JADE LOG BOOK XIV Runs 17543 – 18897

Ein Brunnen-Erzeugnis

JADE LOG BOOK

NO. XIV

Runs 17543 – 18897

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $*10^6$	TØ REJ. $*10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT 2 $E_1 > 6$ GeV	T_2 BIT 17 $2T \cdot E_4 \cdot \geq 2$ TR

Processors ON/OFF N50	MIP	TOF	FAMP	<L>	$\int Ldt$	$\int Ldt_{Exr}$	IBM TAPE OUTPUT	AT Run ID (μA)	Start TOF (V)	ONLINE REJECTION MIPROC (T_2)	NORD-50 ($T_1 \cdot T_2$)	Σ Bhabha	MH	F_{BEAM}	MAGNET FIELD	REMARKS

Greensham / Hill

30-7-84

For Monday morning: Terminal in hardware room broken and Gould plotter not printing in some areas. Call Mosbender

06:20 Tagging HV mainframe 67 had to be manually switched on at run start (17543)
06:25 JDAS readout error 33. Missing LAM br 5 cr 3 ID ring 1 occurred 2 x s = successive.
06:38 Nord 50 problem, memory out of range. About N-50 after stopping run 17543, start new run.
06:40 Missing LAM br 5 cr 3 again, and again, and again + HHT! at random times through night.
06:57 ID trip.
06:59 ID trip
07:20 ID trip
07:36 ID trip
07:50 ID trip.

9:00 Schmidt, Spitzer
~~9:35 JDAS readout error trigger~~
8:50 HV-Error Crate 53 Channel 13
8:10 TOF 68 no hits ; beams lost. ID hard trip
PETRA pilotharm error.

Changed the HV powersupply for MFR53 channel 13 for a test. If it doesn't fail any more we leave it.
Cleaned all MFR's and set them to correct voltages.

10:30 Now full ready
10:44 JDAS READ ERROR 33 - Missing LAM branch 2 crate 3
1
10:44 ID trips. Call TLR for optimalisation new value TOF: 0,6 V : ID-current 2,0 μA.
10:59 trigger 3 I/P missing ST 28 GP4 ST 28 GP3 ST 30 GP4 HHT! - return 17543

12:10 CAMAC ERROR during MAGNET reading. current checked ok
17:05 "trigger 1 output missing 45"
17:17 "short break" Problem with magnet. Needs repair in Kiel. (1/2 - 1 $)
14 00 ONE MISSING WIRE IN WIRE MAP WAS CURED (WIRE 372)
BY EXCHANGING DL8 Matsumura + Komamiya

