	80	0	17500	4834	N	beams dumped
"	"	"	"	9.12	26.53	12156.70	"	1.4	0.2	52	38	466	10	"	4836	N	
"	"	"	"	6.86	21.29	12177.99	"	1.0	0.2	53	43	374	3	"	4837		
"	"	"	"	6.01	20.38	12198.37	"	0.9	0.15	53	45	358	8	"	"		
"	"	"	"	4.84	7.00	12205.37	"	0.7	0.1	54	49	123	5	"	4835		beams dumped
"	"	"	"	7.47	23.68	12229.05	"	1.1	0.2	52	44	416	8	"	"	N	
"	"	"	"	5.85	21.46	12250.51	"	0,8	0.2	54	46	377	4	"	"	N	
"	"	"	"	4.57	12.98	12263.49	"	0,7	0.1	54	50	228	5	"	4836	N	beams dumped
"	"	"	"	7.28	21.80	12285.29	"	1.6	0.2	54	42	383	4	"	4849	"	
"	"	"	"	5.68	20.04	12305.33	"	1.0	0.2	55	45	352	5	17501	4850	"	
"	"	"	"	4.44	14.06	12319.39	"	0.8	0.15	55	48	247	4	"	"	"	
"	"	"	"	3.70	2.50	12322.89	"	0.7	0.1	54	51	44	0	17500	4851	"	beams dumped
"	"	"	"	9.37	25.22	12348.11	"	1.9	0.35	53	37	443	8	17501	"	"	
"	"	"	"	6.61	19.53	12367.70	"	1.25	0.2	53	42	344	5	"	4850	"	
"	"	"	"	5.28	17.76	12385.46	"	1.0	0.2	53	44	312	9	"	4851	"	
"	"	"	"	4.67	3.47	12388.93	"	0.8	0.15	32	47	61	1	17500	4852	"	beams dumped
"	"	"	"	5.15	17.25	12406.18	"	1.3	0.2	53	46	303	2	"	"	N	
"	"	"	"	5.03	16.68	12422.86	"	0.8	0.2	54	47	293	4	"	"	"	
"	"	"	"	4.77	1.48	12424.34	"	0.7	0.2	52	47	26	0	"	"	"	beams dumped
"	"	"	"	7.79	23.34	12447.68	"	1.3	0.2	51	40	410	3	"	"	"	
"	"	"	"	5.90	19.47	12467.15	"	0.9	0.1	54	43	342	3	"	4853	"	
"	"	"	"	4.26	13.78	12480.93	"	0.75	0.1	53	48	242	6	17501	4855	"	
"	"	"	"	3.77	6.95	12487.88	"	0.7	0.1	56	49	122	1	17500	4856	"	beams dumped
"	"	"	"	7.16	23.57	12511.45	"	1.2	0.19	53	42	414	9	17500	4856	"	
"	"	"	"	4.97	17.36	12528.81	"	0.9	0.15	54	44	305	10	17501	"	"	beams dumped
"	"	"	"	8.21	24.08	12552.09	"	1.5	0.25	52	40	423	10	17500	"	"	

9[55] Changed ~~SPP~~ constant & re-did edits to Nord-50 program lost in disc restore.
The previous Vn is under OLD-N50DAR ; the new one will load as default when the NORD-50 is next loaded. HRH. [New Vn did not work - old restored]

9[32] Installed new version of MAS - programs. They seem to work well with the old version of the NORD programs. E.E.

12[30] Run # 25416 stopped due to hung up trigger. Stop-Run at Trigger box didn't help.
Stop < New run → o.k.

12[52] Now the Lord has stopped. Restarting N does not work. Can't reach J. Olsson. H.E. Mills will try to find him.

Decide to Copy Backup A => System disc. Eckhard will restore old J68K program*
& we will run like that for a day at least to try to locate the problem

14[00] Jan Walker switches the tagging voltages around to the latest *Done E.E.
(& correct values). Hopefully we should now be at the correct levels.
The correct values are in the TAGGING LOGBOOK.

15[50] Run 25421 Standard histograms look normal.

16[05] Warming & Bartel (later) on shift

17[19] ~~Ze~~ ch-trip reset OK gas check OK
Vtr ch valve failure, reset OK

17[42] all 3 ch's tripped

19th April 1986 0[00] H. Mills + A. Dieckmann on shift

Gas checked by expert - P. Warming! Kontroll Techiker called to turn off hall lights

0[27] Beams ready but background too high.
0[30] Beams OK
2[40] Reform job submitted.
3[24] Background suddenly worse - ID & BPCH soft trip — they dump (this was planned anyway)
6[55] Short Break Petra has a cavity ~~ob~~ heating. Magnet down to 500 A
7[20] " Unterbrechung bis 15[00] ; Cavity Fenster SL defekt " Magnet => Zero.
7[40] We pack up & go home.

07[45] Hugles. & Hagemann on shift

8[05] Gas checked, OK.
14[02] "Unterbrechung bis 21 Uhr. Cavity Fenster Gewechselt Vakuum Noch Schlecht Sender SL im Pulse betrieb !

16[00] Olsson and Schneekloth on shift
Gas check done

20.4.86

00[00] Kleinwort and Warming
Gas check done OK

3[00] all 3 chambers tripped

8[00] Ikado, Bethke on shift

8:30 gas check done
9:00 It is very warm in the hall. Big roof fans not working, "Freigabe Lüfter" is missing. MK3 does not answer. Phone Techn. Notdienst. They are looking for the responsible man, for they themselves do not have the proper key.
10:50 Big roof fans are working. Switched to "Low" (1).

16[00] Chiang + Schmidt on shift. ToF-TDC Replacement after Run 25457
Gas check done : ok Crate 3 N19 replaced because of bad channel
ToF counters involved: 21, 22, 63, 64.
Another bad channel (still operational, but poor linearity) discovered: N17 A0 (ToF 17), but not replaced, because of filling was ready. Ulrich

21[05] IBMPC INACTIVE 2.

22[40] JDAS READOUT ERROR 66 - WRONG REPLY whilst resetting J68K processors. 5 times

21.4.86

00[00] Bartel + Styles on shift.
Gas check ok
00[17] ZCh trip.
00[52] BP + ID tripped by ToF. ; Very high ToF Rates pulsing to > 10 volts. ; Now continuous > 10 V
Called PKR — New filling needed. Beams bumped
01[28] New filling Completed. 01[32] ID + BP trip
01[59] High + Pulsating ToF rates.
02[23] ID, BP & Z trip.

6:00 Desastrous beam loss. Petra down to 0

8:00 Felst + Kawamiya on shift

8:10 gas check OK.
8:44 VTX + jet chamber HV trip
8:45 Standard histograms looked normal.
For some reason no histograms being saved after run 25439 [system thought it was OPEN] – Now OK again
" " " After a Z-CH trip the trigger box is RED i.e. have to pause/continue to get events
9:40 Everything hard trips
9:55 Z-CH trip
10:05 VTX ch gas alarm (valve failure) → reset OK.
10:20 all 3 chambers trip.
10:40 short break, 11:50 new fill ready, 12:00 z-chamber trip
12:20 Z-ch trip
18:30 VTX ch error occured very often (normally P.C. error)
16:00 < Glasser & Wermann on shift
17:55 < MUON CRATE & shut there regularly
No Beam until 1900 Kicker Störung Magnet run down to 500 amps (from 7500)
gas check done OK

22.4.86 0:00 Greenshaw + Hughes

00:15 Gas check done, all OK
At very end of run 25478 got y-spy error message suggesting lead glass noisy (> 20 blocks/event)
At beginning of run 25479 check histograms and event display, see no evidence for this. Y-spy error also not repeated.
00:32 Beams lost 03:27 fill ready!
05:32 Again at very end of run Y-spy says lead glass noisy, histogram and events look reasonable.
06:00 Jan Olsson woken as requested!
06:42 Reload Jetc processors on MOP terminal flashing (not updating screen, although events have been OK & presumably readout has been alright)
07:58 During run 25484 Jetc processors automatically reload/reset resulting in a string of errors (JOAS readout error 65 – timeout while resetting JDFA parameters) run paused until resetting finished, then restarted.

8:00 Kado and Olsson on shift

8:04 Z-chamber hard trip, ID slow trip (6V alarm) at same time "Pick-up event" on color TV !!
the Vertexchamber was not affected.

8:07 JOAS 33 – Missing LAM br.4 cr.1 : JETC point 502
10 x 177777, -1, -1, 177777, -1, 3 x 177777, 88, 777777

no events for ... pause/continue does not help
processor reload from JOAS terminal was not possible. From MOP Terminal it worked.
new run started with IOX errors.
system crate was off (overload) → we exchanged the power pack

8:30 Nord reloaded, Miproc reloaded → start up ok ...
but again IOX errors at run start.
seems to be a problem with the trigger box
power pack off and on

8:36 same problem
8:48 we found +6V missing in br.2 cr.2 (trigger box – CAMAC – connection)
power pack exchanged
09:25 All back to normal: Broken apparatus: Branch Coupler 2, Power pack in System Crate (upper), Power Pack in Br 2, Cr 2 (Trigger box connection) !!

10:50 gas check done (ok)
11:56 Z-ch. trip.
14:54 All ch. trip. soon after, beams lost.

16:00 Hill + Rettke on shift

16:01 "Luminosity-Run" but background too high (TOF > 10,0 V)
PKR tell us to switch off the HV. (Beams still in Petra).

16:20 "Short Break"
16:56 gas check done – all OK.

146 RUN	DATE	START	STOP	++ RUN START T^+	++ RUN START T^-	DEAD TIME %	TIME sec	RECORDS IN	RECORDS OUT	ALL $*10^6$	T_ϕ Rej $*10^6$	T_1 Acc SUM	T_2 Acc SUM	T_1 Bit 2 E_{cm} 76 GeV	T_2 Bit 17 2 T, E_{cm} >> 2 TR	PROCESSORS ON/OFF NSD	HIP	TOF	FAM	$\langle L \rangle$ $10^{30}\,cm^{-2}s^{-1}$	BHABHA SLOT nb^{-1}	SLOT EXP. ENERGY	IBM/TAPE OUTPUT	ATRÜN START TOF V	ATRÜN START ID µA	ONLINE REJECT SUM MIPROC T_ϕ %	ONLINE REJECT VORD→0 T_1+T_2 %	Σ Bhabha	M/H	E_{Beam}	MAG FIELD ± kG	REDUCED TRIG Y/N	REMARKS 147
25453	20.4.86	18:46	19:34	8.17	8.45	16.3	2871	8002	4617	747	122	5134	5660	1167	24	ON	ON	ON	OFF	6.44	20.78	12572.87	IBM	1.1	0.2	54	44	365	4	17501	4856	N	
25454	"	18:35	19:40	7.03	7.30	16.8	288	806	475	75	13	510	523	111	2	"	"	"	"	5.46	1.88	12574.75	"	1.0	0.2	51	43	34	1	17500	"	"	beams lost
25455	"	20:48	21:36	8.11	8.18	16.3	2856	8002	4746	743	121	5131	5539	1219	39	"	"	"	"	7.48	24.31	12599.06	"	1.2	0.2	54	42	427	11	"	"	"	
25456	"	21:36	22:03	7.78	7.89	15.5	820	2520	1431	240	37	1616	1769	349	13	"	"	"	"	5.92	5.75	12604.81	"	1.0	0.2	55	45	181	2	17501	"	"	beams lost
25457	"	22:37	23:25	10.43	10.63	18.6	2667	8002	5018	694	136	5051	5625	1280	38	"	"	"	"	8.44	22.52	12627.33	"	1.4	0.3	53	38	446	8	17500	4857	"	
25458	"	23:25	0:12	8.70	8.92	17.2	2751	8003	4905	715	123	5050	5644	1193	32	"	"	"	"	7.51	21.92	12649.25	"	1.0	0.2	52	40	385	4	17500	4856	"	
25459	21.4.86	00:13	0:52	7.49	7.69	15.2	2115	5644	3209	550	83	3613	3913	792	22	"	"	"	"	5.8	12.92	12662.17	"	0.8	0.2	53	45	227	7	17500	4856	"	dumped- High bachpres.
25460	21.4.86	01:32	02:35	10.69	10.75	18.2	2677	8002	4894	696	126	5039	5685	1297	31	"	"	"	"	8.33	26.58	12688.75	"	1.4	0.3	53	40	467	9	17500	4854	"	
25461	"	02:35	03:23	8.43	8.42	16.3	2827	8002	4660	734	119	5164	6389	1117	32	"	"	"	"	6.84	17.70	12706.45	"	1.0	0.2	53	43	311	7	17500	4854	"	
25462	"	03:33	4:17	7.31	7.30	14.4	3096	8002	4525	804	116	5201	5449	1122	32	"	"	"	"	5.69	18.84	12725.23	"	0.8	0.2	54	45	331	7	17500	4854	"	beams dumped
25463	"	5:00	5:56	9.77	8.52	16.9	2779	8002	4888	723	122	5125	5351	1261	33	"	"	"	"	7.92	24.48	12749.77	"	1.4	0.2	52	40	430	9	17501	4853	"	
25464	"	5:52	6:07	8.13	7.95	16.4	595	1749	1067	155	25	1111	1177	263	2	"	"	"	"	7.31	5.07	12754.84	"	1.2	0.2	51	40	89	0	17501	4857	"	beams lost
25465	"	7:22	8:11	10.76	10.62	18.3	2574	8002	4981	670	122	5222	5221	1247	23	"	"	"	"	9.50	26.87	12781.71	"	1.5	0.3	52	39	472	12	17500	4853	"	
25466	"	8:11	9:02	8.63	8.31	16.4	2815	8002	4728	732	120	5143	5411	1210	34	"	"	"	"	7.30	22.60	12804.31	"	1.1	0.2	52	42	397	7	17500	4853	"	
25467	"	9:02	9:56	7.39	7.09	15.5	3017	8002	4449	785	121	5054	5458	1054	20	"	"	"	"	5.75	17.76	12822.07	"	0.9	0.1	52	46	312	8	17501	4854	"	
25468	"	10:00	10:31	6.3	6.0	13.7	1550	3863	2125	403	55	2513	2585	530	16	"	"	"	"	4.74	8.03	12830.10	"	0.8	0.1	54	47	141	2	17501	4857	"	Beams dumped
25469	"	11:50	12:38	9.27	10.13	17.5	2746	8002	4872	714	128	5091	5343	1261	337	"	"	"	"	8.81	26.25	12856.35	"	1.4	0.3	52	41	461	6	17501	4857	"	
25470	"	12:38	13:26	7.80	8.74	16.2	2845	8002	4675	740	119	5222	5322	1216	43	"	"	"	"	7.08	23.40	12879.75	"	1.1	0.2	53	44	411	5	17501	4858	"	
25471	"	13:27	14:19	6.77	7.55	14.7	3032	8002	4471	789	116	5284	5215	1112	38	"	"	"	"	5.68	18.27	12898.02	"	0.9	0.2	53	45	321	8	17500	4860	"	
25472	"	14:20	14:34	5.84	6.57	13.3	875	2198	1109	228	30	1391	1510	268	10	"	"	"	"	4.48	3.93	12901.95	"	0.75	0.15	52	51	69	2	17501	4841	"	Beam lost
25473	"	15:20	16:07	11.07	11.21	21.1	2424	8002	5259	630	133	5058	5412	1336	29	"	"	"	"	10.56	29.26	12931.21	"	1.5	0.2	51	35	514	6	"	"	"	
25474	"	16:02	16:46	9.43	9.71	18.2	2649	8002	4947	689	125	5133	5505	1184	40	"	"	"	"	8.63	23.91	12955.12	"	1.2	0.2	53	41	420	3	17501	4848	"	
25475	"	16:47	17:12	8.10	9.38	16.8	1520	4470	2597	395	66	2438	2825	677	18	"	"	"	"	6.98	12.98	12968.10	"	1.1	0.2	52	43	229	6	17500	4840	"	Beam Lost
25476	"	21:07	21:55	10.57	10.05	17.2	2799	8002	4724	728	126	5058	5825	538	31	"	"	"	"	7.33	21.69	12987.79	"	2.3	0.2	52	42	331	9	17501	4841	N	
25477	"	21:55	22:01	8.91	9.07	15.8	336	1013	585	87	14	633	659	66	3	"	"	"	"	7.28	3.47	12993.26	"	1.1	0.2	50	42	61	0	17500	4840	"	Beams Lost
25478	22.4.86	23:15	00:10	9.65	9.12	15.5	3107	8002	4586	808	126	4984	5925	991	27	"	"	"	"	5.44	17.59	13010.85	"	1.3	0.2	54	44	709	1	"	"	"	
25479	"	00:11	00:32	8.37	7.89	14.7	1252	3311	1803	325	47	2085	2379	461	7	"	"	"	"	5.03	7.06	13017.91	"	1.05	0.2	53	47	134	4	"	"	"	Beams lost/dumped
25480	"	03:30	04:26	10.11	10.13	16.9	2812	8002	4988	732	123	5146	5454	1185	29	"	"	"	"	6.09	25.77	13042.68	"	1.5	0.25	53	40	435	6	"	"	"	
25481	"	04:25	05:24	8.57	8.53	14.7	3089	8002	4879	805	118	5082	5719	1098	33	"	"	"	"	5.83	20.95	13063.63	"	0.9	0.2	54	43	368	2	"	"	"	
25482	"	05:34	06:33	7.10	7.21	13.2	3249	8002	4275	845	111	5242	5440	1034	25	"	"	"	"	5.38	17.08	13080.71	"	0.75	0.2	54	48	300	6	"	"	"	
25483	"	06:33	06:50	6.00	6.17	12.0	351	860	463	91.4 ?	11.0	555	553	108	5	"	"	"	"	6.58	1.59	13082.30	"	0.60	0.15	52	48	28	1	"	"	"	Beam dumped
25484	"	07:"	8:08	9.28	8.25	19.0	2953	8002	4707	769	146	5098	5486	1146	26	"	"	"	"	6.76	21.58	13103.88	"	1.15	0.25	52	42	379	2	"	"	"	
	"	8:08	8:09					74	45							"	"	"	"	5.83	0.17	13104.05	"	1.1	0.2			3			4841	N	Ground breakdown!
25486	"	9:51	10:41	10.42	10.56	14.8	3010	8002	4574	783	115	5114	5410	1135	30	"	"	"	"	7.00	24.31	13128.36	"	1.1	0.2	52	44	427	6	"	4840	N	
25487	"	10.42	11.38	7.18	7.00	13.1	3358	"	4111	874	114	5200	5349	978	22	"	"	"	"	4.10	15.77	13144.13	"	0.6	0.1	54	51	277	5	"	4841	"	
25488	"	11:39	12:23	5.91	5.72	12.7	2441	5508	2713	635	81	3570	3840	605	18	"	"	"	"	3.07	7.80	13151.93	"	0.5	0.1	56	53	137	4	"	4842	"	Beams lost.