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ. $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT 2 $E_1 > 6$ GeV	T_2 BIT 17 $2T \cdot E_4 \cdot \geq 2$ TR
17543	30-7-84	05[21]	06[38]	5,78	5,86	13,7	1879	2949	1840	273	37,5	7793	2779	585	96
17544	"	06[42]	07[42]	5,40	5,51	14,9	2697	8002	5276	702	104	3669	6951	1647	97
17545	"	07[42]	8:42	4,57	4,66	8,6	3341	8002	5101	820	84	4106	6634	1816	54
17546	"	8:43	8.58	3.86	3.88	31,3	608	988	627	158	49	540	713	235	3
17547	"	8:58	9:08	3.71	3.83	7,8	538	1211	733	140	11	5,37 ~~1550~~	803	258	3
17548	"	10.30	11:03	5,85	6,03	16.8	1448	4128	2732	327	64	1848	4335	778	27
17549	"	11:05	11:57	5,36	5,45	12.1	2814	8002	5178	748	81	3681	6771	1621	41
17550	"	11:54	12:48	4,65	4,76	10.3	3137	8002	4833	832	86	3880	6468	1788	38
17551	"	12:48	13:17	3.79	4.16	8.3	1681	3669	2194	437	36	1932	2784	882	21
17552	"	NO DATA MISSING LAM PROBLEM													
17553	"														
17554	"	19[18]	19[23]	3.79	3.64	7.6	197	404	243	51	4	198	317	104	0
17555	"	22[08]	22[56]	5.16	5.30	14.4	2849	8002	7784	742	107	3464	7530	689	46
17556	"	22[57]	23[51]	4.50	4.64	10.0	3267	8002	4725	851	85	3845	6588	1808	40
17557	31.7.84	23:52	1:05	3.88	4:02	7.3	4214	9002	4855	1056	79	4396	6166	2000	49
17558	"	1:05	1:11	3.24	3.37	6.2	300	541	312	78	4.8	325	362	149	2
17559	"	1:51	2:48	6.07	6.08	16.4	2628	8002	5112	684	112	3510	7255	1469	45
17560	"	2:49	3:36	5.17	5.19	14.3	2678	8002	4884	697	99	3572	6978	1661	28
17561	"	3:37	3:43	4.48	4.52	11.2	331	956	615	86	10	441	764	205	2
17562	"	~~4:14~~ ~~2001~~	~~4:55~~ ~~BF~~	6:04	6.10	26.2	2436	8001	5144	634	166	3256	7487	1475	44
17563	"	4:55	5:17	5:27	5:34	23.2	1020	3391	2155	265	62	1351	3071	635	23
17564-5	MISSING DUE TO PROBLEMS RESTARTING ONLINE JOB														
17566	"	11[13]	12[07]	5.51	5.46	11.3	3043	8002	4894	792	89	3594	6975	1566	47
17567	"	12[07]	12[36]	4.73	4.70	10.5	1703	4313	2579	444	46	1952	3728	906	21
17568	"	17.40	18.12	4.39	4.61	10.1	~~1777~~ ~~4563~~	2404	~~462~~	~~47~~	1864	3864	964	19
17569	01/08/84	01:29	2:20	5.94	5.94	12.2	2957	8002	4928	769	94	3888	7082	1929	59
17570	"	2:26	3:13	3.94	3.96	9.6	2855	5561	3362	691	66	2807	7115	1415	40
17571	"	6:43	7:49	5.54	5.76	8.6	3592	8002	4942	935	81	4191	6271	2031	35
17572	"	7:49	9:05	4.06	4.37	6.9	4492	8002	6584	1169	80	4354	6252	2158	31
17573	"	9:05	9:25	2.83	3.08	5.8	1208	1834	1078	314	18	1161	1321	582	14
17574	"	10:26	10:55	5.03	5.24			NO RUN SUMMARY							
17575	"	12:40	13:32	5.84	5.80	10.5	3103	8002	5036	807	85	3950	6894	1813	37
17576	"	13:32	13:36	4.99	~~5.04~~ 5.01	11.5	181	573	356	47	5	245	419	112	5
17577	"	16:08	17:51	4.85	2.57	5.8	4913	7615	4422	1278	73	4310	5908	2044	37

Processors ON/OFF N50	MIP	TOF	FAMP	<L>	$\int Ldt$	$\int Ldt_{Exp}$	IBM TAPE OUTPUT	AT Run ID (μA)	Start TOF (V)	ONLINE REJECTION MIPROC (T_2)	NORD-50 ($T_1 \cdot T_2$)	Σ Bhabha	MH	E_{BEAM}	MAGNET FIELD	REMARKS
ON	ON	ON		2,66	2,79	2415,22	IBM	2,0	0,6	60	56	1		22,100		$\int Ldt$(Fast) too small, see our N50 memory out of range: stopped run
"	"	"		3,45	10,64	2425,86	"	2,0	0,54	41	125	2		"		
"	"	"		3.04	10,16	2436,02	"	1,6	0,45	45	87	3		"		
"	"	"		2.08	1.27	2437,28	"	1,4	0.35	44	18	2		"		HV - error - stopped the run.
"	"	"		2.16	1.16	2438,45	"	1,4	0.35	43	13	2		"		Beams lost
"	"	"		4.74	6.87	2446,32	"	2,1	0,8	50	81	4		"		NORD-50 stopped
"	"	"		3.81	11.23	2457,55	"	2.0	0.55	40	126	6		"		
"	"	"		2.94	8.39	2466,94	"	1.8	0,5	41	102	2		"		
"	"	"		2,40	9.04	2470,98	"	1.8	0.4	43	43	0		"		Beams dumped
								2,4	0,68							
"	"	"		2.08	0.41	247139	"	2.4	0.68	42	7	0		"		MISSING LAM + BEAMS DUMPED
"	"	"		3.69	10.50	2481.89	"	2.6	0.80	43	116	4		"		
"	"	"		2.96	9.67	2491.56	"	2	0.6	40	115	1		"		
"	"	"		2.28	9.62	2501,18	"	1.8	0.5	45	127	4		"		
"	"	"		2.18	0.65	2501.83	"	1,4	0.4	50	6	0		"		Beams dumped
"	"	"		4.94	12.98	2514.81	"		0.95	41	144	2		"		
"	"	"		3.72	9.97	2524.78	"			40	106	4		"		
"	"	"		3.54	1.17	2525.95	"			37	10	0		"		beams lost
"	"	"		4.22	10.29	2536.24	"	2.4	1.0	39	117	2		"		
"	"	"		3.64	3.71	2539.95	"	2.0	0.75	36	47	0		"		beams lost
																FROM NOW ON NEW ONLINE JOB
"	"	"		4.83	13.18	2553.13	"	2.2	0.7	39	146	5		"		At least 2 "MH" are known-yes
"	"	"		3.36	5.73	2558.86	"	2.4	0.6	39	77	0		"		beams lost
"	"	"		2.06	4.27	2559.13	"	1.8	0.7	46	47	0		"		went full
"	"	"		4.08	12.07	2571,20	"	2.0	0.8	44	136	5		"		
"	"	"		1.60	4.26	2575.46	"	2.7	1.0	30	46	1		"		Beams lost.
"	"	"		3.72	13.38	2588.84	"	2.1	0.65	42	142	3		"		
"	"	"		1.91	8.58	2597.42	"	1.9	0.55	45	96	7		"		
"	"	"		1.40	1.69	2599.11	"	1.2	0.36	48	20	1		"		Beams dumped
"	"	"					"	2.1	0.7					"		Beam lost Run Summary lost
"	"	"		4.56	14.15	2613.26	"	2.3	0.7	41	172	2		"		
"	"	"		4.03	0.72	2613.99	"	1.8	0.57	29	4	0		"		Beam lost
"	"	"		2.15	10.57	2624.56	"	1.6	0.42	48	95	1		"		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	TØ REJ. *10^6	T4 ACC SUM	T2 ACC SUM	T1 BIT2 E1>6GeV	T2 BIT 17 2T·E4·≥2TR

30-July-84

(Stand. Eng)
Repaired Crate-Controller reinserted into Branch 4 Crate 1, (Rack 77, 2nd from bot)
The one who was there declared as "field-proven" and put on the shelf.
Branch 4 Crate 1 tested with PIOSLOT and LAMTEST. Ruel

1600 Mashimo + Komamiya
1710 Beams are ready, but LG problem (High Voltage)

19:00 crowd LG HV system has a problem.
We (Mashimo + Komamiya + Takeshita)
solved it to change DIST-card #12.
19:00 MISSING LAM at ID RING2
05 " " branch 5 crate 3.
05 TOF HV down. Krahbiel was kind enough to go down to switch ON HV.
(The above notes are written by Takeshita)

• Following a suggestion from Navoska I increased the scale factor for the TOF rate about a factor of 2 for the PKR (to give them finer resolution) and a factor of 1,5 for JADE. (was necessary, because the ampl. for PETRA was at its maximum gain.) The threshold of the Matsumura Soft Trip Box was set to -3 V. Take these changes into account when comparing TOF rate readings from now on with older ones. Ruel

1915 ~~EHH~~ MISSING LAM Br 5, Cr 3 (S# / Sr.#)
DL8 exchanged wire 152-159 DL8 289 → DL8 247 → does not help.
pushed in DL8 with all my weight → O.K. → not really cured!
1930 Beams lost.

2135 Beams ready DL8 problem seems to be cured (By rubbing the connector using a magic eraser)
LG high voltage was reset by means of RI-HB by "detector control"
Reset HV. FO4 'reset-HV'

Main fr.	Channel	
53	13	TOF
61	0	} Tagging
61	13	

2237 YSPY Error Run 17555 : JETC DL8s giving no response : 1
wire map has a hole
↳ chanel 8 to 55 (Crate 1, Br 5 6 DL8's)
→ Push DL8 in → wire map looks O.K.
2255 } H.V. ERROR Tagging the same channel as above
2340 } We could not reset these channels. " invalid main frame or channel given"
" "

↑ I suppose this is caused by a program bug.

Processors ON/OFF N50	MIP	TOF	FAMP	<L>	∫Ldt	∫Ldt Exp	IBM TAPE OUTPUT	AT Run ID (nA)	Start TOF (V)	ONLINE REJECTION MIPROC (T2)	NORD-50 (T1·T2)	Σ Bhabha	MH	F BEAM	MAGNET FIELD	REMARKS

30.7.84

2350 Tagging HV's were reset by hand. → OK
2344 Yspy detected err. TOF TDC no hits : 70

31.7.84 0^00 Dietrich & Warming on shift
0^30 TOF HV mainframe 53 channel 13 wrong → reset OK.
0^40 YSPY reports TOF TDC 6 no hit → check histograms, they look OK, → reason maybe low statistics at end of fill
0^50 YSPY found TOF TDC 60 this time → low statistics probably
1^06 ID-trip
2^58 - " -
3^35 run Mashimos LG HV check pgm "TESTHV", called him out of bed because of misreading his instructions (so sorry!)