Run	Date	Start	end	At Run Start I^+	At Run Start I^-	Dead Time %	Time (secs)	Records In	Records Out	All $\times 10^6$	TP Reg $\times 10^6$	T_1 Acc Sum	T_2 Acc Sum	$T_1 \& T_2$ $E_{tot} > 6$ GeV	$T_1 \& T_2 \& T_3$ $\Sigma T \cdot E_{tot} > 22$ TeV	Processors on/off NSO	MIP	TOF	FMM
25489	22.4.86	14^{53}	15^{00}	10.70	10.85	20.9	172	622	405	45	9.4	387	358	100	1	on	on	on	✓✓
25490	23.4.86	15^{26}	16^{16}	7.48	7.56	——	——	8002				5019							
25491	"	16^{16}	16^{56}	6.39	6.44	14.8	2315	5947	3477	602	89	3782	4228	753	35	"	"	"	"
25492	"	17^{40}	18^{11}	10.31	10.60	19.6	1610	5150	3436	419	82	3319	3492	881	20	"	"	"	"
25493	"	18^{11}	19^{30}	10.30	10.38	20.7	2516	8002	5178	654	135	5003	5625	1291	38	"	"	"	"
25494	"	19^{30}	19^{57}	8.78	8.93	21.2	1548	4862	3074	403	85	2912	3599	711	25	"	"	"	"
25495	"	21^{27}	21^{50}	10.50	10.64	20.6	2522	8002	5363	656	134	5041	5578	1278	37	"	"	"	"
25496	"	21^{50}	22^{35}	9.10	9.25	18.9	2635	8002	5173	685	129	5029	5712	1242	38	"	"	"	"
25497	"	22^{35}	23^{23}	7.88	8.02	17.0	2846	8002	4751	740	125	5088	5615	1142	37	"	"	"	"
25498	"	23^{23}	0^{11}	6.82	6.94	15.9	2935	8002	4550	763	121	5106	5499	1079	40	"	"	"	"
25499	24.4.86	0^{14}	1^{09}	5.81	6.03	14.2	3272	8002	4310	851	120	5118	5659	1071	22	"	"	"	"
25500	"	1:10	1:16	5.14	5.25	13.5	316	827	418	82	11	514	577	97	3	"	"	"	"
25501	"	2:23	3:06	10.76	10.58	19.9	2517	8002	5110	654	129	5178	5314	1311	26	"	"	"	"
25502	"	3:06	3:53	9.31	9.15	18.1	2663	8002	4896	692	125	5230	5395	1263	26	"	"	"	"
25503	"	3:54	4:41	8.00	7.85	16.6	2851	8002	4753	741	123	5171	5455	1190	27	"	"	"	"
25504	"	4:42	5:33	6.92	6.79	15.3	3040	8002	4899	791	121	5207	5388	1117	40	"	"	"	"
25505	"	5:34	5:43	5.99	5.86	13.4													
25506	"	6:28	7:08	11.09	10.87	22.4	2403	8002	5381	615	139	4977	5380	1256	31	"	"	"	"
25507	"	7:08	7:55	9.61	9.43	19.3	2584	8002	4965	672	129	5046	5497	1224	31	"	"	"	"
25508	"	7:56	8:44	8.10	7.89	15.9	2859	8002	4820	744	118	5223	5324	1222	29	"	"	"	"
25509	"	8:44	9:38	7.01	6.81	14.6	3077	8002	4385	800	116	5182	5516	1061	25	"	"	"	"
25510	"	9:38	10:23	6.06	5.87	13.8	2616	6594	3607	681	94	4387	4448	885	25	"	"	"	"
25511	"	11:02	11:27	9.22	8.80	18.4	1398	4266	2668	364	67	2778	2844	685	24	"	"	"	"
25512	"	11:30	12:24	7.71	8.10	15.7	2961	8002	4705	771	116	5240	5271	1167	29	"	"	"	"
25513	"	12:27	13:08	5.88	6.11	14.5	2410	6329	3775	627	91	4154	4143	834	26	"	"	"	"
25514	"	14:41	15:36	10.00	10.93	20.2	2621	8002	5166	682	137	5052	5363	1249	36	"	"	"	"
25515	"																		
25516	"	15:40	16:32 / ~~15:40~~ ~~16:32~~	8.00	8.44	16.8	2920	8002	4682	760	128	5154	5351	1219	28	"	"	"	"
25517	"	16:33	17:25	6.78	7.16	15.0	3144	8002	4417	818	123	5264	5434	1118	26	"	"	"	"
25518	"	17:26	17:38	5.82	6.17	13.8	684	1668	855	178	24	1086	1145	205	5	"	"	"	"
25519	"	18:06	18:34	10.78	10.78	20.5	1507	4705	3107	392	81	3046	3046	783	21	"	"	"	"
25520	"	19:49	20:33	10.68	10.65	20.2	2621	8002	4976	682	138	5165	5408	1240	38	"	"	"	"
25521	"	20:33	21:16	9.19	9.21	19.0	2131	6308	3915	556	105	4035	4201	965	23	"	"	"	"
25522	"	21:17		8.02	8.03			127	67							"	"	"	"
25523	"	21:26	22:15	7.80	7.82	16.9	2931	8002	4811	762	128	5151	5397	1092	21	"	"	"	"

$\mathcal{L}$ > 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 [μA]	Online Sum MP %	Online Reject Nmult50 $T_1 T_2$ %	Bhabha	Multiwheel	E_{beam}	Mag. Field -1×G	Red. Trig Y/N	Remarks
9.96	1.71	13153,64	3DASOS	1.6	0.3	45	37	30	1	17.50	4841	No	beams lost
	20.47	13174.11	IBM	1.0	0.3	~~54~~	~~43~~	359	4	17.516	4846	"	
5.63	14.17	13188.28	"	1.0	0.2	54	43	249	1	17.500	4848	"	beams dumped
11.58	17.88	13206.16	"	1.7	0.2	53	34	314	9	"	4853	No	beams lost
8.87	27.33	13233.49	"	1.9	0.2	52	37	480	13	17.501	4854	"	
7.98	11.95	13245.44	"	1.4	0.2	51	38	210	4	17.500	4856	"	beams lost
9.51	25.16	13270.60	"	1.7	0.3	52	34	442	6	17.501	4853	"	
8.29	23.91	13294.51	"	1.1	0.3	52	36	430	8	17.500	4854	"	
6.75	20.44	13314.95	"	1.3	0.2	53	42	359	7	17.501	"	"	
5.42	17.36	13332.31	"	1.1	0.2	53	45	305	7	17.501	4853	"	
4.15	13.32	13345.63	"	1.0	0.2	54	48	234	5	17.500	4854	"	
3.58	1.25	13346.88	"	0.8	0.2	49	51	22	0	"	"	"	beams dumped
10.01	26.47	13373.35	"	2.0	0.35	52	37	465	6	17.501	"	"	
8.46	24.31	13397.66	"	1.3	0.3	53	40	427	9	17.500	4852	"	
6.86	21.18	13418.84	"	1.1	0.2	53	42	372	9	17.501	4853	"	
5.56	16.85	13435.69	"	1.0	0.2	54	46	296	2	17.500	4851	"	
4.73	3.02	13438.71		.8	.2								beams dumped
10.76	25.62	13464.33	"	2.0	.35	51	37	450	6	"	4852	"	
8.80	24.08	13488.41	"	1.5	0.3	51	39	423	8	17501	4853	"	
6.99	19.64	13508.05	"	1.2	0.2	53	41	345	8	17500	4853	"	
5.60	16.57	13524.62	"	1.0	0.2	54	46	291	3	17500	4853	"	
4.56	13.38	13548.00	"	0.8	0.2	55	47	235	3	17501	4853	"	beams dumped
9.08	14.52	13562.52	"	1.2	0.2	53	37	255	7	17500	4834	"	187 dead, Run stopped
6.68	27.18	13583.70	3DASOC	1.0	0.1	53	43	372	8	17501	4835	"	Writing on tape
5.23	14.07	13597.71	3DASOZ	0.83	0.1	53	42	246	5	17501	4834	"	" Beams dumped
8.08	24.02	13621,73	IBM	1.7	0.2	50	37	422	5	17500	4837	"	Possible junk in last 1000 trigges
				1.1	0.15								junk ——
7.38	22.37	13644.10	"	1.1	0.15	53	43	353	5	17501	4835	"	
5.62	19.98	13664.08	"	1.0	0.15	55	46	351	6	"	4840	"	
5.04	3.47	13667.55	"	0.8	0.1	54	52	61	1	"	"	"	beams dumped
10.01	16.78	13683.83	"	1.7	0.3	51	35	286	4	17500	"	"	beams lost
9.60	26.87	13710.70	"	1.5	0.3	52	39	472	8	"	"	"	
8.04	16.40	13727.10	"	1.1	0.2	52	39	288	2	"	"	"	stopped to reset the LG Pedestals
	0.17	13~~727~~.27		1.0	0.2					"	"	"	Hard hang up Level 14
6.33	20.44	13747.71	"	"	"	53	41	359	9	"	"	"	

17^{56}. **Break until 23/4/86 12^{00}**
Defektive HF-Window in the transmitter must be changed.
Ram down magnet.

23.4.86

0:00 Checks done. Everything ok.
Gascheck also ok. S.B.
On Petra TV: "Window WAS changed", Still restart 17^{00}.
04^{20} Temp in part of hardware room 18.5° Yes O.K. R Feist

07^{50} Temperatur in the hardware room 18.5° } Schmitt
Gas check done: 04 }
8:00 Matsumura + Schmitt
14:09 Magnet 7500 A
15:20 Beams!

16^{00} Haidt + Chin. (gas check done)
Run 25490 (started in previous shift) looks strange
18^{20} HV (error 2) – Tagging System Mainframe 61 failure. Reset O.Kay.

24.4.86

0:00 Steffen + Magnussen
0.15 Gas o.k.
5:30 frequent 'lead glass problems' found by YSPY (>20 blocks/event)
reason: noisy leadglass blocks.

18^{00} Kreitzvel + Ayres
08^{00} Gas OK
09^{20} Cello Called PKR unable to refill for ~ 1 hour — NO ELECTRONS!
11^{20} IBM dead, no response from terminals, No response ~~from~~ on telephone calls. Sent Greenshaw to explore the situation. Answer: They have a problem, they don't know ~~what~~ what it is, they try to find out. Meanwhile we write on tape.

24.4.86 11^{00} ToF TDC exchange after Run 25577
Crate 3 N17 exchanged, ToF's involved 17 59
18 60
Calibration made afterwards
However new bad channel found: Crate 4 N8 A6
Tof 42 upper level. Left in until the a next short break.
level

11$^{??}$ YSPY reports Mu Digitiser A34 missing — gap in μ Hit map. Expert called.
12^{00} **Jackpot hit. All chambers tripped.** Beams partly lost.
12^{30} Preliminary message from IBM: Breakdown at least until 17^{00}
12^{50} Yspy Lead Glass problem. Since Magnussen worked all the night shift, I think we can ignore the problem.
14^{30} New version of JETC-Readout installed (non-default). Please report all errors. E.G.
15^{45} Run 25514 Paused about 1000 triggers from end – possible Pb Glas Pedestal Errors
In this run high Number of Blocks/event.
Run 25516 Simple restart run reduces Number of Blocks/event
Possibility Pb Glas Pedestals are drifting.

16^{00} Becker, Dieckmann
Gas check done
18^{20} LG problems: YSPY err.: $\langle N_{LG} \rangle$/event > 20
18^{25} 7015 err. 64 – AC2058 TOF-2 Q, x missing stn = 3 subaddr = 1
21^{20} While repeating the printout of RunSummary 25521 the Nord got stuck at Level 14
Restart. ~~Com~~ Nord complain about 4 JC's at BIG multipart check, but everything seems to work.
22^{30} Reload JetC Motorolas as all but the first FEP Event Counters are blinking

25.4.86

0:00 Hagemann a. Kuhlen on shift
0:12 Gas deck done, OK.
0:20 Void 50 busy + dump on system console (YOPR50: STOP 0 at 140127)
Follow procedure 4.2.4 in JDAS manual ⇒ V50 works again, start new run
0:34 Call from Jan Olsson: Shift crew should load old program version of JETC motorolas over night.
1:35 Beams lost, chambers tripped
1:53 message on PETRA-TV: "Unterbrechung bis ca. 3.00 Uhr. Kühlprobleme am Magneten SOL-M12"
1:55 Reload JETC motorolas according to JO's advice.
3:57 "Short break"
5:53
6:11 2-ch trip

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	T_1 Acc Sum	T_2 Acc Sum	T_1 Bits $E_{LG}>6$GeV	T_2 Bits 2 T_1 $E_{LG}\geq 2$ T_2 TR	Processors ON/OFF NSO	MIP	Tq	Fakir
25524	24.4.86	22:16	22:29	6.70	6.71	15.2	737	1912	1073	191	29	1234	1344	266	4	ON	ON	ON	OFF
25525	24.4.86	22:37	23:16	6.32	6.33	14.2	2351	5957	3273	611	86	3873	4026	785	19	"	"	"	"
25526	25/4/86	0:08	0:20	10.54	10.78	20.8	678	2187	1416	177	37	1400	1428	358	6	"	"	"	"
2527	"	0:23	1:06	9.99	10.25	19.4	2549	8002	5223	663	129	5119	5309	1251	31	"	"	"	"
25528	"	1:07	1:37	8.63	8.88	18.0	1787	5301	3237	444	83	3395	3525	815	24	"	"	"	"
25529	"	4:47	5:35	9.46	9.60	16.7	2785	8002	4881	725	121	5240	5389	1203	30	"	"	"	"
25530	"	5:36	6:29	8.21	8.34	15.9	2914	8002	4719	758	120	5271	5256	1207	35	"	"	"	"
25531	"	6:33	7:13	6.96	7.09	15.2	1901	5062	3043	494	75	3288	3349	720	25	"	"	"	"
25532	"	7:13	7:48	6.76	6.35	14.7	1575	4137	2352	410	60	2650	2706	538	14	"	"	"	"
25533	"	9:20	10:17	10.82	10.84	19.3	2538	8002	5214	660	128	4131	5283	1309	29	"	"	"	"
25534	"	10:18	11:03	8.86	8.89	18.7	2698	8002	4925	702	131	5156	5350	1232	37	"	"	"	"
25535	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
25536	"	11:13	11:16	7.49	7.52	17.1	138	389	229	36	6	244	262	54	1	"	"	"	"
25537	"	12:43	12:54	10.90	10.97	13.5	607	991	534	106	14	630	670	124	2	"	"	"	"
25538	"	13:24	14:06	10.79	10.96	21.5	2514	8002	5382	654	141	5096	5288	1303	39	"	"	"	"
25539	"	14:07	14:52	9.29	9.50	19.4	2672	8003	4976	695	135	5146	5404	1264	~~351~~ 27	"	"	"	"
25540	"	14:55	15:53	7.94	8.14	18.0	2821	8002	4757	734	132	5149	5415	1172	25	"	"	"	"
25541	"	15:53	16:00	6.70	6.89	17.1	356	1012	570	92	15	627	689	121	3	"	"	"	"
25542	"	17:13	17:16	10.41	10.96	21.5	196	648	424	51	11	414	388	101	3	"	"	"	"
25543	"	17:17	18:07	10.20	10.72	19.1	2745	8002	5177	714	136	5107	5512	1215	42	"	"	"	"
25544	"	18:08	18:30	7.53	7.92	17.5	1272	3623	2092	331	58	2363	2405	536	16	"	"	"	"
25545	"	18:31	18:54	7.02	7.37	15.9	1347	3673	2186	350	55	2392	2410	580	15				
25546	"	19:34	20:16	10.74	10.85	20.7	2487	8002	5237	647	184	5275	5118	1328	30	"	"	"	"
25547	"	20:16	21:01	9.24	9.37	19.6	2644	7329	4479	638	125	4766	4869	1082	26	"	"	"	"
25548	"	22:03	22:48	9.54	9.79	19.2	2666	8002	4911	693	132	5167	5376	1239	32	"	"	"	"
25549	"	22:48	23:34	8.22	8.47	18.4	2709	8002	4969	704	129	5161	5307	1184	32	"	"	"	"
25550		23:35	0:25	7.12	7.35	16	2948	8002	4582	766	123	5229	5406	1145	33	"	"	"	"
25551	26.4.86	0:25	1:06	6.18	6.39	14	2421	6227	3294	630	90	4058	4267	817	17	"	"	"	"
25552	"	1:35	2:15	10.71	10.72	21	2428	8002	5049	632	131	5160	5200	1333	34	"	"	"	"
25553	"	2:16	3:01	9.29	9.33	19	2562	8002	4910	666	126	5137	5323	1224	36	"	"	"	"
25554	"	3:02	3:49	7.99	8.04	17	2747	8002	4697	714	119	5193	5275	1182	24	"	"	"	"
25555	"	3:49	4:38	6.96	7.01	15.6	2933	8002	4577	763	119	5197	5382	1147	31	"	"	"	"
25556	"	4:39	4:43	6.09	6.14	15.4	236	702	383	61	9	459	417	99	3	"	"	"	"
25557	"	5:13	5:54	10.64	10.79	20.5	2455	8002	5064	639	131	5158	5329	1222	32	"	"	"	"

<L> 10^30 cm^-2 s^-1	Bhabha ∫Ldt 46^-1	∫Ldt Exp. Energy	IBM / TAPE	At Run Start TOF [V]	At Run Start ID [μA]	ONLINE REJECT SUM MIPROC T_2 %	ONLINE REJECT NonNSO T_1+T_2 %	Σ Bhabha	HH	E_{beam}	Mag. Field −1×G	Remarks
5.41	4.27	13751.98	IBM	0.8	0.2	55	45	75	2	17.500	4839	Stopped for Reloading JetC Motorolas
4.85	12.64	13764.62	"	0.7	0.2	54	47	222	3	"	"	Beams dumped
10.16	7.40	13772.02	"	1.7	0.3	51	37	130	3	"	4838	NSO program stopped wrong
9.10	24.31	13796.33	"	1.5	0.3	51	36	427	7	17.501	4837	
7.32	14.63	13810.96	"	1.3	0.3	52	40	257	4	"	"	beams lost
8.32	25.10	13836.06	"	1.5	0.3	53	40	441	7	17.500	4834	
6.81	22.77	13858.83	"	1.1	0.2	53	42	400	9	17.501	4834	
5.75	13.15	13871.98	"	0.9	0.2	53	42	231	1	"	"	
4.65	8.14	13880.12	"	0.8	0.2	52	45	143	5	"	4835	beams dumped
9.92	30.40	13910.52	"	1.8	.35	51	36	534	9	17.500	4834	
8.12	22.32	13932.84	"	1.2	.25	52	40	392	11	17.501	"	
				1.1	.20							not existing
7.58	1.20	13934.04	"	1.1	.20	54	44	21	0	"	"	11:16 beams lost
4.58	2.28	13936.32	"	1.7	.35	52	48	40	0	17.501	4846	beam dumped
10.31	29.03	13965.35	"	1.8	.35	51	34	510	8	17.500	"	
8.38	23.91	13989.26	"	1.4	0.30	52	39	420	8	"	4846	
6.56	19.02	13998.28	"	1.3	0.25	52	42	334	11	17.501	4847	
5.83	2.29	14000.56	"	1.1	0.20	51	46	40	0	"	"	stopped to investigate TOF HV
9.93	2.73	14003.29	"	1.6	0.30	49	37	48	0	"	4835	run 25542 ~ 400 events, 4 TOFs missing SYNC
8.02	21.75	14025.04	"	1.6	0.30	53	37	382	7	17.500	4834	
6.77	9.56	14034.60	"	1.0	0.2	53	44	168	5	"	"	run stopped by expert for testing [resistor TOF]
6.44	10.25	14044.85	"	1.0	0.2	52	42	180	2	"	"	Beam lost. All chambers trip.
10.36	27.50	14072.35	"	1.8	0.30	52	36	483	6	"	"	
8.42	21.75	14094.10	"	1.5	0.20	53	40	382	7	"	"	beams lost. All chamber trip
9.27	26.24	Nach 2034	"	1.6	0.20	52	40	461	9	"	4832	
7.36	21.46	14141.80	"			52	40	377	4	"	4831	JetC HV off for 1st 100 events
6.04	19.02	14160.82	"	1.1	0.20	54	44	344	8	"	"	" " " "
4.99	10.87	14171.69	"	1.0	0.2	54	49	191	2	17.501	4831	beams dumped
9.96	27.61	14199.30	"	1.7	0.3	51	38	485	5	17.500	4830	
8.53	22.88	14222.18	"	1.4	0.2	51	40	402	10	"	"	
7.08	20.67	14 242.85	"	1.2	0.2	52	43	363	5	17.501	4829	
5.78	17.42	14,260.27	"	~~0.9~~	~~0.15~~	53	44	306	6	"	4828	
5.18	1.54	14,261.81	"	0.9	0.15	51	48	27	0	"	4829	beams dumped
9.45	23.91	14,285.72	"	1.9	0.2	52	38	420	6	"	4828	

6:17 All chambers tripped
6:38 VTXC + ID HV fail due to OF rate
7:14 Z-ch trip
8[00] Paul Murphy + Colonel Davies on shift
"Short break" for pre-weekend jobs on PETRA
9-20 Start run 25553
9-22 HV off (3 times); no fault.
9-27 HV back on
9-35 Z-chamber trip.
9[50] Vertex chamber gas failure
10[20] Motorola Test Version loaded again. Please inform me in case of JETC or NORD problems. Write down Time and Run number when you reload the 68k's. EE (2585)
If we need to reload during the day call Elson. Start a new run.
11[08] Z-chamber trips
11[30] DETCA has water leak, run down JADE magnet
11 45 Loud noises from air conditioner; call MK3, they come after delay. Temperature alarm; temp. up to 21°C.
1200 Air conditioner OK.
1205 PKR asks for magnet on.
1243 Start run 25537
1244 HV trip. Lost a lot of beam ~10 ma dropped to 4.8/4.3 ma.
1254 Dump beams.
1355 YSPY error(4) LG problem, average Block/event ≥ 20
1401 " " "
1523 No sensitive wire alarm. "TOF+BP" error. TOF rate drops intermittently from 1.2 to ~0.5. After ~1 min. this fault went away. 3685
1527 Same again.
Same fault occurs several times. Herr Krehbiel called - he comes

16:00 H. Hills & R. Heinke on shift
Minor modifications made to NSODAR & YSPY concerning LG #Block/event histogram - changed from 100 bins to 50. Will not affect current crop of messages since this is a real effect.
"Dach lüfter" turned on to full power.
Gas check made - OK except for H_2O valve. Consulted available person - T. Greenshaw.
17[20] Mark-7 has background problems! A TOF power supply was changed - experts did not write!