difference (FAPP+MEAS)
0.0120 at 1^00
0.0075 at 3^40

3^45 beams lost
5^03 ID trip
6^40 "short break" due to Senderausfall caused by thunderstorm
run down magnet

8^00 Cartwright, Kleinwort

8^10 Magnet discovered to be at 1360A (set to 500). Reset by hand.
8^50 " " " 1400A " "
9^30 PETRA "INJECTION" Magnet → 7500A
11^10 New online job JDAS installed, with banks ZETC and DPCH accepted. J. O. — In 1817
11^40 YSPY - trigger 3 1/r mining ST 36 68
Followed immediately by rft ID trip and JETCH high current mining
12^12 JDAS error 33 - missing LAM br 2 cr 3 : TOF1 counters
13^30 "short break"
run down magnet to 500 A
13^50 PETRA "Injektion" Magnet → 7500 A
~~2^40 ID SOFT TRIP~~
~~3^14 Beams lost : Run 17570 End~~

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $*10^6$	TØ REJ. $*10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT2 $E_1>6$ GeV	T_2 BIT 17 $2T\cdot E_4\cdot \geq 2$TR

31 JULY 16.00 Whittaker, Weber

17.10 - still waiting for beam - Howard arrived and noticed the NORD had crashed!
17.39 - Beam at last!
17.50 - 2) HV wrong LG / BP Supply 7 : Should read 1971 instead of 1960 V. Reference page YSPY found error 4) we can ignore it.

run 17568 at 17.54
Trigger 3 I/P missing : ST 29 GP5 ST 29 GP3 ST 29 GP2
ST 30 GP3 ST 31 GP4 ST 32 GP3 ST 32 GP4

Pause run at 18.04 because PETRA frequency changed after "Sender-Ausfall"; they try to keep the beam, Energy = 22.123 GeV; we continue at 18.06, since beam current not noticeably changed.
18.01 Run stopped on request by PKR since they are not able to keep the beams
19.00 Trouble with DESY - Power Supply"
Set magnet current to 500 A
22.00 PKR informs us that DESY- ~~magnet~~ power-supply is still being investigated.
No time estimate for restart
JADE magnet found at 1440 amps rather than 500A. This problem is not new, (see page 5); try to set magnet to 600 Amps, but it does not react.

01/08/84 Takeshita / Finch
Reset klystron/walking magnet
00:55 magnet up to 7500 Amp
2:40 SOFT ID TRIP
3:14 BEAMS LOST : RUN 17570 ENDED
3:30 IN RUN 17570 and 17569, WE HAD ILLEGAL ADC CHIPS IN LG. WE CHANGED TWO CHIPS.
" ID WIRE MAP HAD A HOLE AT 64 - 70 (77! NOT 8). THIS HOLE APPEARED FROM RUN 17569.
WE PULLED OUT ONE DL-8 MODULE (#8) AND CLEANED CAMAC CONNECTOR.
05:30 still 'short beam' since 04:30; they have trouble with DESY-POWER-SUPPLY; RESTART about 07:00 or later; ramp down magnet to 1000
6.30 YSPY ERROR: TOF TDC NO HITS :66
6:51 ID TRIP . 06:55 once more ; 07:00 again
7:10 PLEASE IGNORE ERROR MEASSAGE : YVOLT LG/BP POWER SUPPLY 7 ....
IF THE DIFFERENCE IS LESS THAN 0,030 (KV). OTHERWISE CALL LG EXPERTS. (TAKESHITA)

Processors ON/OFF N50	MIP	TOF	FAMP	<L>	$\int Ldt$	$\int Ldt_{Exp}$	IBM TAPE OUTPUT	AT Run ID (μA)	Start TOF (V)	ONLINE REJECTION MIPROC (T_2)	NORD-50 (T_1&T_2)	Σ Bhabha	MH	F_{BEAM}	MAGNET FIELD	REMARKS

1.8.84

8.00 Matsumura, Becker

10:57 ID Trip , Beam lost
N10 hung up
12:40 HV error BP power supply 5, 7 $\Delta U \cong 100$ V !
13:28 Trigger 3 I/P Missing : ST 28 GP 4
14.20 PETRA : Trouble with magnet power supply
Magnet → 500 amps
15.40 Magnet → 7500 amps