17[20] IDA BPCH soft trip.
Leadglass is very noisy 30-40 spurious hits/event (increases with time).
18[54] Beam lost - all chambers trip. Submitted REFORM job.
20[18] Soft trip. Beams unstable.
22[00] Take standard histograms. The noisy leadglass has quietened down.
23[35] Before the start of run 25550, the "standard" FEP program was loaded as requested by E.E.
BP-CH DC claims 1 wireside deviation. Nothing obvious to me.'

26.4.86 Warming + Heinzelmann
0:05 gas door ok
Smoke running all night
8:00 Glasser and Hellenbrand on shift
gas check o.k.
8:55 Run 25562 IBMPC inactive switch off, ok, o.k. again at 10:00 AM
12:30 Run 25565 overtemperature in VTX-crate rack 19, crate 2, Fan exchanged, o.k.
following Run could not be started, no reply from VTX chamber expert (sorry... I went out and forgot the beeper at home HK)
Olson informed us that we have to do first an INIT-LOAD of VTX chamber system, how it worked
13:30 Power pack of crate 2 (VTXC FADC system) exchanged → Note! "fan fault" means fan unit
"overheat" means power pack HK
1600 Heinzelmann + Murphy
16:10 Gas check done
23:05 ERROR 14 IN 34237 (≙ YHAIL) OUTSIDE SEGMENT BOUNDS ←
followed REBUILD procedure as described in A7 JDAS-Manual.

0[00] Hill + Komamiya
010 Gas check done
~2[00] Z-chamber tripped alone
5[20] Z ch trip.
550 LG: many noisy channels (pedestal subtraction is bad)
551 → stop run and start new run → looks OK.
6 11 JDAS Readout error 33 missing ham Br 3 ch4. Z ch part 1
6 45 Cellos phone to say that there are problems with the synchrotron. So we will hold on to this fill for as long as possible.

RUN	DATE	START	STOP	at run start I^+ (mA)	at run start I^- (mA)	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $*10^6$	TQ$_{DEF}$ $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 Bit 2 $E_{LG} > 7$GeV	T_2 Bit 17 $2T \cdot E_{LG} > 2$TR	Processors on/off NSO	MIP	TOF	TAG
25558	26/4/86	5:55	6:39	9.16	9.44	18.1	2655	8002	4788	690	125	5215	5307	1265	38	ON	ON	ON	OFF
25559	"	6:40	7:26	8.01	8.28	17.1	2758	8002	4745	718	123	5232	5369	1238	30	"	"	"	"
25560	"	7:26	7:34	7.00	7.26	15.9	407	1204	673	106	17	757	764	157	6	"	"	"	"
25561	"	8:12	9:00	10.57	10.61	19.3	2580	8002	5018	671	129	5139	5522	1296	32	"	"	"	"
25562	"	9:01	9:46	8.74	8.65	17.1	2712	8002	4827	705	122	5183	5381	1264	30	"	"	"	"
25563	"	9:47	10:19	7.66	7.51	16.3	1888	5334	3078	491	80	3465	3647	802	18	"	"	"	"
25564	"	11:13	12:04	10.97	11.01	19.9	1833	5862	3927	477	94	3800	3846	932	21	"	"	"	"
25565	"	12:05	12:28	9.34	9.26	19.2	1371	4375	2781	356	69	2763	2937	678	18	"	"	"	"
25566	only 2 events					JUNK													
25567																			
25568																			
25569																			
25570																			
25571	"	13:35	13:52	7.04	6.76	14.3	959	2605	1482	249	35	1715	1689	140	16	"	"	"	"
25572	"	14:31	14:54	10.06	9.66	19.0	1321	4192	2738	343	65	2721	2751	699	19	"	"	"	"
25573	"	14:57	15:39	9.35	8.95	18.0	2657	8002	4993	690	124	5249	5146	1304	29	"	"	"	"
25574	"	15:39	16:25	8.12	7.85	16.5	2756	8002	4767	717	119	5281	5199	1202	37	"	"	"	"
25575	"	16:27	17:13	7.05	6.71	15	2426	6469	3558	631	92	4273	4150	945	15	"	"	"	"
25576	"	17:47	18:29	10.81	10.57	20.0	2497	8002	5247	650	130	5128	5364	1330	38	"	"	"	"
25577	"	18:29	19:15	9.28	8.93	18	2716	8002	4908	707	124	5280	5364	1263	18	"	"	"	"
25578	"	19:15	20:05	8.05	7.80	16	2886	8002	4690	750	117	5283	5268	1213	36	"	"	"	"
25579	"	20:06	20:26	6.98	6.51	15	1167	3103	1683	303	44	2070	2882	484	12	"	"	"	"
25580	"	20:56	21:36	11.26	10.89	22	2346	8002	5219	610	132	5156	5187	1309	34	"	"	"	"
25581	"	21:36	22:18	9.70	9.46	20	2487	8002	5085	647	128	5208	5268	1283	28	"	"	"	"
25582	"	22:18	23:03	8.42	8.19	17	2683	8002	4869	698	120	5236	5262	1302	34	"	"	"	"
25583	"	23:10	23:25	7.17	6.96	15	876	2492	1453	228	34	1654	1530	383	13	"	"	"	"
25584	27/4/86	0:03	0:47	10.25	10.09	17.7	2591	8002	4941	674	119	5242	5135	1295	27	"	"	"	"
25585	"	0:47	1:33	8.90	8.75	16.3	2754	8002	4736	716	117	5242	5236	1226	34	"	"	"	"
25586	"	1:43	2:34	7.54	7.40	15.4	2874	8002	4634	748	115	5518	5259	1198	20	"	"	"	"
25587	"	2:35	3:07	6.52	6.39	14.4	1913	5078	2820	498	72	3406	3283	737	13	"	"	"	"
25588	"	3:41	4:23	10.67	10.63	18.7	2524	8002	5093	656	123	5203	5237	1311	40	"	"	"	"
25589	"	4:25	5:10	9.26	9.24	16.3	2744	8002	4746	713	116	5191	5847	1236	35	"	"	"	"
25590	"	5:11	5:52	8.09	8.06	15.8	2347	6570	4074	610	96	4254	4294	985	27	"	"	"	"
25591	"	5:53	6:43	7.19	7.17	14.8	3006	8002	4516	781	113	5313	5272	1119	29	"	"	"	"

$\langle L \rangle$ (10^{30} cm^{-2}s^{-1})	BHABHA $\int L\,dt$ (nb^{-1})	$\int L\,dt$ Exp, Energy (nb^{-1})	IBM/TAPE OUTPUT	at run start TOF (V)	at run start ID (μA)	ONLINE SUM MIPROC T_2 (%)	ONLINE REJECT NKOSO TITLE (%)	$\sum$ BHABHA	MH	E_{Beam} (GeV)	MAG FIELD −1G.	REMARKS
7.30	23.11	14308.83	IBM	1.4	0.2	52	41	406	3	17.500	4828	
6.93	21.12	14329.95	"	1.3	0.15	53	42	371	7	"	4829	
5.75	2.45	14332.40	"	1.1	0.1	49	46	43	0	17.501	"	
9.47	24.41	14357.39	"	1.5	0.8	53	38	439	7	17.500	4828	
7.84	23.91	14381.30	"	1.5	0.2	53	42	420	5	17.500	4827	
6.57	13.26	14394.56	"	1.3	0.2	54	44	233	5	17.500	4829	Beam Lost
10.51	19.53	14414.09	"	1.8	0.2	52	34	343	5	17.500	4828	run stop on bad glass noise
9.18	12.75	14426.84	"	1.4	0.2	50	38	224	2	17.500	4829	
~~5.52~~	~~6.03~~	~~14432.87~~									~~4830~~	
5.52	6.03	14432.87	"	?	?	52	44	106	1	17.500	4830	beams dumped
9.84	16.17	14448.94	"	1.3	0.2	51	36	284	4	17.500	4831	run stopped because of bad glass noise
8.24	26.02	14474.96	"	1.2	0.2	52	39	457	7	17.501	4831	
7.04	20.72	14495.68	"	1.0	0.2	53	42	364	5	17.501	4830	
5.89	16.74	14512.42	"	1.0	0.2	52	46	294	2	17.500	4831	beams dumped
10.06	28.69	14541.11	"	1.5	0.3	52	36	504	3	17.500	4831	
8.21	23.23	14564.34	"	1.2	0.2	53	40	468	6	"	4829	
6.68	21.01	14585.35	"	1.1	0.2	52	44	369	10	"	"	
5.14	7.00	14592.35	"	0.9	0.2	56	47	123	2	"	4828	beams dumped
11.08	26.47	14618.82	"	1.6	0.2	51	36	465	8	"	"	
9.51	25.84	14644.66	"	1.4	0.15	52	38	454	4	"	"	
7.93	23.80	14668.46	"	1.2	0.15	53	40	418	7	17501	"	
6.95	5.92	14674.38	"	1.2	0.15	55	43	104	5	17.501	"	beams dumped
9.60	24.82	14699.20	"	1.3	0.25	51	39	436	7	17.501	"	
7.84	23.46	14722.66	"	1.0	0.21	52	42	412	10	"	"	
6.46	19.70	14742.36	"	1.0	0.2	54	43	346	5	17500	"	
5.31	10.82	14753.18	"	0.85	0.2	54	46	190	6	"	"	Beams dumped
10.10	26.98	14780.16	"	1.5	0.3	51	37	474	2	"	"	
7,98	21,29	14801,45	"	1,0	0,2	52	42	374	4	"	"	
6,68	16,00	14817,45	"	1,0	0,2	51	39	281	8	"	"	Run stopped becaus of LG noise.
5,70	17,02	14834,47	"	0,8	0,2	53	45	293	3	17501	"	

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RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME %	TIME (SECS)	RECORDS IN	RECORDS OUT	ALL $*10^6$	T∅ REJ. $*10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT 2 ELEC×GGW	T_1 BIT 17 2T. EV. ≥ 2TR	PROCESSORS ON/OFF NSD	MIP	TOF	PPM
25592	27/4/86	6 45	7 36	6,25	6,23	14,3	2994	8002	4310	778	111	5393	5012	1338	19	ON	ON	ON	OFF
25593	"	07 36	08 31	5.42	5.45	17.1	3243	8002	3985	844	111	5411	5245	1174	27	"	"	"	"
25594	"	08 31	08 42	6.74	6.79	18.0	620	1592	776	161	21	1064	991	217	3	"	"	"	"
25595	"	09 36	10 20	9.12	10.11	18.1	2621	8002	4998	682	123	5225	5191	1321	32	"	"	"	"
25596	"	10 20	11 08	7.84	8.80	16.3	2761	8002	4824	718	117	5289	5193	1218	35	"	"	"	"
25597	"	11 08	11 59	6.76	7.66	15.8	2893	8002	4572	757	119	5226	5308	1204	32	"	"	"	"
25598	"	11 59	12 09	5.84	6.69	14.5	530	1454	803	138	20.0	947	918	216	7	"	"	"	"
25599	"	12 48	13 31	10.76	10.24	19.1	2517	8002	5044	654	125	5262	5078	1342	27	"	"	"	"
25600	"	13 36	14 28	8.87	8.76	17.7	2671	8002	4954	695	123	5261	5172	1270	35	"	"	"	"
25601	"	14 28	15 26	7.52	7.41	15.7	2828	8002	4908	735	116	5322	5018	1263	30	"	"	"	"
25602	"	15 26	15 39	6.75	6.26	14.8	711	2027	1139	185	27.3	1746	1249	306	8	"	"	"	"
25603	"	16 12	16:57	8.99	10.38	17.6	2662	8002	4883	691	121	5149	5311	1316	34	"	"	"	"
25604	"	16 58	17:36	9.04	9.66	17.3	2181	6529	3923	567	98	4229	4303	1023	25	"	"	"	"
25605	"	18 42	18:47	10.86	10.86	21.3	202	669	423	52	"	423	408	105	2	"	"	"	"
25606	"	19.25	20:11	9.29	1.87	18.9	2624 8002	8002	5032	682	127	5102	5528	1253	31	"	"	"	"
25607	"	20:11	21 00	8.02	8.11	17.3	2704	8002	4666	703	121	5192	5258	1198	27	"	"	"	"
25608	"	21 00	21 22	6.88	6.91	16.7	1282	3556	2069	333	55	2286	2365	480	9	"	"	"	"
25609	"	22 22	22 57	9.94	9.94	20.6	2028	6577	4267	527	108	4124	4359	1056	20	"	"	"	"
25610	"	23 02	23:46	8.74	8.75	18.5	2636	8002	4924	685	126	5112	5309	1214	19	"	"	"	"
25611	"	23:46	0:33	7.60	7.61	16.7	2769	8002	4749	719	120	5153	5301	1232	33	"	"	"	"
25612	28/4/86	0:33	0:44	6.65	6.65	15.2	610	1723	939	158	24	1125	1124	243	9	"	"	"	"
25613	"	1:15	1:57	10,66	10,47	20.1	2431	8002	5088	631	127	5212	5177	1364	39	"	"	"	"
25614	"	1:57	02 49	9,22	9,10	18.0	2632	8002	4816	684	123	5258	5215	1238	26	"	"	"	"
25615	"	02 51	03 37	7.49	7.41	15.9	2718	7698	4491	707	112	5108	4898	1192	34	"	"	"	"
25616	"	04 08	04 51	9.76	10.52	19.4	2525	8002	5153	656	127	5162	5205	1288	42	"	"	"	"
25617	"	04 51	05 37	8.35	9.15	17.3	2721	8002	4804	707	122	5186	5265	1250	26	"	"	"	"
25619	"	05,48	06 11	6.96	7.68	15.0	1348	3656	2078	350	53	2396	2441	513	6	"	"	"	"
25620	"	06 44	07 25	10.92	10.70	20.4	2448	8002	5447	637	130	5145	5270	1391	32	"	"	"	"
25621	"	07 26	08 09	9.40	9.28	18.5	2578	8002	4919	671	124	5147	5200	1306	39	"	"	"	"
25622	"	08 13	08 27	8.05	7.96	17.0	642	1945	1185 1189	167	28	1305	1264	322	6	"	"	"	"
25623	"	08 37	09 28	7.50	7.39	16.1	2805	8002	4645	730	118	5299	5153	1201	35	"	"	"	"
25624	"	09 30	09 32	6.29	6.08	15.8	131	393	228							"	"	"	"
25625	"	10 06	10 51	10.14	9.91	18.2	2632	8002	5089	685	125	5208	5336	1389	41	"	"	"	"
25626	"	10 51	11 25	8.75	8.54	17.2	1968	5777	3526	512	88	3828	3738	921	26	"	"	"	"
25627	"	11 25	11 33	7.87	7.68	17.8	456	1451	830	118	21	950	887	235	7	"	"	"	"

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$\mathcal{L}$ 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 [μA]	ONLINE REJ. SUM MIRROR T_2 %	ONLINE REJ. NSD T_1 T_2 %	Σ BHABHA	MH.	EBEAM	MAG FIELD	REMARKS.
5,03	15,43	14849,90	IBM	0,75	0,2	54	48	271	11	17500	4829	
3.88	12.58	14862.48	"	0.70	0.15	56	52	231	2	"	"	
3.23	2.39	14864.87	"	0.60	0.15	53	53	42	3	"	"	BEAMS DUMPED.
9.43	26.87	14891.74	"	1.50	0.30	52	39	472	9	"	"	
8.08	22.94	14914.68	"	1.1	0.25	53	41	403	7	"	4828	
6.54	19.98	14934.66	"	0.95	0.20	53	45	351	6	"	4836	
5.70	3.64	14938.30	"	0.85	0.20	51	47	64	0	"	"	Beams dumped
10.28	27.67	14965.97	"	1.40	0.30	52	37	486	11	"	"	
8.57	23.17	14989.14	"	1.2	0.25	52	39	407	4	"	4838	
7.01	22.20	15011.30	"	1.00	0.25	52	40	340	5	"	4840	
6.07	4.78	15016.08	"	0.95	0.20	51	45	84	4	"	4834	Beams dumped
7.81	24.64	15040.72	"	1.2	0.30	51	40	433	9	17.501	4835	trigg mip 63 off for first ~1000 triggers.
7.78	16.74	15057.46	"	1.2	0.25	52	41	394	4	"	4837	Beams lost
11.77	1.82	15059.28	"	1.5	0.30	48	31	32	2	17.500	"	JADE Magnet trip.
9.00	23.12	15082.40	"	1.4	0.25	52	38	406	4	"	4835	
6.96	20.21	15102.61	"	1.1	0.20	52	43	355	3	"	4831	
4.84	6.15	15108.76	"	1.0	0.20	53	43	108	2	"	4829	
9.11	20.55	15128.31	"	1.4	0.25	49	38	361	10	17.501	4834	Stopped - JETK problem.
8.35	20.61	15149.92	"	1.2	0.2	51	40	362	3	17.500	"	
6,52	20.10	15170,02	"	1.1	0.15	51	42	353	6	17,501	"	
5,78	3,76	15173,78	"	0.95	0.15	52	47	66	2	17,500	4835	beams dumped.
10,13	25,84	15199,62	"	1,5	0,2	51	38	454	8	"	4834	
7.73	21.81	15221.43	"	1,3	0,2	52	41	383	8	17501	4834	
6.55	19.47	15240.90	"	1.0	0.15	52	43	342	5	17500	4834	beams dumped
9.29	24.02	15264.92	"	1,4	0,2	51	37	422	3	17500	4834	
7.74	22.20	15287.12	"	1.1	0.2	51	41	390	12	17501	"	Run 25618 - not existing (Abord-10 hang up!).
5.15	7.37	15294.49	"	1.0	0.2	53	45	129	5	17529*	"	Beams dumped *yes; Cello apoer - something to do with a transmitter going off.
9.70	27.78	15322.27	"	1.6	0.25	51	33	488	5	17501	4834	
4.09	22.60	15344.87	"	1.3	0.2	50	40	397	8	17500	4835	
7.22	5.07	15349.94	"	1.1	0.2	54	40	89	0	-"-	-"-	
6.27	18.67	15368.61	"	1.1	0.2	52	43	328	7	-"-	4835	
4.84	0.85	15369.46	"	1.0	0.2			15	0	"	4882	BEAMS DUMPED.
9.81	26.64	15396.10	"	1.35	0.25	52	37	468	11	-"-	-"-	
8.36	18.39	15414.49	"	1.1	0.2	53	40	323	7	-"-	-"-	
7.50	4.21	15418.70	"	1.1	0.25	50	44	84	1	"	4838	STOPPED DUE TO IBM (LINK) BUSY.

27/4/86 08^{00} Hedgecock and Greenshaw

08^{10} Gas check done, all OK apart from rather high catalyzer temperature (is 200°C, normally ~150°C)
Temperature turned down slightly. (Checked again at 09^{36} temperature slowly returning to normal.)

10^{50} Z-CHAMBER TRIP
(changed blue pen on VTX recorder in the Rucktak

11^{25} YIBMPC Unknown command BYTE 000040 OCTAL
" " " " — 62 "
" " " " — 60 "

13^{35} Z-CHAMBER TRIP

14^{05} Catalyzer temperature (micon / z chamber gas system) now stable at ~ 160 °C.

16^{00} R. Felst & H. Milla on shift

Start of new fill - run 25603 Tag mainframe 63 did not come on - manual intervention needed.

16^{20} Gas check done Aethan slightly below 20 atm. check more frequently! bottles outdoors show max 30 atm.

16^{47} Z chamber trip must PAUSE/CONTINUE

16^{52} " "

18^{15} " "

17^{24} " " " - occur with pickup events

17^{33} Beam lost

18^{03} - JADE magnet trip. reason: temperature too high in presshouse because one of the 2 fans didn't run properly - K-people fixed it but it may happen again. No error message shows up on this occasion

19^{44} Z chamber trip.
20^{20} " " "
20^{55} " " "
} Every time the Z-ch tripped this shift, the trigger box was "RED" and had to be reassisitated by PAUSE/CONTINUE.

Modification made to YRUNSM and YTEXT.

22^{50} problem with FAGC read out, cannot expect E.E. - EVP with BUS Error, MOP crashed when trying JADEGO
Reset the MOP processor, everything reloaded itself & could start next run.

28/4/86 00^{00} Murphy & Chin

Gas check done, Aethan (P4) reading ≈ 18.

0535 ~~[illegible]~~ Rebuilt Ymail at end of run 25617. However Nord-10 hanged when attempting to start run 25618. Reloaded Nord-10 & started run 25619.

06·43 Run 25620: trg. HV not on.

0800 Cannot get any display up - events display or histogram. HEDGECOCK & OLSEN
Rebuild YEDISP and YHCOPY.
Still doesn't work.

08^{30} Gas check completed. AETHAN (P4) READING ≤ 15.

10^{00} Aethan bottles changed R. FELST

11-12: YSPY appears broken, rebuild helps.
We discover that μ-checksums and T3 output have a very funny appearance, as if a large negative weight is applied to 1 bin. T. Greenshaw, P. Warming investigate.
The funny appearance seem to have gone with rebuilding YSPY

12^{15} All crates containing chambers used to form check sums were functioning normally. Conclusion, a wrong problem.

13^{15} New fill, with high IO current. PKA says that the beam is unstable because the TASSO magnet is off. also lumi is bad ($\mathcal{L} \sim 10^{30}$). Events are dirty...

14^{00} SHORT BREAK POSTED. RUN MAGNET DOWN TO 500 A.

15^{20} Z-chamber tripped once. Run continued as prescribed! (≠ PREDICTED)

15^{30} No H. TRIP. - BEAMS LOST. RUN STOPPED.

16^{00} Bethke + Meinke

16^{35} PETRA has water-alarm in one "Sender". It is not clear what happens now.
People are still checking (since 1 hour?!).
Run down magnet to 4500 A.

16^{30} Gas check done!

16^{45} Suddenly small currents again in PETRA. Run up magnet to 7500.

17^{50} error message average # of blocks / event > 20 ⇒ pedestal problem

17^{55} BP chamber trip run stopped 75% of beams lost

22^{30} We now get the LG-error message (av. # of blocks/evts > 20) more frequently.
For run is nearly at 8000 evts, we leave it running and hope for better pedestals at start of next run.

23^{41} Vxch soft trip. Data taking stops with question to continue, but does not continue if answered properly. "40 events...". Also Pause / continue helps only after vxch up again!

2^{30} BP ch. + jet ch. soft trip

↑ I do not believe this! Probably the ID was also down. HK

RUN	DATE	START	STOP	AT RUN START I+	AT RUN START I−	DEAD TIME %	TIME (SEC)	RECORDS IN	RECORDS OUT	ALL *10⁶	T6 RES *10⁶	T1 ACCEPT SUM	T2 ACCEPT SUM	T1 BIT 2 E_LG/6GeV	T1 BIT 17 24. E_4 ≥ 2.72	PROCESSORS ON/OFF NSO	MIO	TOF	FAM
25628	28/4/86	11 37	12 00	7.59	7.40	16.1	1312	3737	2139	342	55	2938	2477	587	15	ON	ON	ON	OFF
25629	"	12 01	12 40	7,05	6,87	15,0	2302	6349	3570	599	90	4947	4039	947	20	"	"	"	"
25630	"	12 15	13 44	10.94	10.84	27.1	1758	5923	3751	458	124	3825	3925	859	23	"	"	"	"
25631	"	14 37	14 53	10.92	10.98	22,6	812	9694	1747	211	48	1674	1808	437	14	"	"	"	"
25632	"	14 53	15 33	10,25	10.37	21.5	2136	7024	4540	556	119	4453	4579	1188	18	"	"	"	"
25633	"	17 14	17 54	10.74	10.95	21.0	2413	7573	4935	610	128	4757	5210	1278	41	"	"	"	"
25634	"	18:36	19:16	11.03	11.27	22.6	2446	~~8002~~ 8002	~~5264~~ 5264	636	144	5028	5538	1337	29	"	"	"	"
25635	"	19:16	19:59	9.45	9.69	21.0	2584	8002	4967	672	141	5044	5601	1329	31	"	"	"	"
25636	"	20:00	20:47	8.13	8.38	18.7	2798	8002	4675	727	136	5082	5610	1232	30	"	"	"	"
25637	"	20:47	21:23	7.03	7.26	21.7	2470	5872	3258	643	140	3844	4153	820	18	"	"	"	"
25638	"	22:02	22:43	11.13	11.11	22.7	2398	8002	5433	624	142	5044	5515	1388	33	"	"	"	"
25639	"	22:44	23:29	9.54	9.54	19.2	2520	8002	5017	655	126	5147	5228	1332	19	"	"	"	"
25640	"	23:31	0:20	7.70	7.60	16	2794	8002	4711	726	119	5247	5286	1273	27	"	"	"	"
25641	29/4/86	0:21	0:34	6.56	6.44	15.8	766	2675	1180	200	32	1809	1421	286	5	"	"	"	"
25642	"	1:13	1:58	10.82	10.76	21.6	2484	8002	5246	645	137	5161	5368	1459	33	"	"	"	"
25643	"	1:59	2:47	8.76	8.53	18.6	2637	8002	4814	686	127	5166	5301	1301	25	"	"	"	"
25644	"	2:47	3:34	7.50	7.29	16.7	2775	8002	4727	721	120	5203	5222	1281	31	"	"	"	"
25645	"	3:34	3:48	6.53	6.33	16.4	805	2214	1259	210	34	1432	1471	320	6	"	"	"	"
25646	"	4 26	5 20	10.06	10.04	20.0	2603	8002	5052	677	135	5274	5348	1280	38	"	"	"	"
25647	"	5 22	6 08	8.05	7.94	16.7	2779	8002	4790	722	120	5300	5245	1288	26	"	"	"	"
25648	"	6 09	6 57	6.98	6.87	15.2	2916	8002	4535	758	115	5256	5246	1222	20	"	"	"	"
25649	"	7 01	7 19	6.02	5.93	14.1	1057	2771	1523	274	39	1849	1817	389	10	"	"	"	"
25650	"	8 13	8 58	9.87	10.12	19.7	2515	8002	5001	655	129	5090	5235	1256	36	"	"	"	"
25651	"	8 58	9 46	8.44	8.69	17.8	2696	8002	4930	702	124	5213	5318	1318	37	"	"	"	"
25652	"	9 46	10 32	7.25	7.48	17.6	2738	8002	4730	713	126	5166	5269	1223	20	"	"	"	"
25653	"	10 33	11 06	6.29	6.50	16.0	1967	5453	3026	512	82	3532	3593	814	15	"	"	"	"
25654	"	12 04	12 48	11.02	10.79	23.0	2328	8002	5341	606	139	5091	5119	1268	32	"	"	"	"
25655	"	12 49	13 32	9,38	9,29	19.4	2558	8002	4973	677	131	5114	5397	1234	29	"	"	"	"
25656	"	13 33	14 06	8.07	7.90	23.0	1755	8002	4768	456	104	6278	3173	751	9	"	"	"	"
25657	"	14 06	14 22	7.28	7.11	37.6	924	8002	5930	241	90	7198	1299	349	4	"	"	"	"
25658	"	14: 24	14 38	6.92	6.76	37.5	877	7224	4391	229	86	6472	1182	256	8	"	"	"	"
25659	"	14 41	14 56	6.59	6.41	16.5	930	2247	1279	242	40	~~2247~~ 1350	~~6579~~ 1689	391	17	"	"	"	"
25660	"	15:58	15:59	11.02	11.28	45,0	40	360	214	10	4	309	53	20	1	"	"	"	
25661	"	16:13	16:52	10.44	10.70	22,3	2334	8002	5137	607	135	5224	4970	1322	38	"	"	"	"

⟨L⟩ 10³⁰ 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 MIDOC T₂ %	ONLINE REJECT NORDSO T₄T₂ %	Σ BHABHA	M/H	E BEAM	MAG FIELD -1*G	REMARKS.
7.04	10.99	15429,69	IBM	1.05	0.24	53	44	193	5	17.501	-4838	stopped to rebuild YSPY
6,05	15,88	15445,57	-"-	1,0	0,2	53	45	279	5	17500	-4841	Beams dumped.
8.69	15.32	15460.89	"	2,1	1,4	48	38	269	5	-"-	4835	BEAM LOST
10,70	8,14	15469.03	"	1.8	0.5	50	37	143	2	"	-4832	Stopped due to noisy lead glass.
9.76	24.37	15493.40	"	1,8	0,95	49	37	428	5	17500	4832	BEAMS LOST.
10.33	26.30	15519.70	"	1,7	0,4	50	36	462	4	17.501	4841	Beams lost
10.67	26.07	15545,77	"	1.8	0.45	51	35	458	8	17500	"	
8.33	23.06	15568.83	"	1.5	0.40	52	39	405	11	17.500	4841	
6.87	20.89	15589.72	"	1.3	0.40	52	43	367	5	"	4839	
4.11	12.07	15501.75	"	1.2	0.30	56	46	212	1	17.501	4838	Beams dumped
10.67	30.00	15531,75	"	1.8	0.40	51	33	527	8	17.500	4834	
9.06	24.88	15556.67	"	1.5	0.20	50	38	437	5	"	4835	
6.61	20.55	15577.22	"	1.25	0.20	53	42	361	6	"	"	
5.68	4.33	15581.55	"	1.2	0.2	53	45	76	2	"	4834	Beams dumped
9.62	27.44	15608.99	"	1.8	0.30	52	36	482	11	17.501	4834	
8.17	20.50	15629.49	"			52	41	360	5	"	"	
6.57	21.12	15650.61	"	1,2	0.2	52	42	371	4	17.500	"	
5.63	5.12	15655.73	"	1.1	0,2	53	45	90	1	17.501		Beams dumped
9.15	24.22	15680.55	"	1.6	0.3	52	38	436	11	17.500	"	
7.13	14.08	15704.63	"	1.2	0.2	53	41	423	4	17.501	4835	
5.82	20.50	15725.13	"			52	45	360	6	"	"	
4.90	5.69	15730.82	"	0.9	1.5	53	47	100	1	"	"	Beams dumped.
9.50	24.82	15755.64	"	1.6	0.3	50	39	436	13	17.500	4834	
7.86	25.62	15781.26	"	1.3	0.2	53	40	450	6	17.501	"	
7.07	19.98	15801.24	"	1.2	0.3	52	42	351	4	"	"	
5.98	13.61	15814.85	"	1.1	0.3	52	46	239	11	"	"	Beams dumped
10.61	26.87	15841.72	"	1.8	0.6	49	34	472	6	"	4835	
8.66	22.77	15864.49	"	1,5	0,45	52	39	400	7	"	4837	
6.86	12.35	15876.84	"	1.2	0.4	52	41	217	3	"	"	
4.85	3.70	15880.54	"	1.0	0.4	52	33	65	1	17500	4839	
4.58	3.59	15884.13	"	0.9	0.4	50	40	63	2	17501	"	
5.95	4.78	15888.91	"	1.0	0.4	52	35	84	1	"	"	Krebbiel-Trigger disabled ↓
7,62	0,28	15889.19	"	1.5	0.3	43	43	5	0	"	"	" " enabled.
10,43	26,36	15915.55	"	1.5	0.3	50	37	463	5	17500	"	

29.4.86 0:00 Mills + Heinzelmann

0:25 Gas check done
Muon crate is permanently missing – camac module flashing so reset there did not help. Reset crate – after n tries this worked.

1:11 On starting run 25662 everything hard trips

1:14 SDAS err 74 – Wrong LAM Brl Crl: Beampipe chamber

1:56 ID & BP CH Soft trip

4^00 Fest replace Heinzelmann

4^35 Jet + VTX-Chamber xpt trips, frequent muon crate 5 missing [crashed 22:10 yesterday!]

6 MOP-display dark – but otherwise everything look normal wie JETC!

~~18~~ 55 At end run 25649 reloaded MOP (4 FEPs) by reset on MOP processor. Also rebuilt YTMENU as part of menus overwritten.

8:00 Maburumura and Kuhlen on shift

8:15 Gas check done

7:27 IDAS Error 74 branch 1 crate 1 Beampipe Chamber → MOP processor 1 count error.

7:30 reloaded MOP

Tagging Folder found between old DL8-stuff RBy

10:07 YSPY: muon digitizers missing

13:03 Z chamber trip solo: data taking continued without any action! In spite of observations to the contrary!

14:19 Loaded: new version of JETC-readout, run 25658
Shortly after YMAIL corrupt, rebuilt OK.

Runs 25656, 57, 58 found to have very large prop. of Krebbiel/trigger. Reason seem to be a noisy ECAP-quadr. Until this has been fixed, the trigger was removed from the Tlacc pattern i.e. Tlacc = 175417B (normal is 175437B) J.O.

16^00 Chrom + Schmitt on shift; (gas check 16^05).

16^10 Noisy ECap-Quadr. problem fixed. One PM was found to be very noisy, we took off the HV. This counter was already known to have a problem. H.K & N.M.

16:52 When attempting to start run 25662, error 24 in 34441 (in RT task ZDAS) on system console. Followed instructions in Appendix A7 of SDAS manual. Was also necessary to reload Nord 10S.

21:20 SETC Crashed. The FEPs were flashing

21:30 "IBM Busy" shows up very often (every 10 sec). IBM operator called. He started the program: ok

30.4.86 Heinzelmann + Bethke

0:15 Gas check done

1:02 IBM transfer error. Short run was run.

4^00 Fest replaces Heinzelmann

4^10 Z-chamber trip, data taking stopped by this

7^16 IBM transfer error, 7^20 again,

8^00 Ghrin & Glasser on shift

8^10 Gas check done.

8^55 All chambers trip → TOF rate shoots to > 10 V.

10^45 Tasso Down ~~PWR~~ cannot get TOF below 2

10^50 Tasso Back? TOF at 1.5

13^20 Short break, due to TASSO access to magnet.
In this break, a cosmic test run was made (R25688), to test online rejection with FAMP. This implies a new version of YIBM, which is the copy task for data transfer to IBM. This worked successfully at the first attempt! FAMP actually rejected 16% of the cosmics passed by Plessey and NSO.
An offline check of data is needed before testing goes on with real data taking... J.O.
~~For next run, the old YIBM was of course installed again.~~
The problems of the next run# was due to this new program by mistake left in. Although it worked in cosmic run (very low rate, single event copy), it apparently doesn't stand real data taking with high rate and multiple event copying. Since beams were lost very soon in this fill, we overwrite the system disc with yesterdays backup, for security. J.O.

+ (25689 to 25691 inclusiv).

15^16 New fill (2 new runs(!)) with I^+ = 11.48 and I^- = 11.49. (Must be a record for this yr?)

16^00 J. Olsson (replacing V. Bartel) and H. Riesselberg (replacing L. Smolik)

16^05 Gas check o.k.

16^28 Run # 25692 : 452 Bhabhas collected (Bhabha flux = 25.73) not a record [537 Bhabhas was in Run 25644]

21^32 µ crate 12 frequently missing. Reset from the counting room does not work, one has to go down to the module, switch it off and on again, touch the cables gently.

RUN	DATE	START	STOP	At Run Start I^+	At Run Start I^-	Dead Time %	Time (sec)	Records In	Records Out	All $\times 10^6$	Tϕ 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. $E_{tot} > 27$ GeV	Processors ON/OFF NSO	MIP	TOF	FPHA
25662	~~29/4/86~~ 29/4/86	17:07	17:50	8.64	8.88	18.8	2563	8002	4952	666	125	5321	4950	1282	29	ON	ON	ON	OFF
25663	29/4/86	17:50	18:35	7.50	7.72	17.2	2693	8002	4718	700	121	5429	4870	1284	37	"	"	"	"
25664	"	18:36	18:06	6.54	6.75	15.6	1757	4911	2788	457	71	3411	2809	689	23	"	"	"	"
25665	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
25666	"	20:35	21:14	10.59	10.60	23.3	2374	8002	5409	618	144	5317	4944	1310	38	"	"	"	"
25667	"	21:15	21:43	9.21	9.23	24.3	1404	4305	2724	365	89	2825	1335	636	23	"	"	"	"
25668	"	21:46	22:29	8.33	8.35	17.4	2577	8002	4898	670	117	5410	4949	1208	38	"	"	"	"
25669	"	22:30	23:10	7.25	7.26	16.9	2343	7107	4268	609	183	4790	4305	1038	27	"	"	"	ON
25670	"	23:12	23:33	6.43	6.44	16.0	1259	3670	2165	328	53	2483	2300	493	20	"	"	"	"
25671	30/4/86	0:36	1:02	10.21	10.47	23.5	1487	5683	3906	387	91	3915	3112	858	41	"	"	"	"
25672	"	1:03	1:48	9.29	9.55	21.4	2301	8002	5246	599	128	5527	4506	1259	41	"	"	"	"
25673	"	1:48	2:32	7.94	8.15	18.4	2598	8002	4952	676	125	5366	4979	1268	40	"	"	"	"
25674	"	2:32	3:09	6.92	7.11	17	2007	5871	3464	522	89	3922	3727	906	27	"	"	"	"
25675	"	3^{45}	4^{25}	10.61	10.48	27.8	2401	8002	5219	624	136	5376	5077	1315	29	"	"	"	"
25676	"	4^{26}	4^{29}	9.24	9.12	23.9	187	687	447	48	11	421	401	87	3	"	"	"	"
25677	"	4^{30}	5^{13}	9.08	8.97	18.8	2537	8002	5017	659	124	5358	4980	1294	35	"	"	"	"
25678	"	5^{13}	5^{59}	7.82	7.81	16.3	2698	8002	4763	702	118	5425	5072	1319	44	"	"	"	"
25679	"	5^{59}	6^{35}	6.90	6.79	15.4	2079	6001	3449	546	84	4083	3720	869	25	"	"	"	"
25680	"	7^{11}	7^{51}	10.76	10.83	25.4	2395	8002	5439	623	158	5302	5064	1350	37	"	"	"	"
25681	"	7^{51}	8^{33}	9.30	9.35	21.0	2432	8002	~~5289~~ 5111	632	132	5235	5221	1268	32	"	"	"	"
25682	"	8^{33}	9^{27}	8.05	8.10	19.3	2656	8002	4959	690	133	5310	4937	1270	34	"	"	"	"
25683	"	9^{28}	9:53	6.67	6.79	17.0	1324	3335	2268	344	58	2358	2377	596	14	"	"	"	"
25684	"	10:17	11:11	10.37	11.04	27.3	2430	8002	5014	632	172	5048	5199	1153	35	"	"	"	"
25685	"	11:11	11:54	9.38	9.39	20.3	2555	8002	5031	664	135	5286	5152	1323	40	"	"	"	"
25686	"	11:56	12:43	8.10	8.10	17.9	2761	8002	4733	717	128	5337	5138	1181	26	"	"	"	"
25687	"	12:47	~~13:19~~	6.98	6.98	16.4	2076	5800	3281	~~540~~	88	3923	3648	865	22	"	"	"	"
25688	"	13:52	14:09	~~to~~		3.0	965	433	187,134 153	251	7,6	0	1023	0	37	"	"	"	"
25689	"	14:39	14:39	10.85	10.74	0	0		40										
25690	"																		
25691	"	14:50	14:51	10.74	10.50				14										
25692	"	15:46	16:28	11:48	11:49	24.9	2432	8002	5319	632	157	5133	5292	1272	38	ON	ON	ON	ON
25693	"	16:28	17:10	9.91	9.95	21.9	25.10	8002	5145	653	143	5184	5087	1250	30	"	"	"	"
25694	"	17 11	17:56	7.54	7.57	18.4	2718	8002	4676	707	130	5279	5080	1192	28	"	"	"	"
25695	"	17:57	18:46	7.51	7.54	16.2	2959	8002	4617	770	125	5372	5147	1152	49	"	"	"	"