16:00 W. Bartel & J. Spitzer on shift

YVOLTS updated - altered error messages

20:00 TASSO wants a 1 hour access time during tomorrow morning.
Cello and Mark J promised to have an answer by 9$^{\text{h}}$ tomorrow; we agree.
It has to be arranged by us tomorrow.
20:30 Std. histograms ok

21:15 Histogram # 24 appears as 2 columns of numbers
23:35 ID - Trip

2/8/84
24:00 Olsson / Greenshaw New ZREAD (2-ch. version) now made standard from R 17584 on
01:58 Lead glass power supply alarm, over current trip on power supply 4 was found to have gone.
We found no bad or broken channel in DIST #~~6~~7 but swelled. I (Takeshita) reload the HV data, because the primary HV read by DIST 6 ~~is~~ changed. (swelled! (of buried cable/accident))
Be careful DIST-~~6~~7, if it ~~swells~~ swelled, please call LG experts.
and please ignore for the moment again LG DIST primHV ERROR. Now it should be 1.9362 kV
~06 There are some holes in FWHV hit and ADC Hists. Older histograms show different holes. Which should it be?
We are getting quite a bit of data, with tolerable background. When is the sextant trigger getting in again?!

8.00 2 AUGUST Whittaker + Kado

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8 2.8.84

8:10 Due to high beam currents I (Hodo) have exchanged the preattenuators of both pick-up units.

	previous value	new value
e^+-unit	3 dB	6 dB
e^--unit	0 dB	3 dB

8:33 problem with IBM link: "IBM Busy" on color TV
PETRA TV says: IBM ???? → Start Tape F11173

8:52 ID Trip (hard)

8:56 Nord hang up, no reaction from command-Terminal, no message on printer
Level 9 (+), priority 2, active levels 9, 12, 13, lamps for interrupt and prying are on (← flickering)
Nord reloaded

9.05 soft trip of LD.

9.15 Inssa have asked for an access to the beam. PKR say they have some technical problem which they would like to sort out at the same time so the access is scheduled for 11.00 a.m. for about 2 hours

10:10 standard Histogram printing does not work! The plotter stops "always" (tested two times) after "JETC MEAN A+ &A-" and some crazy output appears on the Tektronix screen, without being printed.
(current run is 17597, the output is in the folder)
note for Howard Mills
I tried & it worked! IHEP

11.00 magnet run down to 500A. — short breaks.
New version Nord-50 program installed & histogram display altered to change some trigger histograms for Herr Krehbiel. The standard-histograms have been changed accordingly HEP

15.25 Injection – magnet run up to 7500A

16.00 Naroska, Nze on shift.

During run 17594 trigger bits 14 and 15 and 31 put back on.
(14: so called Seprand trigger; 15: so called Zorn trigger; 31: so called TBG collinear trigger)

In the beginning of the run the dead time tended to fluctuate up to ~40%, but overall it was only 14–15%. So these triggers brought an increase of ~3%. This was with good beam conditions at low currents (5.2 on 5.0). So we'll have to watch it.

19.00 Beams lost due to Petra "NOT AUS" of power supplies.

20.06 Power supplies still being switched on.

Processors ON/OFF N50	MIP	TOF	FAMP	<L>	$\int Ldt$	$\int Ldt_{Exp}$	IBM TAPE OUTPUT	AT Run ID (μA)	Start TOF (V)	ONLINE REJECTION MIPROD (T_2)	NORD-50 ($T_1 \cdot T_2$)	$\leq$ Bruching	MH	F_{BEAM}	MAGNET FIELD	REMARKS

9

2.8.84

20.50 New filling
Second run dead time increases more and more.
We phone PKR, they haven't done anything and they cannot decrease the TOF rate (which hadn't moved any way).
So where does the mysterious background come from:

Run	DT	$I_+ + I_-$	Corrected Trigg rate	
17594	14.0	10.17	4.4	
5	14.6	8.99	4.7	
6	11.6	8.07	4.0	
17597	18.4	11.68	5.6	New filling
17598	24.3	10.44	6.9	
17599	21.3	9.45	5.1	Olsson, Zorn and coll TBG taken out.
17600	10.6	8.79	3.9	triggers back in after optimizing. !!!

Noticed that although TOF rate is more or less the same, the ID current has gone up to 3 μA
Phoned up PKR again. They adjusted a bump "UHW" to 4A.
Id decreased ID current to 2.1 μA and TOF rate to 0.5 and dead time to 10%.
I told them ID current by phone!