L47 10^{30} cm^{-2} s^{-1}	Bhabha $\int L dt$ nb^{-1}	$\int L dt$ EXP. ENERGY	IBM/TAPE OUTPUT	At Run Start TOF EVJ	At Run Start ID EMAJ	Online Reject SUM MIPROC T_2 %	Online Reject NORDSO $T_1 T_2$ %	Σ Bhabha	MH	E_{beam}	mag field -18 G	Remarks.
8,20	21.40	15936,95	IBM	1.2	0.25	51	39	376	8	17.500	4841	
6.68	18.39	15955.34	"	1.0	0.2	52	42	333	4	17.501	4839	
5,71	9,79	15965.13	"	0,9	0,2	54	45	172	5	17.500	4838	beams dumped
—	—	—	—	—	—	—	—	—	—	—	—	junk
9.85	24.48	15989.61	"	1,8	0,35	51	33	430	10	17500	4837	
8.41	12.18	16001.79	"	1.4	0.2	52	38	214	0	17501	4838	
7,73	13.07	16020.86	"	1.3	0,2	52	40	335	5	"	4835	
6,43	15.49	16036.35	"	1.1	0,15	51	42	272	4	"	4834	
5.69	7.29	16043.64	"	1.0	0,15	53	42	127	1	"	"	beams dumped
10.59	16.85	16 060.49	"	2.2	0.3	49	32	296	0	"	4835	IBM transfer error run stopped.
9.30	22.15	16 082.64	"	1.6	0.2	50	35	389	9	"	4834	
7.88	22.32	16 104.96	"	1.3	0.2	52	39	392	5	"	4835	
6.58	14.12	16 119.08	"			52	42	248	2	17500	4834	beams dumped
10.07	24.93	16 ~~174~~ 144.01	"	1.8	0.3	52	36	438	5	17.500	4837	
9.00	1.54	16 145.55	"	1.3	0.2	44	37	27	1	"	"	run stopped by mistake
8.59	22.66	16168.21	"	1.3	0.2	52	38	398	5	"	4834	
7.20	22.09	16190.30	"	1.1	0.2	54	42	388	4	"	"	
6.22	4.84	16202.14	"			53	44	208	6	"	4835	beams dumped
9.80	24.42	16226.56	"	1.8	0.3	52	33	423	2	"	"	
8,97	23.00	16249.56	"	1.5	0.3	52	37	404	7	17501	4834	
7,35	20.44	16270.00	"	1.4	0.25	52	39	359	7	17500	"	
5,35	9.51	16279.51	"	1.0	0.2	51	42	167	2	17501	4834	beams dumped
7.27	18.39	16297.90	"	1.5	0,22	49	39	323	6	17501	4834	
8.26	23.28	16321.18	"	1.5	0.2	52	38	409	10	17500	"	
7.09	17.93	16339.11	"	1.2	0.2	53	42	351	12	17500	4834	
6.16	14.75	16355.91	"	1.0	0.2	53	45	259	2	17501	4834	beams dumped 30 min ACCESS for Tests
—	—	—	IBM	—	—	60	68	0	0	1.874	4837	Cosmic Test Run, not for REDUCT.
										see page 165		Run summary ext. Beams Lost Programs problems
10.13	25.73	16381.64	IBM	2.0	0.4	50	35	452	7	17.501	4838	
8.83	22.20	16403.84	"	1.4	0.4	50	37	390	5	17.500	4838	
7.21	19.30	16423.14	"	1.2	0,3	51	43	388	5	17.500	4837	
5.87	17.93	16441.07	"	1.0	0.3	53	44	315	5	17.510	4837	

Run	Date	Start	Stop	I^+	I^-	Dead time %	Live time sec	Rec in	Rec out	$\int dt \times 10^6$	$\bar{T}_0^{ns} \times 10^0$	$\bar{T}_1^{Acc}$ Sum	$\bar{T}_2^{Acc}$ Sum	$T_{1/2}$ $E_{1/2}$ >6	$T_{2/1/7}$	NSD	MIO	TOF	Trigg
25696	30.4.86	18:47	19:20	6.45	6.50	15.4	1930	5029	2837	502	77	3324	3314	664	27	ON	ON	ON	ON
25697	"	20:08	21:01	10.21	10.35	21.9	2584	8002	4759	672	147	5201	5193	1194	36	"	"	"	"
25698	"	21:02	21:58	8.61	8.75	33.3	3295	8002	4798	857	285	5195	5363	1220	40	"	"	"	"
25699	"	21:58	22:51	7.23	7.44	27.7	3168	8002	4643	824	228	5288	5251	1098	34	"	"	"	"
25700	"	22:52	23:20	6.32	6.46	16.2	1667	4583	2598	434	70	3078	2989	657	18	"	"	"	"
25701	1/5/86	0:09	0:34	9.98	10.00	21.9	1427	4753	3004	371	81	3042	3097	783	29	"	"	"	"
25702	"	0:36	1:20	9.11	9.13	18.8	2579	8002	5059	671	126	5284	5189	1312	39	"	"	"	"
25703	"	1:20	2:05	7.92	7.94	17.1	2679	8002	4763	697	119	5338	5100	1208	54	"	"	"	"
25704	"	2:05	2:38	6.91	6.92	15.6	2863	8002	4620	745	116	5403	5056	1207	32	"	"	"	"
25705	"	4:01	4:43	10.37	10.43	22.2	2451	8002	5273	637	141	5274	5140	1333	31	"	"	"	"
25706	"	4:47	5:30	8.84	8.91	21.6	2543	8002	4972	661	143	5209	5096	1231	28	"	"	"	"
25707	"	5:30	6:17	7.73	7.78	19.2	2782	8002	4786	723	139	5323	5057	1155	25	"	"	"	"
25708	"	6:17	7:06	6.75	6.80	17.0	2931	8002	4482	762	130	5354	4095	1119	30	"	"	"	"
25709	"	7:07	7:35	5.90	5.95	15.7	1656	4372	2436	431	68	2901	2761	584	19	"	"	"	"
25710	"	8:35	9:22	8.86	9.30	20.7	2614	8002	5002	680	140	5220	5229	1238	29	"	"	"	"
25711	"	9:23	10:02	7.58	8.01	18.3	2338	6952	4282	608	111	4499	4472	1046	41	"	"	"	"
25712	"	10:07	10:28	6.61	7.02	17.7	958	2875	1726	249	44	1916	1706	449	12	"	"	"	"
25713	"	10:28	11:13	6.18	5.96	16.9	2609	7286	4159	679	114	4696	4603	1000	33	"	"	"	"
25714	"	11:54	12:36	10.65	10.74	27.9	2461	7963	5265	640	779	4979	4904	1258	38	"	"	"	"
25716	"	12:39	13:09	9.02	9.15	23.8	1705	5456	3538	443	706	3473	3373	896	16	"	"	"	"
25717	"	13:12	13:56	7.03	7.14	21.3	2604	8002	5020	677	144	5155	4943	1217	34	"	"	"	"
25718	"	13:56	14:45	7.00	7.11	18.0	2891	8002	4635	751	135	5154	5140	1136	29	"	"	"	"
25719	"	14:45	14:56	5.45	5.38	15.7	587	1547	861	152	23	1015	985	196	3	"	"	"	"
25720	"	17:03	17:44	11.33	11.51	24.2	2414	8002	5196	627	151	5761	5416	1358	53	"	"	"	"
25721	"	17:44	18:31	9.80	9.97	19.5	2631	8002	4942	683	133	5272	5294	1158	43	"	"	"	"
25722	"	18:31	18:55	~~6.26~~ 6.76	~~6.55~~ 6.55	~~14.9~~ 14.9	1357	3556	1938	352	52	2356	2392	447	20	"	"	"	"
25723	"	18:55	19:04	5.24	5.67	15.5	~~1323~~ 1383	1323	733	127	19	857	890	157	8	"	"	"	"
25724	"	19:50	20:30	11.15	11.04	28.4	2402	8002	5417	624	177	6051	5575	1315	44	"	"	"	"
25725	"	20:31	21:13	9.68	9.57	22.6	2527	8002	5015	657	148	5014	5516	1296	31	"	"	"	"
25726	"	21:14	21:53	8.41	8.31	20.1	2681	8002	4781	637	139	5047	5524	1210	39	"	"	"	"
25727	"	21:53	22:46	7.23	7.13	17.1	2810	8002	4610	730	124	5185	5376	1236	24	"	"	"	"
25728	"	22:47	23:05	6.33	6.24	15.6	1051	2823	1585	273	42	1850	1943	433	16	"	"	"	"
25729	"	23:35	0:16	11.34	11.50	25.3	2434	8002	5197	632	160	5029	5523	1363	34	"	"	"	"
25730	2/5/86	0:17	0.59	9.69	9.76	23.4	2494	8002	4942	648	151	5030	5508	1226	36	"	"	"	"

$\langle L \rangle$ 10^{30} cm^{-2} s^{-1}	Blind $\int L dt$ nb^{-1}	$\int L dt$ Exp. En	IBM/Exp	TOF [V]	ID [mA]	mean T_1 ns	mean T_2 %	Σ Bhd	Σ TM	E_{Beam}	$\bar{B}$ [Gauss]	
5.04	9.91	16450.98	IBM	0.9	0.2	53	45	174	1	17.500	4838	beams dumped
7.83	20.95	16471.93	"	1.6	0.4	51	42	368	4	17.500	4837	
5.19	17.76	16489.69	"	1.5	0.25	52	41	312	4	17.501	4834	
4.64	15.37	16505.06	"	1.25	0.2	54	43	270	4	17.501	4835	
4.58	8.37	16513.43	"	1.2	0.2	55	45	147	2	17.501	4834	beams dumped
9.33	16.23	16529.66	"	1.6	0.2	50	38	285	3	17.501	4833	stopped due to "No events for ... sec" - problem, see next page
8.34	23.11	16552.77	"	1.5	0.2	52	38	406	4	17.500	4834	
6.96	19.98	16572.75	"	1.2	0.2	52	23	351	8	17.500	4833	
5.99	19.75	16592.50	"	1.1	0.15	53	43	347	6	17.500	4832	beams dumped
9.91	24.93	16617.43	"	2.0	0.20	52	35	438	9	17.500	4831	
7.90	19.98	16637.41	"	1.4	0.20	51	39	351	11	17.501	4832	
6.87	18.27	16655.68	"		0.20	54	43	321	3	17.500	4832	
5.22	18.44	16674.12	"	1.1	0.20	53	46	324	7	17.500	4834	
4.77	9.11	16683.23	"	0.9	0.15	53	46	160	0	17.500	4834	beams dumped
8.29	22.43	16705.66	"	1.7	0.2	53	39	394	7	"	4834	
6.97	17.42	16723.08	"	1.2	0.2	51	40	306	3	"	"	Readout Error Reload J68k Motorolas
5.92	6.21	16729.29	"	1.0	0.2	50	42	109	2	"	"	" "
5.15	14.17	16743.46	"	1.0	0.2	52	44	249	4	"	"	Beam dumped
9.37	23.23	16766.69	"	1.8	04	46	35	408	7	17501	4837	Run stopped. TECH soft trip shut before natural STOP
8.48	15.03	16781.72	"	1.55	0.25	49	37	264	4	"	"	Run 25715 : ca 80 Evts to IBM ; Not serviced ← stopped. Prog gobbled up the Z-VL - Fail
7.14	20.10	16801.82	"	1.35	0.25	50	39	353	9	17500	4838	"
4.97	14.46	16816.28	"	1.2	0.25	51	44	254	6	"	4840	
4.10	2.39	16818.67	"	0.9	0.2	53	46	42	0	"	4841	Beam dumped
9.66	27.39	16846.06	"	2.2	0.5	52	36	481	10	"	"	
7.23	18.44	16864.50	"	1.7	0.4	52	37	324	8	"	"	
4.43	7.40	16871.90	"	1.0	0.2	55	47	130	2	"	"	
4.04	1.48	16873.38	"	0.9	0.2	54	46	26	0	"	"	beams dumped
8.71	25.33	16898.71	"	2.1	0.4	52	23	455	7	"	"	
7.65	21.52	16920.23	"	1.8	0.4	52	39	378	3	"	"	
6.64	18.10	16938.33	"	1.5	0.3	52	42 348	318	3	"	"	
6.08	17.59	16955.92	"	1.3	0.2	52	44	309	6	"	"	
5.13	5.41	16961.33	"	1.1	0.2	55	45	95	0	"	"	beams dumped
8.74	24.14	16985.47	"	2.1	0.4	52	36	424	5	"	"	
7.49	17.70	17003.17	"	1.8	0.4	51	40	311	4	"	4834	

1/5/86 0⁰⁰ E. Elsen & J. Hagemann on shift

0⁴⁰ Gas check done, OK.
0³³ Message on colour TV "No Events for ... sec" + Sound without any error message on system console, JDAS console not colour TV.
Pause + Continue did not help => stopped run #25701 => started run without output to IBM, all OK.
0³⁶ New run #25702 started.
1⁵⁰ IBM transfer error: 000052 suberr: 000000 err.cnt: 000000, "try link again" worked
4³⁰ JDAS readout error 64 - AC2009 TOF-Z Q,X missing stn=3 subaddr=0
5⁰⁰ IBM transfer error 52 suberr 0 err cnt 0, trying again links IBM successfully.
6⁴⁰ Z-chamber trip.
7²⁰ IBM transfer error 52 subcr 0 err.cnt 0, trying again links IBM successfully

8⁰⁰ Kolbig und Deckmann on shift
8¹⁰ Gas check ok
10⁰⁰ JDAS Readout Error 33 Miss Sum 4.1 JETC Point 606 trwarp Miss Sum 4 FEP — JDAS READOUT ERR 32 READY (JETCH)
Stop Run. Reload ZVPN. → OK.
10²⁴ Readout Err 33 same as above + Z CH Trip
Stop Run Reload ZVPN → OK.

12:39 Attempt to start Run 25715 with VTCH still OFF failed. Permanently no Latch Bank. Run stopped.
13:10 Run 25716: After Z-ch-Alarm and Pause (Red light did not go on) Program was gobbled up, Unable to continue. Run stopped and next one started. O.K.
13:24 JDAS Error 64 AC2093 TOF-2 Q-X missing stn 3 subadr. 1. Something new!
Frequently missing MUON Crate 5, but error goes away by itself.

15⁴⁰ JETC68K-LOAD Normal Program from Run #25720 on.

Please leave the REFORM-JOBS TO the Night shift, as all the contingent for today was used up by mistake

16:00 Spitzer and Kuhlen on shift
16:13 Gas check ok
18:52 IBM-error 52, vanished with ~~new~~ start of a new run

When you notice that several numbers are flashing on the MOP terminal, just ask for new statistics by pressing "R" and then "N" to see how properly the problem occoures. Small difference, 8(1) may be expected in the numbers at high trigger rate. Nothing to worry about.

2. 5. 86 0⁰⁰ Greenhaw & Clarke
00.05 Gas check done
01.15 Z-ch. trip, reset OK.
02.15 Z-ch trip " "
" Paused run after z-ch trip, when continue got: - Error 38 in 34643 : Memory Parity and Run info. cleared from colour screen. PEA: 164000 PES: 73100
Stopped run & restarted, after a "pause" the run "terminated" by itself! (Run 25733 summary lost)
2.25 Decide to restart the Mord
FAMP OFF
4:27 MOP stopped functioning, first noticed on screen went blank. To restart MOP reloaded JETC processors. (at ~ 5:10)
6:10 Decided to reload FAMP inbetween fills. Followed instructions in appendix successfully until "give S-record file name", SPATHOBJ 2. After this the MORO hung up. Reloaded MORO but decided to give up on the FAMP.

8:00 K. Ambrosi & W. Bartel on shift
8:05 Gas check ok
9:30 run 25742 JADE60

16:00 Howes & Smith on shift
Gas check O.K.
Run #25750 very bad beams condition → HV down

18:00 No triggers. Pause/continue: no help; new run: ok
Please read! In the last days there have been problems with the IBM transfer during data taking, the symptoms are "IBM transfer error, try link again"? (yes>o no?) The retry works. Talking with Freese in PS8, there are no problems on their side, but such problems could of course come from high transfer rates. Cello sees no problems, but have also no high rates at the moment. For the shifts: Please note if transfer errors are correlated with cursual transfer rates, as we have at peak currents, peak background etc. We will check with PS8 again on monday J.O.
18⁴⁵ JADE60 neu geladen
20⁴⁰ Some problems to control magnet current by computer
23⁰⁰ Z-chamber trip reset not possible: have to start new run: hang up is cured

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RUN	DATE	START	STOP	I^+	I^-	DEAD TIME %	Records IN	Records OUT	ALL $\#10^6$	T_0 Rej 10^6	T_{1acc} SUM	T_{2acc} SUM	T_1Bit 2 El.>6	T_2 Bit 17 2T.E+ ≥ 2TR	NSO	MIP	TOF	FAMP
25731	2.5.86	0.59	1.48	8.46	8.53	20.2	8002	4801	695	140	5165	5459	1211	32	ON	ON	ON	ON
25732	"	1.48	2.17	7.34	7.40	18.6	3945	2306	358	66	2537	2707	586	14	"	"	"	"
25733	"	—												—	"	"	"	"
25734	"	2.27	2.43	6.60	6.66	16.5	2456	1392	229	37	1568	1696	339	15	ON	ON	ON	OFF
25735	"	3.38	4.21	9.5	9.5	21.2	8002	5172	663	140	4984	5671	1282	35	"	"	"	OFF
25736	"	4.21	5^{07}	~~8.23~~	~~8.61~~	18.4	8002	4767	701	129	5187	5403	1276	40	"	"	"	OFF
25737	"	5^{07}	6^{03}	7.15	7.51	20.5	8002	4701	786	153	4926	5437	1035	26	"	"	"	"
25738	"	7^{05}	7^{10}	10.19	10.27	19.6	8002	4988	684	134	5034	5673	1252	30	"	"	"	"
25739	"	7.50	8.36	8.54	8.48	17.4	8002	4722	706	123	5095	5523	1186	38	"	"	"	"
25740	"	8.36	9.25	7.78	7.75	15.8	8002	4554	744	117	5140	5418	1181	41	"	"	"	"
25742	"	9.27	9.58	6.73	6.73	15.8	4665	2704	457	72	2984	3241	664	20	"	"	"	"
25743	"	10.27	11.08	11.34	11.24	24.5	8002	5373	620	152	5093	5515	1461	34	"	"	"	"
25744	"	11.08	11.50	9.80	9.79	22.1	8002	5143	651	144	5116	5473	1333	24	"	"	"	"
25745	"	11.50	12.52	8.47	8.47	19.8	8002	4807	707	140	5155	5466	1235	32	"	"	"	"
25746	"	12.52	13.06	6.62	6.57	18.1	2100	1210	195	36	1318	1415	304	9	"	"	"	"
25747	"	14.25	15:09	10.30	10.09	21.5	8002	5010	673	144	5084	5427	1328	47	"	"	"	"
25748	"	15:11	15:20	8.33	8.11	18.5	1534	876	135	25	967	1042	227	5	"	"	"	"
25749	"	15:27	15:54	7.53	7.17	18.1	4368	2537	408	74	2804	2997	636	12	"	"	"	"
25750	"	15.58	16:22	6.40	5.99	17.7	3325	1869	312	55	2041	2313	447	10	"	"	"	"
25751	"	Junk					18	16										
25752	"	16:33	17:01	5.81	5.41	17.3	3826	2109	372	64	2421	2685	484	15	"	"	"	"
25753	"	17:44	18:01	11.86	11.83	30.4	3313	2245	268	81	2054	2355	589	11	"	"	"	ON
25754	"	18:03	18:51	11.07	11.04	22.4	8002	4831	730	164	5064	5410	1169	31	"	"	"	ON
25755	"	18.53	19:02	6.25	6.69	14.6	1401	772	136	20	916	876	192	5	"	"	"	ON
25756	"	Junk																
57	"	} Not																
58	"	} existing																
							8002	5126										
25759	"	20:58	21:39	10.41	10:38	26%	~~634~~	~~466~~	634	166	4843	5581	1217	38	"	"	"	ON
25760	"	21:39	22:23	8.98	8.93	19.9	8002	4810	680	135	5170	5318	1282	32	"	"	"	ON
25761	"	22:24	23:01	7.76	7.72	17.4	6181	5975	565	98	4051	3958	906	37	"	"	"	ON
25762	"	23:07	23:38	6.81	6.78	16.0	5001	2814	485	78	3311	3237	732	21	"	"	"	ON
25763	3/5/86	0^{28}	1^{10}	9,53	9,82	23,9	8002	4998	658	157	5047	5539	1234	35	"	"	"	"
25764	"	1^{11}	1^{51}	$8,^{32}$	$8,^{69}$	21,5	7098	4308	558	128	4522	4736	1095	37	"	"	"	"
25765	"	1^{58}	2^{45}	7,20	7,54	18,9	8002	4537	731	138	5212	5408	1159	38	"	"	"	"