TOF counts 13 reset second time during our shift.
The first sign is usually YSPY saying: TOF TDC no hits.

23.38 Id tripped.
23.50 asked for new fill at midnight.

3/8/84

0:00 Hellenbrand & Mashimo

1:21 YSPY Error Trigger 3 I/p Missing: ST 21 GP4 Run 17602 (maybe due to low statistics)
1:30 NORD to hang-up at level 9. Restart → OK. Start run 17603
1:53 NORD to hang-up again Restart → OK. Start run 17604
2:02 ID trip (anode current)
2:07 "

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_4 ACC SUM	T_2 ACC SUM	T_1 BIT 2 $E_1 > 6$ GeV	T_2 BIT 17 $2T \cdot E_4 \cdot \geq 2TR$
17578	11/8/84	18:12	18:28	5.19	5.87	9.6	954	2325	1451	248	24	1147	1843	497	9
17579	"	19:41	20:35	6.13	5.33	9.8	3282	8002	5898	854	84	3954	6616	1780	70
17580	"	20:36	21:43	5.11	4.41	8.2	3824	8002	4755	995	81	3993	6552	1798	55
17581	"	21:43	22:27	3.97	3.39	6.6	2599	4689	2705	677	45	2528	3442	1160	20
17582	"	23 00	00 07	4,40	4,93	7,8	3895	8001	5498	1014	79,0	4148	6310	1987	43
17583	2/8/84	00 07	01 20	3-66	3.97	6,7	4261	7802	4774	1107	74,0	4500	5572	2363	32
17584	"	01 53	01 56	5,78	5,84	10,4	150	476	263	39,0	4,04	197	311	78	1
17585	"	03 56	4 39	3,11	3,18	6.1	2479	4183	2425	644	40	2574	2917	1356	21
17586	"	5,05	5,58	6.00	5,80	12,2	2888	8002	5241	751	91	3946	6419	1786	39
17587	"	06 00	07 12	5,32	4,18	7,6	4049	8002	4817	1054	80,3	4434	6100	2088	34
17588	"	07 13	07 21	2,88	2,80	7,7	425	854	477	111	8,55	454	618	225	2
17589	"	8:33	8:33	5.09	5.54	—	—	—	—	—	—	—	—	—	—
17590	"	—		—	—	—	—	—	—	—	—	—	—	—	—
17591	"	9.02	10.07	4.34	4.74	9.1	3744	8001	4996	974	89	4265	6411	2038	55
17592	"	10.08	11.01	2.78	3.28	6.2	3148	5223	3038	879	50	3032	3839	1392	29
17594	"	16:48	17:39	5.21	4.96	14 0	2896	8002	4494	754	105	4266	6698	1278	36
17595	"	17.39	18:26	4.61	10.17 4.38	14.6	2787	8002	4150	725	105	4328	6892	1195	30
17596	"	18.26	19:06	4.14	8.33 3.93	11.6	2368	6584	3182	616	72	3870	4549	1069	22
17597	"	20.57	21.33	5.28	5.11	18.4	2487	8001	4553	647	118	4267	7032	1199	35
17598	"	21.33	22.11	5.30	5.14	24.3	2059	6579	3957	536	129	3077	7751	922	13
17599	"	22.11	22.39	4.80	4.65	21.3	1659	4055	2535	431	91	1761	4862	765	13
17600	"	22:40	23.27	4.47	4.32	10.6	2816	8002	5464	733	78	4888	4896	1326	19
17601	"	23:28	0:01	3.99	3.87	9.3	7675	4395	3015	435	41	2774	2496	759	8
17602	3/8/84						No Run Summary								
17603	"	1:43		5.09	4.27			"							
17604	"	1:56	2:48	4.93	4.72	13.0	2721	8002	5496	708	92	4552	5596	1313	25
17605	"	2:48	3:41	4.37	3.63	10.5	2936	8001	5356	764	80	4841	4979	1325	25
17606	"	3:40	4:33	3.90	3.21	9.3	3112	8002	5469	735	76	5234	4388	1471	23
17607	"	5:03		5.56	5.55		No Run Summary								
17608	"	5:43	6:29	5.04	5.04	16.5	2546	8002	5560	662	109	4552	5577	1318	31
17609	"	6:29	6:54	4.48	4.50	12.1	1447	4408	3053	377	45	2651	2797	722	17
17610	"	7:35	8 13	5.63	6.00	16.3	1910	6438	5590	497	81	3437	4847	965	22
17611	"	—	—	—	—	—	—	—	—	—	—	—	—	—	—
17612	"	821	905	4.75	4.84			≈ 5000							