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$\langle L \rangle$ $10^3 cm^{-2} s^{-1}$	Bhabha $\int L dt$ nb^{-1}	$\int L dt$ EXP. ENERGY	IBM TAPE OUTPUT	TOF [V]	ID [μA]	SUM MIPROC T_2 %	NSO $T_1 T_2$ %	Σ Bhabha	M/H	E Beam	Mag Field	Remarks
6.11	17.65	17020.82	IBM	1.7	0,38	53	41	310	3	17500	4834	
5.02	7.06		"	1.4	0.36	53	43	124	0	"	"	
			"									Problems with NORD
4.33	3.7	17024.52	"	1.25	0.3	53	45	65	2	17500	4835	Beams dumped
8.55	24.82	17049.34	"	2.0	0.4	52	37	436	5	"	"	
7.03	20.55	17069.89	"	1.5	0.38	57	42	361	7	"	"	
5.21	15.60	17075.40	"	1.6	0.38	54	43	274	6	"	"	Beams dumped
6.08	22.88	17098.28	"	1.7	0.38	53	39	402	2	"	"	
7.03	20.15	17118.43	"	1.4	0.25	52	42	354	5	"	4834	
6.06	20.04	17138.47	"	1.2	0.2	52	44	351	5	"	4835	
5.08	8.51	17147.98	"	1.0	0.2	53	43	167	1	"	?	Run 25741 does not dumped ent
10,51	27,84	17175.82	"	2.1	0.4	52	34	489	5	"	4838	
8,66	22,03	17197.85	"	1,7	0,3	52	37	387	7	"	"	
6,49	18,33	17216.18	"	1,4	0,2	53	41	322	6	"	"	
3.52	3.42	17219.60	"	1,2	0,2	51	44	60	2	"	"	Beams dumped
8.66	24.71	17244.31	"	1.75	0.4	52	38	434	7	"	4844	
5.86	3.20	17247.51	"	1.5	0.3	51	45	56	0	"	4843	
6.20	8.20	17255.71	"	1.5	0.2	53	43	144	4	17500	4842	
3.79	5.24	17260.95	"	/	/	50	45	92	0	"	4844	
			"									
2.66	4.16	17265.11	"	1.25	0.2	53	46	73	1	17500	4844	beams dumped.
9.65	10.99	17276.10	"	2.3	0.4	51	33	195	1	17501	"	Stopped because no triggers!
6.82	20.78	17296.88	"			50	41	365	7	"	"	
5.09	2.85	17299.73	"	0.7	0.1	50	46	50	2	17500	"	~~beam lost~~
												beam lost
												Problems with
												JADEGO
				~~1.7~~	~~0.3~~							
9.00	21.98	17321.71	"	1.7	0.3	49	37	386	4	17501	4838	
7.76	22.26	17343.97	"	1.2	0.2	52	41	391	3	"	"	
6.41	14.52	17358.49	"	1.0	0.15	52	43	255	2	"	"	stopped because z-ch trip hang up
5.32	10.70	17369.19	"	0.7	0.1	53	45	188	11	"	"	beams dumped
7,20	19,18	17388,37	"	2,0	0,3	52	39	337	4	17500	4840	
6,55	16,17	17404,54	"	1,5	0,2	52	41	284	3	17501	4841	run stopped to rebuild YMAIL
5,41	16,40	17420,94	"	1,25	0,15	54	45	288	6	17500	4839	

3.5.85 Hill + Chris

00:00 hrs Magnet current had drifted down to 7430A. Could not be reset by computer. Reset by hand - OK.

0 15 Gas check done - all OK

0 45 Z chamber trip reset OK.

1 15 2 Error messages on system console indicate YMAIL is faulty. DATA looking OK but no correct update from PEGA

1 50 Eventually decided to stop current run and rebuild the task. OK now.

1 56 IBM transfer error relisted successfully INST. N10 rate 3,2 events/s

3 53 During injection the magnet has again drifted down ~7400A. Reset Manually.

4 10 Magnet sleepwalking again. Reset following instructions on "magnet box" in hardware room.

4 → 8.00 Peter trying very hard to attain beam - but till now have not succeeded!
Problems with the timings of beam injection from Desy → Petra.

8:00 Clarke & Hagemann on shift

8.15 Gas check done, "Zulauf = 10.3", "Kreislauf = 9.7".

8.30 Air condition alarm - temperature above DL320 reads ~ 20.9°C, called MKK3.

9.45 No progress on cooling T ~ 21.8°C (Contacted Edet & Risenberg & Elsen.)
MKK3 people left (without informing us!)

10.15	T = 21.6°C	12.15	22.5°
11.10	" 21.8°	12.40	22.4°
11.45	" 22.7°	13.45	22.6°
12.00	" 22.7°	15.15	22.7°
		16.35	22.3°

12.07 Beam back. ± 10 mA, unstable, high currents in detectors - switched off, several trips, high deadtime ~ 50%! something. PEK tries to do

12.40 Several times VSFY messages: many events with too many blocks/event > 20, correlated with high temperatures in hardware room?

13.40 E-Chamber tripped

13.46 JDAS error 64 - AC2099 TOF#2 QX missing stn = 3, subaddr = 1

13.50 Standard histograms for run # 25767: L6 hit maps show more pairs (as expected) as ~~usual~~ usual

13.53 PETRA background improved a lot, deadtime now 19%.

14.45 IBM transfer error (52) at end of run, inst. N10 rate 2.6 events/sec.

15:03 Call from TASSO: The timing problem during ~~target~~ injection has been fixed, but there is still trouble with a transmitter. We will keep the filling ~~rate~~ down to 6 mA per beam. Then there will be a short break of 2 hours. A transmitter expert will then look into the problem.

15:27 IBM transfer error 52, typing again worked, inst. N10 rate 2.4 events/sec

16:00 Ambrus + Krehbiel

18:00 Der MOP war ~~die~~ steht gelblieben, so auf 75.70 und ging nicht mehr. Pressing R didn't help. Ctrl + C, then JADEGO helped.

18:00 Gas check: "Zulauf 10,2", "Kreislauf: 9,8". Discrepancy more than allowed in accompanying text. We called Chris, because the "on call" did not answer. He said we shouldn't worry. So when do we have to ~~no~~ worry? If you detect some discrepancy it is always correct to call an expert (the inconvenience of the time of the call should match the amount of discrepancy!!) It is then up to him to decide.

18.30 Magnet to 1000 A. Save cooling water. In this case the deviations from normal settings were such that one would expect the system to return to standard values "by itself" for a "no worry". PE/A

18.52 Message: Injection. Magnet back to 7500. Magnet does not want to rise. SERVO Limit. Called K-people. Opening the door of the control-unit in the power house unblocked it. ? It works again.

21 15 With everything down (injection) the VTCH went on a soft trip! Reset.

21 20 Beams up. Magnet not clear. ~~Ut~~ With current just below nominal value Servo limit lamp on! Start run nevertheless. Stopped after ca 300 triggers. Magnet bad. Impossible to move up, only down.

22 20 Magnet back again. A relais in the "Stufentrafo" (stepping transformer), the "downward" relay 2 had stuck. Knocking (Know where!) freed it again. How can we get a spare relay?

22 30 The relay sticks again! Since the current is next to up and measured, we decide to ~~go~~ go on. Call 3389 at 8°° next morning. Do not run the magnet down!

Magnet regulation (bad) ungood from Run 25773 on!

IBM Transf. Error 000 and 000 Err cnt 0. Tried again o.k.

4.5.86

1°° Zacker & Hagnerscen

1°° Gas o.k.

2 30 Magnet at ~ 7400

Nord Problems:

1. Try to start JDAS: File Open Error Code = 34 oct.
2. " " restart NORD, start JDAS: " " "
3. Rebuild JDAS - o.k.

RUN	DATE	START	STOP	AT RUN START I+	AT RUN START I−	DEAD TIME %	TIME (SECS)	RECORDS IN	RECORDS OUT	ALL *10⁶	TØ Req *10⁶	T₂ Acc SUM	T₂ Acc SUM	T₁ B₁+B₂ E_ec>6GeV	T₂ B₁+B₂ 2T, E_H ≥ 2TK	PROCESSORS NSO	PROCESSORS MIP	PROCESSORS TOF	PROCESSORS FPH
25766	3/5/86	2⁴⁶	3²²	6,27	6,59	~~13,55~~ 13,1	2138	8729	3256	556	95	3733	3940	829	21	ON	ON	ON	ON
25767	"	12¹⁵	13²⁰	10.70	10.72	46.9	2301	8002	4982	599	280	4575	4403	804	28	"	"	"	"
25768	"	13²⁰	14⁰⁰	8.71	8.71	42.3	2344	8002	4852	610	258	4727	4389	832	29	"	"	"	"
25769	"	14⁰⁰	14⁻⁸	7.81	7.81	19.1	2841	8002	4763	732	140	5012	5592	1117	37	"	"	"	"
25770	"	14.50	15.35	6.78	6.78	17.3	2613	7098	4065	680	117	4570	4811	1049	39	"	"	"	"
25771	"	21.29	21:34	10.27	10.96	25.3	237	795	505	62	16	474	544	116	2	"	"	"	"
25772	"	22.24	23:11	8.48	9.08	20.0	2760	8002	4860	718	143	5076	5437	1788	35	"	"	"	"
25773	4.5.86	23:12	0:02	7.36	7.92	18.1	2880	8002	4732	750	136	5176	5337	1083	36	"	"	"	"
25774	"	0:10	0:25	6.23	6.76	17.1	865	2406	1432	225	38	1588	1482	368	10	"	"	"	OFF
25775	"	1:17	1:55	10.54	11.05	32.8	2283	8002	5465	583	184	5159	5151	1157	26	"	"	"	ON
25776	"	2:11	2:29	8.74	9.24	27.3	1071	3631	2379	278	76	2338	2347	558	13	"	"	"	"
25777	"	2:30	3:17	8.21	8.70	27.1	2652	8002	5226	689	187	5462	5347	1083	35	"	"	"	"
25778	"	5:30	6:10	10.28	10.65	30.3	2304	8002	5271	624	189	4958	5297	1237	25	"	"	"	ON
25779	"	6:10	6:53	8.90	9.15	25.4	2554	8002	4983	664	169	5028	5503	1223	38	"	"	"	"
25780	"	6:53	7:39	7.73	7.87	20.9	2747	8002	4822	713	149	5026	5469	1180	40	"	"	"	"
25781	"	~~07:59~~ 02.40	~~08:58~~ 06.10	6.70	6.89	19.2	1769	4906	2873	460	88	3691	3860	718	18	"	"	"	"
~~25782~~ 25783	"	10.16	10:52	10.65	11.16	32.5	1803	6039	3922	463	152	3671	4120	899	26	"	"	"	"
~~25783~~ 25784	"	10⁵⁴	11³⁷	9.51	9.71	31	2513	8002	5224	654	263	4737	5757	1159	29	"	"	"	"
25784	"	11³⁷	12.21	8.28	8.72	—	—	8003	5132	—	—	4977	—	1199	42	"	"	"	"
25785	"	12:23	13:06	7.19	7.15	19.3	2474	7340	4401	643	124	4706	4937	1103	24	"	"	"	"
25786	"	13⁴³	14:24	10.57	11.57	34.0	2398	8002	5414	623	211	4787	5660	1340	44	"	"	"	"
~~25787~~	"	14:24	14.48	9.04	9.00	30.3	1362	4452	2956	354	107	2643	3244	726	24	"	"	"	"
~~25788~~	"	14:49	15¹⁸	8.35	8.19	25.1	1582	4967	3240	407	102	3062	3516	858	21	"	"	"	"
25789	"	17.26	18¹³	9.10	8.81	21.3	1978	6072	3879	514	76	3807	4486	553	14	"	"	"	"
25790	"	18¹⁷	19⁰⁴	7.97	7.69	19.8	2734	8002	4992	722	144	5112	5379	1273	34	"	"	"	"
~~25791~~	"	19⁰⁴	19.24	6.71	6.65	18.8	1111	3141	1811	289	54	2025	2064	478	12	"	"	"	"
25792	"	20.01	20.⁴⁴	9.18	10.61	25.2	2484	8002	5196	646	162	4918	5323	1311	42	"	"	"	"
25793	"	20.⁴⁴	21.³⁹	7.85	9.24	24.4	2620	8002	4972	681	146	5102	5266	1279	33	"	"	"	"
25794	"	21.23	22.18	6.74	8.04	18.1	2824	8002	4719	735	133	5274	5261	1203	37	"	"	"	"
25795	"	22.¹⁵	22.⁴⁵	6.27	6.77	16.3	652	1776	1008	170	27	1150	1143	271	6	"	"	"	"
25796	"	23⁰⁶	~~23:49~~ Mö 0.60	10.60	10.25	25.4	2538	8002	5245	655	167	5028	5440	1286	35	"	"	"	"
25797	"	23⁴⁹	0.33	9,18	8.86	23.8	2592	8002	5162	674	161	5059	5408	1332	29	"	"	"	"
25798	5/5/86	0:34	1.20	7.94	7.66	19.6	2733	8002	4788	710	137	5763	5277	1272	31	"	"	"	"
25799	"	1,20	1,39	6,92	6,66	17,9	1087	3114	1847	283	51	1993	2036	462	12	"	"	"	"

⟨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]	ONLINE REJECT SUM MIPREC	ONLINE REJECT NSO $T_1 T_2$ %	Σ BHABHA	M_H	E_0	MAG FIELD +1.6	REMARKS.
4,73	10,70	17481,64	IBM	1,1	0,1	54	45	188	0	17501	4838	Beams dumped
5.53	12,18	17443,82	"	2.5	1.2	37	39	214	4	17.500	4844	
4.87	10.30	17454,12	"	2.0	1.4	40	41	181	3	17.501	4845	
8.93	17.59	17471.71	"	1.5	0.3	52	42	309	4	17501	4847	
5.19	14.06	17485.77	"	1.2	0.2	53	44	247	5	17.503	4831	Beams dumped
10,05	2,22	17487,99	"	—	—	50	38	39	0	17,500	4820	stopped because of magnet fluktuations (servo limit)
7.15	20,55	17508,54	"	1.25	0.25	51	41	361	11	"	4837	Magnet regulation ungood !
~~5.60~~ ~~16.42~~	17,42	17525.96	"	1,1	0.2	53	42	306	2	17.501	4831	
5.83	5.75	17531.71	"	1.1	0.2	51	42	101	1	17.500	4850	Beams dumped
8.11	19.81	17551.52	"	2.5	0.5	50	33	348	2	17.500	4829	
6.77	4.51	17558.43	"	2.1	0.3	51	36	139	3	"	4786	
5.82	14.40	17573.83	"	1.8	0.3	53	36	253	6	"	4784	Beams Dumped
8.27	19.47	17593.30	"	2.5	0.6	48	35	342	6	"	4799	
7.13	14.41	17611.01	"	2.0	0.4	51	39	311	6	17.501	4783	
6.09	17.59	17628.60	"	1.6	0.2	51	41	309	6	17.500	4806	
5.28	9.22	17637.82	"	1.3	0.2	52	43	162	5	17.500	4800	Beams dumped.
8.65	15.49	17653.31	"	2.6	0.6	48	36	292	5	17.500	4834	run stopped because of No Triggers
7.30	19.13	17672.44	"	2.0	0.22	48	36	336	2	17501	4834	~~Run SUMMARY INCORRECT~~
—	18.73	17691.17	"	1.65	0.4	—	37	329	3	—"—	4834	RUN SUMMARY INCORRECT (VTX 4 HIT AT RUN END?)
5.63	16.22	17707.39	"	1.5	0.35	51	41	285	3	"	4834	Beams Dumped
9.54	25.55	17732.95	"	2.5	0.6	49	34	449	3	"	4838	
8.95	11.90	17744.85	"	2.1	0.4	50	35	209	5	"	4837	run stopped because no events
8.39	13.32	17758.17	"	1.8	0.4	52	36	234	5	"	"	66415 LOST
8.78	11.68	17774.85	"	1.9	0.3	51	37	293	4	17.501	4841	
7.48	21.01	17795.86	"	1.5	0.2	52	39	369	5	"	"	
6.38	8.37	17804.23	"	1.3	0.1	52	44	147	2	"	"	Beams dumped
9.99	24.48	17828.71	"	1.1	0.3	48	36	430	3	"	"	
8.45	22.09	17850.80	"	1.1	0.2	50	39	388	5	17.500	4839	
6.74	19.70	17870.50	"	1.0	0.1	53	42	346	7	"	"	
5.85	4.10	17874.60	"	1.0	0.05	51	45	72	4	"	4838	beam dumped
5.36	23.91	17898.51	"	2.0	0.2	51	36	420	4	17.501	4837	
8.33	24,25	17932,76	"	1.7	0.2	51	37	426	9	17.500	"	
6.82	19.30	17952.06	"	1,4	0,1	52	39	339	5	"	"	
5,96	6,60	17958,66	"	1.2	0.1	51	42	116	1	17.501	4838	run stopped because of "No Trigger" problem

6^{00} Muon crate # 12 missing frequently
7^{00} " " " cannot be reseated later Warning has been called.
7^{20} YSPY μ digitiser missing : 130 - 141

0800 Watchcode & Glasses.
0815 K-group (HEER LASSEN) arrives to empty the magnet control, is again operational. (He also helps me to empty the rubbish bin!) — ABOVE & BEYOND THE CALL OF DUTY!
0823 Gas check OK
10^{22} μ crate #12 fixed by cleaning contacts of SCC
10^{33} Z-ch TRIPPED
15^{20} SHORT BREAK - MAGNET to ~~600~~ 500 A.

16 h Clarke & Haidt on shift
Further break due to "Sonderstörung" estimated to last until 17[illegible]
Problem with running up magnet. Call 3789. Fixed OK.
20.30 Gas check done.