Processors ON/OFF N50	MIP	TOF	FAMP	<L>	$\int Ldt$	$\int Ldt_{Exp}$	IBM/TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	ONLINE REJECTION MIPROC (T_2)	ONLINE REJECTION NORD-50 ($T_1 \cdot T_2$)	Σ Bhabha	MH	E_{beam}	MAGNET FIELD	REMARKS
ON	ON	ON		4.63	4.42	2628.98	IBM	1.9	.62	42	37	2		2210		beam lost
"	"	"		4.18	13.76	2642.74	"	2.1	0.65	42	165	4		"		
"	"	"		2.71	10.34	2653.08	"	1.8	0.60	43	115	6		"		
"	"	"		2.17	5.65	2658.73	"	1.8	0.45	42	57	1		"		beams dumped
"	"	"		2,58	10,03	2668,76	"	1.7	0.6	43	136	2		"		
"	"	"		1,59	6,78	2675,54	"	1.8	0.52	45	72	4		"		Beams dumped
"	"	"		5,08	0,76	2676,30	"	2.2	0,8	38	5	0		"		
"	"	"		1,66	4,12	2680,42	"	1,1	0,44	49	50	2		"		Beams dumped
"	"	"		4,64	13,40	2693.82	"	2.2	0.9	40	154	5		"		
"	"	"		2,35	9,51	2703,33	"	1.7	0,7	46	97	6		"		
"	"	"		1,12	0,48	2703,81	"	1,6	0,52	43	7	1		"		Beams dumped
"	"	"		—	—	—	"	—	—	—	—	—		—		JUNK - IBM ERROR
"	"	"		—	—	—	TAPE F11 173	1.9	0.8	—	—	—		—		JUNK — NORD HUNG
"	"	"		2.79	10.71	2714.52 ~~2714.52~~	IBM	1.9	1.2	45	118	7		"		
"	"	"		1.55	4.89	2719.41	"	1.4	0.5	47	52	2		"		beams dumped / shot break
"	"	"		4.05	11.72	2731.13	"	2.6	0.8	47	116	6		"		N.B. Run 17593 - no TOF/AP - no data. Segment, Bem, Coll TBE triggers as expect
"	"	"		3.07	8.56	2739.69	"	2.3	0.5	50	97	4		"		
"	"	"		2.74	6.49	2746.18	"	2.2	0.5	44	83	2		"		beams lost
"	"	"		4.87	12.12	2758.30	"	2.5	0.8	50	136	3		"		
"	"	"		3.77	7.76	2766.06	"	2.5	0.7	57	95	4		"		
"	"	"		3.22	5.34	2771.40	"	2.5	0.65	55	57	0		"		
"	"	"		2.62	7.39	2778.79	"	2.1	0.5	41	71	1		"		
"	"	"		1.98	3.32	2782.11	"	?	?	40	43	1		"		
"	"	"					"	2.3	0.74					"		NORD 10 hang-up. Run summary lost.
"	"	"					"	2.4	0.64					"		" "
"	"	"		3.30	8.98	2791.09	"	2.4	0.65	42	109	5		"		
"	"	"		2.63	7.72	2798.81	"	2.2	0.52	41	82	4		"		
"	"	"		1.96	6.10	2804.91	"	2.0	0.46	41	68	1		"		
"	"	"			N 7.	2811.91	"	2.2	0.82					"		NORD 10 hang-up. Run summary lost
"	"	"		3.38	8.61	2820.52	"	2.3	0.68	41	100	0		"		
"	"	"		3.12	4.57	2825.09	"	?	?	40	42	2		"		
"	"	"		4.18	7.99	2833.02	"	2.5	0.87	42	81	2		"		
"	"	"		—	—	—	"	—	—	—	—	—		—		only about 1 min RUN, READOUT ERRORS JUNK
								2.2	0.66							NORD hang up, no run summary

RUN	DATE	START	STOP	AT RUN START I⁺	AT RUN START I⁻	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL *10⁶	TØ REJ. *10⁶	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT 2 $E_1 > 6$ GeV	T_2 BIT 17 $2T \cdot E_4 \cdot \geq 2$TR

Processors ON/OFF N50	M.I.P	TOF	FAMP	<L>	$\int Ldt$	$\int Ldt_{Exp}$	IBM TAPE OUTPUT	AT Run ID (μA)	Start TOF (V)	ONLINE REJECTION MIPROC (T_2)	NORD-50 ($T_1 \cdot T_2$)	≤ 4 Bunches	MH	E_{BEAM}	MAGNET FIELD	REMARKS