5/5/86 0:00 Ambrus and Kado on shift

0:19 gas check done
1:04 Z-chamber trip
1:40 "No Triggers ...." — Pause / Continue does not help — stop run — new run ok
5:41 IBM Transfer Error : 52, Suberror : 0, err. cnt. : 0 / retry was successfull
5:54 Z-chamber trip

8:00 Hermann, Fest on shift
8:15 Gas check O.K.
8:50 YSPY reports LG problem : av blocks/event >20, LG bitmap shows many noisy blocks stop run and start a new one ~~—~~ hoping for better pedestals
9:18 Herr Reisberg noticed MOP being crashed at 5:02:23, Expert E.Elsen called, he will come
10^{25} after start of new fill, tagging MPI 61 HV did not come up, switched on by hand, worked ok
10^{48} BP-ch. soft trip
10^{55} Z-ch trip
if MOP stopps with some exception code and "A>" as last line written, you may start MOP again by typing "RUN ZIMMONI" on MOP-console, MOP will then resume monitoring
(note: as long as there is no error message on the EVP-terminal, data taking is not affected by MOP not working ⇒ therefore you should not do "JADEGO"

11^{22} JDAS readout error 32 - missing LAM at FEP Ready (FETCH)
CSK Error — on MOP: Bus Error ~~CSR~~ FEP#2
reload FADC processors from MOP console by JADEGO, not succesful
EVP terminal reported ~~error~~ pedestal measurement not completed for crate #2
Bettke and Elsen investigate → interface DL30Z broken → replaced (2 fuses broken, EE).
11^{42} Z-ch-trip FADC system restarted (JADEGO) all back to normal
12^{12} IBM transfer error 52 suberr 000, try emil again successful, data rate 4.4 kHz I = 2× 7.4 mA
13^{29} Z-ch-trip
13^{57} — " — — " —
13^{50} noticed drop in trigger rate by ≈ factor 3, could not see anything wrong in histograms
YSPY did not report any error for about 15 min.,
no other alarms on
Jan Olsson came, stopped the run, started a new one, noticed many trigger trip being missing, concluded all triggers using LG were missing, found power pack of LG electronics being off (low ~~—~~ ripple!), switch off/on brought it back to work.
→ why was there no alarme from the power pack ? ⇔ Switch of alarm unit in central NIM crate in rack 6 was off

15^{02} MOP terminal is now showing statistics of current run (not the accumulated statistics as before). Sudden noise increase and short-term pedestal drift will show up in the processor map on the MOP console. This may be due to temperature drifts and the shift crew should pay attention to spikes. The wire map is no longer sensitive since the hit reconstruction algorithm will have rejected many of the noise hits.
E.E.

16:00 Burkhe + Schmidt on shift.
Gas check done : ok
16:35 HV TOF S3 down
17:40 After long problems to switch on HV TOF HFR S3 we finally succeeded.
(with Nowshir's program TOFHV). Then we had to cure a LG HV supply with overcurrent (switch off/on) and a V×ch alarm (Qu). → Finally, we take data without errors ... hopefully!
18:00 TOF histograms look reasonable.
18:05 2× LG d.c. power failed. After that: "no events" → start new run → ok.
18:41 Again: TOF HV HFR S3 went off (Voltages ≈ 0) → cont. p. 182

Run	Date	Start	Stop	At Run Start I+	At Run Start I−	Dead Time %	Time (secs)	Records In	Records Out	ALL *10^6	T_θ Rej_θ *10	T_trace SUM	T_2 Acc SUM	T_1 Bit 2 ELG>66V	T_2 & T_1 2TE4 2TR	Processors ON/OFF NSO	MIP	TOF	FAMP
25800	5/5/86	1:45	2:35	6,45	6,19	16,6	2923	7920	4482	760	126	5173	5243	1146	18	ON	ON	ON	ON
25801	"	3:08	3:50	9.78	11.26	23.7	2500	8002	5279	650	150	5757	5779	1403	35	"	"	"	"
25802	"	3:50	4:34	8.60	9.81	20.8	2634	8002	4923	685	142	5112	5403	1257	29	"	"	"	"
25803	"	4:35	5:22	7.43	8.57	18.4	2813	8002	4770	732	134	5193	5420	1263	30	"	"	"	"
25804	"	5:23	6:04	6.40	7.47	16.8	2443	6692	3768	635	107	4390	4340	797	25	"	"	"	"
25805	"	6:56	7:41	9.71	9.07	21.0	2685	8002	5063	699	147	5061	5431	1242	37	"	"	"	"
25806	"	7:41	8:28	8.34	7.59	19.0	2783	8002	4858	724	137	5164	5345	1278	26	"	"	"	"
25807	"	8:28	8:58	7.27	6.56	18.3	1732	4845	2914	450	83	3127	3140	710	19	"	"	"	"
25808	"	8:58	9:49	6.71	6.02	16.5	3012	8002	4640	783	129	5259	5220	1074	26	"	"	"	"
25809	"	10:24	11:06	10.80	10.93	26.1	2466	8002	5187	642	168	5018	5304	1330	34	"	"	"	"
25810	"	11:08	11:28	9.27	9.40	28.1	1102	3294	? 0	287	81	2109	2057	582	20	"	"	"	"
25811	"	11:44	12:29	8.20	8.37	18.8	2661	8002	4851	692	130	5282	5074	1293	21	"	"	"	"
25812	"	12 29	13 20	7.07	7.19	17.6	2820	8002	4723	733	129	5259	5039	1240	27	"	"	"	"
25813	"	13 21	14 04	6.00	6.04	8.4	2418	3262	1965	629	53	1764	2911	344	7	"	"	"	"
25814	"	14 04	14 07	5.25	5.24	3.6	164	124	77										
25815	"	15 19	15 40	11.8	12.2	29.3	1633	5430	3661	425	124	3407	3626	915	37	"	"	"	"
25817	"	17 44	18 10	9.04	9.14	26.3	1526	4320 ~~397~~	3004 ~~104~~	397	104	2792	3445	699	18	"	"	"	"
25818	"	18:12	18:46	8,23	8,33	21.2	1513	4386	2580	393	83	2724	3107	581	15	"	"	"	"
25819	"	18:47	18:33	6,36	6.50	16.6	1761	4383	2390	458	76	2787	2959	549	18	"	"	"	"
25820	"	18:35	18:56	5,64	5,77	14,5	1222	3168	to 18h 1580 1659	318	46	2078	2086	431	18	"	"	"	"
25822	6.5.86	0.11	01.03	10.30	10.50	20.7	2779	8002	5001	721	144	5042	5536	1257	37	"	"	"	"
25823	"	01.03	1.55	6.56	6.65	17.7	3043	8002	4614	791	140	5214	5439	1255	39	"	"	"	"
25824	"	01.54	2:17	5.71	5.80	16.2	1287	3515	1928	335	54	2326	2260	523	11	"	"	"	"
25825	"	3:05	3:56	10.76	10.70	22.5	2650	8002	5223	689	155	4993	5438	1310	49	"	"	"	"
25826	"	3:57	5 00	9.09	9.04	20.2	2528	7644	4899	657	132	4942	5055	1295	28	"	"	"	"
25827	"	5 00	5 47	7.52	7.48	17.7	2778	8002	4704	722	127	5260	5173	1364	25	"	"	"	"
25828	"	5 52	5 57	6.53	6.49	17.1	278	812	462	72	12	507	532	176	4	"	"	"	"
25829	"	6 45	7 31	9.43	11.15	22.2	2682	8002	5035	698	154	5036	5668	1286	36	"	"	"	"
25830	"	7 31	08 31	8.22	9.83	15.7	3463	8002	5162	903	142	6796	6131	1224	32	"	"	"	"
25831	"	08 31	09 05	6.71	8.19	18.9	1973	5775	3461	515	97.5	3820	3782	1003	35	"	"	"	"
25832	"	11 06	11 31	10 47	10 28	22.3	1409	4608	2994	367	81.9	2475	2885	792	15	"	"	"	"
25833	"	11 31	12 15	9.66	9.48	14.9	2573	8002	4989	670	134	5292	5018	1425	27	"	"	"	"
25834	"	12 14	13 06	8.41	8.25	20,1	2813	8002	4601	732	141	5181	5347	1285	41	"	"	"	"
25835	"	13 05	13 35	6.35	5.87	14.9	1848	4716	2510	481	71.8	3080	3277	679	15	"	"	"	"

finale

<L> 30 cm^-2 s^-1	Bhabha ∫Ldt nb^-1	∫Ldt Exp. Energy	IBM Tape output	At Run Start TOF [VJ]	At Run Start ID [HA]	On Line Reject Sum Mipsec T_2 %	On Line Reject Nord 50 T_1+T_2 %	Σ Bhabha	M/H	E Beam	Mag Field -I*G	Remarks
4,93	13,89	17972,55	IBM	1,0	0,1	53	45	244	11	17,500	4838	beams dumped
9.70	26.87	17999.42	"	1,9	0,2	57	36	472	17	"	4837	
8.29	21.46	18020.88	"	1.5	0.7	52	40	377	7	17.507	"	
6.69	20.61	18047.49	"	1.3	0.1	53	42	362	9	"	"	
5.68	14.23	18055.72	"	1.2	0.1	52	45	250	3	"	4838	beams dumped
8.19	22.77	18078.49	"	1.7	0.2	57	38	400	7	17.500	"	
6.88	20.44	18098.93	"	1.4	0.15	52	41	359	3	"	"	
5,72	10.59	18109.52	"	1.2	0,1	51	41	186	6	17.501	4841	run stopped because of noisy LG
4.78	13.49	18123.01	"	1.1	0.1	53	43	237	3	17.500	"	beams dumped
8.47	24.42	18147.43	"	1.9	0.25	49	36	429	13	"	"	
8.70	10.53	18157.96	"	1.5	0.2	49	36	185	3	"	4844	run stopped due to DC300 problem
7.86	20.61	18178.57	"			52	41	362	8	17.501	"	
6.42	18.73	18197.30	"	1.1	0.1	51	42	329	2	"	"	
5.06	4.30	18202.20	"	1.0	0.1	53	41	86	2	17.500	"	LG trigger problem in 2nd half of Kis run
	due to LG trigger problem											beams dumped
10.50	16.91	18219.11	"	2.6	0.5	50	34	287	3	"	4847	
7.64	11.78	18230.89	"	1.7	0.4	49	38	207	3	"	"	25816 junk due to TOF HV 53.
5.64	7.52	18238.41	"	1.5	0.2	51	42	132	1	17.501	4844	
3.80	7.29	18245.70	"	1.0	0.2	53	47	128	4	"	4833	
3.61	4.04	18248.74	"	0.8	0.2	53	48	71	1	17.500	4832	beams dumped. FAMP online rejection.
7.24	19.93	18263.67	"	1.8	0.2	52	39	350	7	17.501	4835	*25821 does not exist
5.37	15.37	18279.04	"	1.4	0.15	54	44	270	8	"	"	
4.55	7.34	18286.38	"	1.0	0.1	52	47	129	1	"	4835	beams dumped
9.35	26.53	18312.91	"	2.0	0.2	50	36	466	7	"	4832	
7.40	22.37	18335.28	"	1.5	0.15	51	37	393	3	"	4833	run stopped because of LG pedestal γ-ray problems
5.81	16.13	18351.41	"	1.2	0.10	51	42	311	7	"	4831	
5.03	1.40	18352.81	"	1.1	0.05	49	45	26	0	"	4832	beams dumped
7.56	21.01	18373.82	"	1.8	0.2	53	38	369	7	"	4831	
8.70	18.96	18392.78	"	1.6	0.2	52	37	333	3	"	4832	
6.67	14.52	18407.30	"	1.35	0.1	53	41	255	2	"	"	Beams dumped
9.71	15.48	18422.78	"	1.60	0.25	48	36	272	4	"	4834	Run stopped a new LG pedestals could be obtained.
8.77	24.71	18447.49	"	1.45	0.285	51	39	494	7	"	4836	
6,47	17,36	18464,85	"	1.25	0.20	52	44	305	6	"	4837	
3.92	7.63	18475.48	"	0.75	0.18	54	48	234	1	"	4839	Beams dumped

contéd TOF-HV-fail:
The procedeure we did is the following:
For the HV-supply could not be turned on again (also with all HV's down) we turned the crate on/off key to off and afterwards to on. Then, with Beate's program TOF HV the commands:
MFR ↵53 ↵53 →
MOD →
START → in order to reload nominal HV-values.
with RDS →
START → read whether all channels are set (sometimes not).
If this is ok, one should run up the detector-HV's again. We observed that now MFR53 again did not come up. Switching to local, HV on, remote helped: errors disappeared, nominal HV's visible. Continue to take data. (18^{45})
~1850 HV MFR 53 trips again! Call Kuhlen + Narodal just leave from Cross Canada!).
Beate also suggests same procedure as above. We should try to find broken channel. How?
19^{10} Run again. 53 behaves very unreproducable!
If more crashes, phone Naroska. She's now relaxed (after holydays).
20^{00} Last run of fill (R 95820) was taken with FAMP online rejection implemented (new version of XBM). It went without problem! J.O.
Note that the number for records out on the run summary is what NIO gives to FAMP, not what is actually sent to IBM. With FAMP online filtering active, these numbers are different, as they are on the Colour TV display. J.O.
The old XBM version is reinstalled for the night...
21^{45} Start Bosch, until 22:30

6.5.86
0:00 U. Bartel & D. Clarke on shift
Gas check done.
Several IBM Transfer errors, all link-ET successfully, Instrates ~ 4/sec.
03:20 DC power of LG system failed (unit on the bottom of rack #6)
no lights were on.
Difficult to switch it on again. It tripped 3 times after ~ 1 min.
Wait for ~ 5 min then it went on. Temperature in the hardware
room: back wall 20°C. front door 22°C
03:45 Again DC power failure of LG system.
Open door counting house door to the outside. May be that helps to get the temperature down.

04^{00} Test replaces Beate
closing the door reduces the temperature further 21° front 19° back
04^{30} again problems with power supply of LG Fan in unit, improved cable feedthrough + cold-warm air separation
05^{00} several IBM transfer errors
06^{45} again a failure of the LG power supply
07^{40} " " " " " " (several times)

08^{00} Ambros and Greenshaw
08^{00} IBM transfer error followed by JDAS readout error 77 - Missing LAM br. 4 cr. 1 : JETC point 702
08^{05} LG power supply trips (bottom of rack 6) all LED's off. Switched off. left for 30 secs. switched on. Tripped again after about 20 secs. Repeated with same result. Left off for somewhat longer then switched on again. Is now running Ok. Suggests cooling problem? Fan seems to be alright
08^{15} Gas check done, all Ok.
09^{05} Beams dumped and then "short break" announced. TASSO say that PLR have some (unspecified) repair work which they must do, but that it shouldn't take longer than about one hour. During the break {Trahlorn mall / Massborder} have a look at the troublesome LG power supply.
10^{50} LG Power supply trips again. Left off for a while to cool off, then switched on again in time for...
11^{05} Beams ready.
11^{20} Y-spy detected error, Av. blocks/event >20. Looking at events and LG hits confirms that the LG is noisy. Now run is started in hope that better pedestal subtraction will improve situation. In new run LG looks considerably better.

16^{00} H. Mills and B. Naroska on shift

Petra is optimizing the beams.
18^{05} Gas check done — Zvlayr high, thres last low (just outside limits) adjusted ethane.
18^{15} PETRA TV blinks & VTECH gives system value failure at same time!
Magnet wanders down — reacts very slowly to button. Magnet fixed by MK group (sticking relay)
~21^{05} Beam arrives. Rather poor conditions — high deadtime due to high trigger rate. Seite has high current. PLR are optimising.
21^{57} thres last just about normal but Zvlayr ~ 10.4 [Jan Chrin says it's the hot weather!)
More trips — Synchrad terrible!!!
22.00 Petra has problems adjusting their orbit to the "no cello" conditions. It will not only take this but probably also next filling.
We decide to run without Vertex-chamber.
Change Read-out pattern to 77735 B.
22.40 Z-chamber trip.

23:38 Reinstated beampipe chamber into readout.
I Discovered why at run start YPARA has been complaining that the JADE magnet is outside its tolerances- SOMEBODY had changed the check parameters and forgot the minus sign!! Now corrected (& error msg gone away)

Diedeman and Kolbinil on shift
0:20 Gas check done
3 39 IBM Transfer Error 52 Retry Link → Ok.
Magnet keeps fluctuating. Reading on digital meter: 7400. Impossible to raise by manually any more. Ask Bartel what to do early in the morning!

8[00] Clarke + Hill On shift
08.15 Magnet ran here - magnet down to ϕ !
08 30. Magnet at 7500 amps, still relay problem - getting worse.
08.45 Pb glass noisy, stopped run 25846 — situation improved.
0930 Gas check done all OK.
0930 Tasso suggest to dump the beams - we agree.
11 17 Still trying to inject. TASSO phone to say that CELLO have requested a short access to look at their liquid Argon. estimate maximum 10 mins maximum 30 mins.
13.55 Beam returning but magnet giving trouble again. Called MK1.
1400 Beam on ✱ - 10.8 + 10.48 mA ! Magnet down to ϕ ! ~14.05 Beams lost
1410 MK1 now cleared fault but ✱ magnet continued to increase above 7500 A ✱ (~ 7800 max) had to go to manual & press lower button to stop this.
Please watch for this behaviour when we have more faults (which I assume we will)
14.10 Short break.

16:00 Reset Camac clock to time signal. It was ~ 4 3/4 minutes fast then
Kleinwort / Elsen
16:20 Gas check done

18:45 new, but bad beams (ID + VTX trips during HV raising, VTX beat trip one minute later)
19:40 z-chamber trip
19:45 Hang up in pickup event, no triggers for... . Pause/continue does not help. Stop run finally.
20:20 Stop run because of noisy LG blocks.

23[30] Magnet went to < 7400 A by itself, computer wouldn't raise it again
Cure (hint from E. Elsen): lower the current by more than 400 A. After this the computer should be able to raise it again.

8.5.86 00[00] hrs Olsson & Chin on shift (Gas check done).
0.03 Barrel G HV Supply found in overcurrent at start of fill. Reset OK (OFF/on)
0.06 Vtx ch. trip and again 040 z-ch. trip, stops run Jetc + Vtx soft trips.
2.50 Looking at standard histograms, it is noted that the z-chamber hit map shows increase in one sector likewise it seems that there is increase noise in LG Endcaps and pr-chambers.
4.20 Ramp Magnet to 7400 Amps Reset by → 7000 → 7500!
Start new fill: VTX ch. trip Jetc + Vtx trip

8[00] Hasemann, Bethke on shift
asked TASSO for a new fill
8[10] Gas check done, O.K.
8[57] Beams lost just after begin of new fill
11[15] Call from Cello: They ask for an access of 1 hour after this fill. All experiments agree.
11[00] DL 300 - Monitor hang up: Exception $03 at error address $ 000056EE
11[16] z-chamber trip, stops run
12[54] Beams dumped, access for CELLO. Run down magnet to 2000
13[55] ramp up magnet again, "injection"
14[15] computer did not manage to ramp up magnet; "disabled", but it is enabled. Hanging at 7700 A. Not possible to move by hand. Also after "reset" nothing works. Beam K-people, they will come.
14[50] We are in the game again. Magnet at 7500. Take data.
15[22] After "background optimization" our background got worse: ID → 1.5 μA, Dead time 40%
Complaining at PKR helps: 0.5 μA.

16[00] Magnussen & Sandhoff on shift
16[40] Gas check done OK.
18[25] Magnet at 7300 A. Tried to raise it by hand. It doesn't react to the raise button. Running it down by more than 400 A and then trying to raise it by computer didn't work either. Called MK1.
18[30] short break - access for CELLO
18[35] Magnet at 7500 A again. The guy from MK1 knew about the sticking relay problem but not that our magnet

Run NO.	Date	Start	Stop	At run start I^+	At run start I^-	Real time %	Time (secs)	Records In	Records Out	All $\times 10^6$	TP Rej. $\times 10^6$	T_1 acc sat	T_2 acc sat	T_1 bit 2	T_2 bit 17	Processor status NSO	Processor status MIP	Processor status TOF	Processor status FAMP
25836	6/5/86	21:13	22:00	10.79	10.71	33.3	2042	~~8814~~	2953	531	177	3782	4187	806	252	ON	ON	ON	ON
25837		22:01	22:48	9.20	9.05	29.8	2714	8002	4863	705	210	4882	5350	1053	40	"	"	"	"
25838		22:49	23:37	8.13	7.99	17.7	2860	8002	4506	743	131	5216	5392	1194	34	"	"	"	"
25839		22:38	0:15	7.21	7.08	17.0	2184	5796	3142	568	96	3668	3989	794	36	"	"	"	"
25840	7.5.86	1:54	2:39	10.49	10.89	27.0	2568	8002	5118	667	180	4921	5415	1323	41	"	"	"	"
25841		2:38	3:23	9.04	9.50	23.3	2591	8002	5086	673	157	4994	5510	1264	37	"	"	"	"
25842		3:23	4:10	7.89	8.33	21.7	2733	8002	4746	710	154	5030	5510	1263	33	"	"	"	"
25843		4:09	5:01	6.90	7.31	19.0	2929	8002	4521	761	144	5006	5610	1130	28	"	"	"	"
25844		5:01	5:33	6.01	6.40	17.0	1870	4963	2690	487	82	3120	3446	665	25	"	"	"	"
25845	"	7:05	7:55	9:37	77.20	20.3	2878	8002	9562	748	151	4828	6032	1004	56	"	"	"	"
25846	"	7:58	8,49	9.96	9.13	20,1	1796	5046	2909	467	94	3058	3557	716	24	"	"	"	"
25847	"	8.50	9.23	7.27	8.88	18.9	1841	5117	2820	478	90	3202	3578	719	23	"	"	"	"
25848	"	18.43	19:32	10.19	9.85	22.3	2635	8002	4895	685	153	4843	5504	1225	327	"	"	"	"
25849	"	19.33	19:44	8.88	8.57	23.9	612	1802	1104	159	38	1040	1173	285	9	"	"	"	"
25850	"	19:52	20:20	8.48	8.18	20.6	1667	4852	3060	434	89	2933	3389	731	21	"	"	"	"
25851	"	20:21	21:9	7.90	7.62	22.8	2721	8003	4706	708	161	4637	5404	1130	38	"	"	"	"
25352	"	21:09	21:59	7.04	6.76	21.3	2803	8002	4504	729	157	4742	5313	1178	42	"	"	"	"
25853	"	21:59	22:36	6.26	6.01	19.4	2195	6243	3616	571	111	3837	4019	890	17	"	"	"	"
25854	8/5	0.07	0.09	10.19	10.14			384	384?							"	"	"	"
25855	"	0.09	0.20	10.09	10.04	25.5	593	1876	1233	154	39	1103	1159	284	6	"	"	"	"
25856	"	0,21	1,07	9.63	9,63	21.7	2611	8002	4929	679	147	4862	5100	1261	23	"	"	"	"
25857	"	1,07	1,56	8,23	8,25	20.4	2732	"	4715	710	144	4850	5097	1197	38	"	"	"	"
25858	"	1,56	2,46	7,05	7,14	17,9	2948	"	4923	767	137	4970	5180	1145	29	"	"	"	"
25859	"	2,46	3,19	6,16	6,28	16,7	1966	5201	2742	511	85	3193	3519	761	26	"	"	"	"
25860	"	4,32	4,50	10,37	10,44	23,2	927	2892	1817	240	52	1705	1865	434	4	"	"	"	"
25861	"	4,51	5,34	9.97	9,71	23.5	2562	8002	4870	665	156	4726	5155	1192	35	"	"	"	"
25862	"	5,34	6,24	8,81	8,57	20,6	2693	8002	4852	699	144	4911	5055	1208	33	"	"	"	"
25863	"	6,24	7,15	7,56	7,47	18,2	2416	"	4530	759	138	5008	5174	1144	35	"	"	"	"
25864	"	7,15	8:04	6,58	6,58	16.4	2652	6913	3682	690	113	4315	4531	906	22	"	"	"	"
25865	"	9:44	10:24	10.52	10.69	31.5	2364	8002	5217	615	194	4510	5273	1093	30	"	"	"	"
25866	"	10:24	11:07	9.10	9.42	24.3	2553	8002	4910	664	161	4685	5358	1193	44	"	"	"	"
25867	"	11:08	11:45	7.97	8.30	21.8	434	1335	756	113	25	789	866	203	5	"	"	"	"
25868	"	11:48	12:06	7.73	8.06	19.8	2785	8002	4699	725	144	4899	5299	1201	32	"	"	"	"
25869	"	12:06	12:56	6.77	7.07	16.5	2623	7023	3654	683	123	4511	4779	1002	25	"	"	"	"

$\langle L \rangle$ $10^{30}\,cm^{-2}s^{-1}$	Rhotha $\int L\,dt$ nb^{-1}	$\int L\,dt$ Exp. energy	IBM / Tape	At run start TOC (V)	At run start I 0 (μA)	Online Rejects. Sum MIP T2 (%)	Online Rejects. N50 T1+T2 (%)	$\bar{E}$ Rhotha	No. MH.	C. Beam	Mag. Field -1*4	Comments
5.33	10.93	1849.6.41	IBM	~~2.0~~ ~~0.8~~	~~2.6~~ ~~4.6~~	47	39	192	3	17.500	4854	bad beams
5.01	13.32	18509.73	"	2.0	2.0	49	40	234	3	"	"	No Vertex Chambers
4.84	16.17	18525.90	"	1.2	0.2	52	45	284	10	"	"	
3.96	8.48	18534.38	"	1.1	0.15	52	47	149	3	"	4832	Vertex ch. broken. Beams dumped
8.26	22.15	18556.53	"	1.9	0.35	49	37	389	9	"	4831	
6.81	19.47	18576.00	"	1.6	0.3	50	38	342	3	"	"	
5.69	18.39	18594.39	"	1.5	0.2	51	42	323	6	"	4829	
4.30	12.52	18606.91	"	1.5	0.2	52	45	220	2	"	4828	
3.38	6.15	18613.06	"	1.2	0.2	52	48	108	2	"	4828	Beams dumped
4.14	12.47	18625.53	"	1.8	0.25	52	45	219	5	"	4777	
3,79	7,52	18633,05	"	1.5	0.2	57	44	132	2	"	4780	Run stopped to reset LG pedestals
3.92	8.94	18641.99	"	1,4	0,2	51	46	157	4	"	4834	Beams dumped
6.22	18.16	18660.15	"	1.7	0.6	51	40	319	4	"	4838	
5.16	3.30	18663.45	"	1.6	0.5	51	43	58	1	"	4835	Trigger hang up in Pick up event.
4.63	7.84	18670.79	"	1.4	0.4	51	40	129	4	"	4834	noisy LG blocks
3.88	11.16	18681.95	"	1.8	0.4	49	44	196	0	"	"	
337	9.96	18691.91	"	1.6	0.6	51	47	175	4	"	"	
3.17	8.25	18700.16	"	1.3	0.4	51	45	145	1	"	4833	Beam dumped
10.22	—	—	"	1,8	0,6					"	4844	trip confusion, ended
7,72	5,58	18705.75	"	"	"	47	37	98	1	"	"	z-chamber trip + hangup.
7,05	21,07	18726.82	"	1.4	0.5	49	41	370	8	"	"	
5,42	15,71	18742.53	"	1,1	0.4	49	44	276	7	"	"	
4,13	12,47	18755,00	"	1,0	0.35	51	48	219	4	"	"	
3,62	7,00	18762,00	"	0,9	0,2	52	50	123	8	"	"	beams dumped
7,36	7,40	18769,40	"	1,4	0,35	48	40	130	2	"	4841	No trigger.
6,38	16,68	18786,28	"	1 4	0,4	48	42	293	5	"	4840	
5,14	14,52	18800,80	"	1 3	0,3	50	42	255	5	"	4841	
4,16	14,17	18814,97	"	1,0	0,2	52	46	249	5	"	4841	
3.17	8.71	18823.68	"	0.9	0.2	57	50	153	4	"	4840	dumped
6.32	17.36	18841.04	"	2.0	0.6	47	38	305	1	17.500	4841	
5.96	16.85	18857.89	"	1.6	0.4	49	42	296	5	"	"	
5.68	1.88	18859.77	"	1.4	0.2	49	47	33	4	"	4843	z-d. trip + hangup
5.10	14.86	18874.63	"	1.3	0.2	52	44	261	4	17.501	"	
3.63	9.46	18884.09	"	1.1	0.2	52	50	166	8	17500	"	dumped

Run	Date	Start	Stop	At run start I^+	At run start I^-	Dead Time %	Time (secs)	Recs in	Recs out	ACC $\times 10^6$	TQ $\times 10^6$	T1 Acc sum	T2 Acc run	T1 Bit2 E_{cm} 766eV	T2 Bit1 T1 Bit2 2T-Ev 2eV	Processors on/off N50	Mip	TOF	FATP
25870	8/5/86	14:53	15:44	10.51	10.51	30.2	2447	8002	4756	637	192	4803	5311	1114	35	ON	ON	ON	ON
25871	—"—	15:44	16:29	8.94	8.97	23.4	2631	8002	4516	684	160	4779	5658	1076	37	ON	ON	ON	ON
25872	—"—	16:36	17:23	7.71	7.76	19.5	2784	8002	4522	724	141	4077	5439	1151	32	"	"	"	"
25873	"	17:23	18:13	6.78	6.83	17.6	2994	8002	4118	779	137	5041	5606	1045	35	"	"	"	"
25874	"	18:14	18:15					148	83										
25875	"	19:12	19:54	10.69	10.99	25.9	2497	8002	5112	650	168	4876	5632	1300	34	"	"	"	"
25876	"	19:55	20:41	9.26	9.54	22.6	2585	8002	4669	672	151	4971	5781	1224	34	"	"	"	"
25877	"	20:41	21:04	7.98	8.26	19.0	1354	3832	2171	352	67	2414	2635	537	16	"	"	"	"
25878	"	21:05	21:54	7.49	7.76	17.0	2945	8002	4376	766	130	5074	5629	1127	34	"	"	"	"
25879	"	21:54	22:20	6.61	6.86	16.6	1518	4022	2121	395	66	2542	2739	538	20	"	"	"	"
25880	"	23:00	23:43	10.57	11.03	25.0	2557	8002	4854	665	166	4673	5605	1202	30	"	"	"	"
25884	"	23 43	0 28	9.15	9.61	21.7	2708	8002	4648	704	152	4745	5627	1122	36	"	"	"	"
25882	9/5/86	0 29	1 16	7.95	8.42	20.2	2798	8002	4377	728	147	4750	5696	1051	24	"	"	"	"
25883	"	1 16	2 10	6.96	7.41	18.6	2848	7760	4098	740	138	4679	5314	942	27	"	"	"	"
25884	"	3 03	3 47	10.21	10.49	22.2	2618	8002	4745	681	151	4795	5498	1200	25	"	"	"	"
25885	"	3 47	4 39	8.91	9.17	26.7	3064	8002	4627	797	213	4910	5557	1182	31	"	"	"	"
25886	"	4 39	5 28	7.70	7.94	18.2	2925	8002	4370	761	138	4981	5491	1097	26	"	"	"	"
25887	"	5 29	6 07	6.76	6.99	18.1	2268	5958	3110	590	107	3735	4109	781	29	"	"	"	"
25888	"	6 50	7 43	9.71	10.42	19.5	2776	8002	4550	722	140	4843	5625	1108	36	"	"	"	"
25889	"	7 43	8 27	8.16	8.94	17.3	2950	8002	4260	767	132	5067	5501	1107	29	"	"	"	"
25890	"	8 27	9 29	7.07	7.81	16.3	3049	8002	4270	802	124	5009	5510	1053	25	"	"	"	"
25891	"	9 29	9 51	6.11	6.90	15.6	1230	3128	1662	320	49	1984	2046	434	8	"	"	"	"
25892	"	10 59	11 54	9.19	7.98	18.3	2932	8002	4414	763	139	4876	5701	1090	81	"	"	"	"
25893	"	11 55	12 02	7.75	6.66	17.2	409	1179	689	106	18	706	763	145	1	"	"	"	"
25894	"	12:05	12:55	7.54	6.46	16.6	2673	7154	3986	695	115	4416	4925	978	30	"	"	"	"
25895	"	13 48	14 40	10.58	10.51	18.8	2873	8002	4527	747	141	4897	5274	1071	37	"	"	"	"
25896	"	14 40	15 19	7.70	7.53	16.8	2158	5811	3128	562	94	3646	3967	781	21	"	"	"	"
25897	does not exist — died after first pedestal event with IBM errors (hence even first event not transferred)																		
25898		15:21	16:15	7.00	6.84	14.8	3204	8002	4117	833	123	5129	5411	1030	28	"	"	"	"
25899		16:15	16:30	6.19	6.05	14.9	841	2179	1080	218	32	1366	1490	274	11	--	--	--	--
25900	9/5/86	17:14	17:59	10.12	10.63	20.9	2674	8002	4779	695	145	4983	5641	1245	29	"	"	"	"
25901	"	17:59	18:46	8.85	9.34	19.4	2790	8002	4655	725	140	5045	5560	1195	36	"	"	"	"
25902	"	19:46	19:35	7.75	8.19	18.2	2912	8002	4447	757	138	5050	5586	1125	34	"	"	"	"
25903	"	19:36	20:28	6.78	7.20	16.5	3102	8002	4396	806	134	5130	5526	1068	32	"	"	"	"
25904	"	20:28	21:11	5.97	6.34	14.9	2507	6207	3084	652	97	4055	4278	795	23	"	"	"	"

<L> $10^{30}\,cm^{-2}s^{-1}$	Bhabha SLdt nb^{-1}	SLdt exp. energy	IBM / Tape	At run start TOF CV	At run start ID [μA]	Online Reject sum Mip+e+e-	Online Reject Nand50 T1+T2 %	Σ Bhabha	MH	E_{beam}	Mag Field	Remarks
5.79	16.68	18900.77	IBM	2.0	0.6	47	42	293	7	17.500	4838	
5.14	13.21	18913.98	"	1.6	0.5	49	45	232	5	"	4837	
4.10	12.47	18926.45	"	1.4	0.4	50	45	219	4	17.501	4821	
3.37	8.99	18935.44	"	1.25	0.3	53	50	158	3	17.500	4816	
3.79	0	18935.44		/	0.2							beams dumped
8.13	20.04	18950.48	"	2.1	0.5	50	37	352	5	17500	4786	
5.69	16.91	18967.39	"	1.9	0.3	51	43	297	7	17.500	4799	
4.73	7.34	18974.73	"	1.4	0.2	51	45	129	3	17.500	4796	stopped to get new LG-pedestals
4.10	12.81	18987.54	"	1.3	0.2	52	47	225	4	17501	4777	
3.52	4.55	18992.09	"	1.1	0.15	52	49	80	2	17.500	4788	beams dumped
7.19	17.70	19009.79	"	2.1	0.4	46	41	311	7	17500	4781	
5.78	18.62	19028.41	"	1.5	0.5	47	43	327	5	"	4826	
4.50	13.49	19041.90	"	1.4	0.4	48	47	237	3	"	4775	
3.49	9.85	19051.75	"	1.2	0.4	48	49	173	2	"	4730	beams dumped
6.90	22.32	19074.07	"	1.7	0.5	47	42	392	5	"	4762	
4.97	16.74	19090.81	"	1.3	0.4	49	44	284	11	17501	4819	
4.28	12.24	19103.05	"	1.2	0.3	50	47	215	4	17500	4809	
3.58	9.28	19112.33	"	1.1	0.3	51	48	163	4	17501	"	beams dumped
6.25	19.07	19131.40	"	1.4	0.4	49	45	335	2	17500	4768	
4.82	15.60	19147.00	"	1.1	0.3	51	48	274	6	17.500	4771	
3.59	13.35	19160.38	"	1.0	0.2	51	48	235	3	17.500	4814	
3.16	5.24	19165.62	"	0.8	0.2	52	49	92	1	17.501	4738	Beams dumped
5.49	17.36	19182.98	"	1.4	0.4	50	46	305	1	17501	4848	
4.90	1.42	19184.40	"	1.1	0.3	45	48	25	1	17.500	4850	Run hung up with IBM errors
9.21	13.55	19197.95	"	1.0	0.3	49	46	238	5	17.500	4850	Beams Dumped
5.36	18.10	19216.05	"	1.7	0.6	50	44	318	5	"	"	
4.08	10.19	19226.24	"	1.0	0.35	51	48	179	1	"	4851	hung with IBM BUSY (=compiler OK)
3.27	12.35	19238.59	"	0.9	0.3	52	50	217	1	"	"	
2.63	2.45	19241.04	"	0.8	0.3	51	52	43	0	"	4853	beam dumped
6.50	19.70	19260.74	"	1.75	0.5	51	42	346	9	"	4834	
5.53	16.74	19277.48	"	1.4	0.4	52	43	294	4	"	"	
4.53	14.46	19291.94	"	1.2	0.3	53	46	254	2	"	"	
3.59	11.15	19303.09	"	1.1	0.25	53	47	220	4	"	4834	
2.80	7.74	19310.83	"	1.0	0.20	54	52	136	5	"	"	beams dumped

Current was fluctuating between 7300 and 7500 A all the time.
12^{45} Magnet went to 7370 A and bz2 to 7750 A (≈ 30 seconds for bz and bz2). Stays at 7450. We don't know IV anymore.
20^{37} z-Chambers trip
21^{04} Stopped run # 2587 because of LG-noise.

9. Mai 1986

0^{00} Matsumura & Haidt on shift
Gas check done

8^{00} Cartwright & Glusser on shift 8^{20} Gas check done.
Found magnet at 7370 A; trying to RAISE it by hand had no effect at all, but on switching it back to computer control it went up to 7470 A. Now at 7455 A.
8^{20} Magnet back at ≈7400 A. Responds neither to manual nor to computer control.
8^{21} Suddenly bad beam (ID + JC soft trip, ZC anode current >10 μA, I switched it off!)
TOF rate OK when I came back to look → switched ZC back on: OK again → ran up JC & VC
8^{27} IDAS readout error 74: wrong LAM or 1 or 1 - beampipe chamber
8^{30} Wulf called Lassen - he says as soon as it stops raining he will come and open the box on top of the transformer to look at the relays. They will then identify the relays which are sticking & try to repair them; also they will order new ones. Thus, we can expect someone to come & ask us to switch off the exp. some time in the near future.
10^{35} Magnet group is looking at our magnet
10^{55} Magnet back up, but Lassen says it may misbehave again, since it does need new relays.
11^{02} Trip of everything; 11^{10} Soft trip of JC + VC
11^{30} Missing LAM br3 cr 4: ZC part 1
12^{00} No TRIGGERS: IBM BUSY (No unusual running conditions, TOF 1V, ID 0.3 μA, rate 3.7 Hz, deadtime ≈ 15%)
then IBM error 53
ask for retry: get IBM error 54, twice; run stopped
Start new run: seems OK
4^{00} All 3 chambers trip — 1 mA lost from both beams
$\approx 4^{18}$ Run hangs — IBM BUSY
Stop run - try to restart. Does not work - get IBM error 53 and run hangs after first "event" (pedestals). Second attempt works.
15^{53} IBM error 52 — retry successful.

16^{00} H. Mills & C. Weber on Shift
MOP monitoring program does not update screen (apart from time). Restarted ZITHONI but this did not help. During Kill did SADEGO.
17^{20} Gas check done. kweislark kzulark a bit high (consistent with recent readings).
No cpu time for REFORM job!!!
19^{43} RZ chamber failed.
19^{18} IBM transfer error 52
19^{31} RZ chamber trip
20^{22} Observed on MOP-console: FED 14 has 3x as many hits ~~processed~~ scanned than the others. Changed -5V power-supplies of crate 14. Now signal reduced, but still there.
No spikes in NSO - histograms of I.D. Crate 14 is already known to be a bit noisy. S.T.
21^{45} Change to new log book for run list