12 3.8.84

3:45 YVOLTS TOF error just after the start of Run 17606, MFR 53 ch 13 → Reset OK.
5:41 NORD to hang-up again.
5:55 READOUT ERROR 33 MISSING LAM branch 5 crate 7 the third time up to now
5:58 ID trip
6:04 READOUT ERROR 33 several times
6:25 Standard histograms checked o.k. (spikes in μ-chambers timing map)
6:57 YSPY Error Run 17609 Trigger 3 I/P Missing: ST 21 GP 5
6:55 ID trip. Beams partially lost. (2.58; 1.73 mA). ask PKR for a new filling.
7:37 ID trip
7:40 ID soft trip.

3/8/84 8.00 Whittaker and Schneebeli on shift

8.10 IDAS READOUT ERROR 33 - missing LAM branch 5 crate 7 - happened 10 or 20 times.
8.13 start new run 17611, same problem, stopped run and cleaned DLB contacts
8.21 start run 17612, everthing OK.
8.52 ID trip + NORD hangup. level 09, reload NORD
9.08 start run 17613
11.06 Beam dumped. - 9 occurrences of following message after we had run down the HV.

11.06.22 ERROR 40 IN 34557 AT 3561E; FORTRAN RUNTIME ERROR
FORTRAN ERROR NO: 412 ↖ YHDISP
where n = 4, 5, 6, 2, 3, 4, 5, 6, 3 "n"

HOWARD HELP!
SEE Page 22
Wont help.

YHDISP was restored as in A6 of the IDAS dp's manual. So before dumping the beam PKR tried to ramp the energy and succeeded in $E_D > 23,2$ GeV
13.02 new fill ready, start run 17616
in timing map faults:- (see above)
13:00 Overflows in C11 timing map. - bad contact between S100 crate interface + serial highway? Run time info not reaching crate.
Missing singles rates in crate 9 - bad backplane contact on fast pulse board.
Junk data in crates 2 & 14 - noisy chambers 161, 582. 161 - digitizer replaced. 582 - preamp swap.
13.42 start run 17617 (note: crate 11 missing problem is mysteriously better now!) AB.
13.48 ID trip

3.8.84 13

14.05 IBM link problem. - Reported problem - being investigated - skipped run
14.19 started run 17618 writing to tape.
14.46 I.D. hard trip
15.01 "
15.40 I.D. soft trip
15.55 started run 17620

11.00 Matsumura + Meinke on shift
Muon crate missing, we tried everything, it seems that there is no power at the crate
down stairs — none of the muon experts answers his phone.
17.03 ID hard trip
17.02 Muon Crate #2 repaired, fuse was blown
PKR tried to ramp energy until end of the fill 1 E_D = 23.2 GeV
21.22 MP-16 out of sequence 2 runs stopped, new run started
23.00 for the 4. time we had to reset MFR 53 ch. 13
TOF TDC no hits - 42 -
" " " - 58 -
YVOLTS: LG errors rather frequent (see page 6!)

23.51 beams lost : ID hard trip

0.00 | 4.8.84 Spitzer & Krebbiel on shift
1.39 Beams back
1.52 Time NORD Hangup Level 9 Protect Ring 2
2.04 "No execution"; Error 00 in 34727 at 112752; III. monitor call (MAGNET)
Start new run; - 4 - 35611 112752 (YPARA)
Reload Nord
2:16 Soft ID trip due to partial beam loss
2:20 Thunderstorm.
4:33 Missing LAM br 2 cr 3

8.00 - 16.00 Nye, Yamada on shift
8.20 NORD died. No response at all. LEVEL 9
11.00 TOF MFR 53 Channel 13 reset after „YSPY error": TOF TDC no hits : 13
12.04 New fill ready.

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	T0 REJ. $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT2 $E_1 > 6$ GeV	T_2 BIT 17 $2T \cdot E_4 \cdot \geq 2$TR
14															
17613	8.3.84	9.08	9.55	4.22	4.32	11.4	2776	8002	5464	722	83	4759	5102	1340	33
17614	"	9.59	10.49	3.74	3.83	10.2	2949	8002	3812	767	78	5118	4515	1414	31
17615	"	10.50	11.04	3.29	3.33	9.3	841	2225	1034	217	20	1417	1191	372	4
17616	"	13.02	13.43	6.15	6.05	16.7	2371	8001	4545	617	103	4360	5664	1317	28
17617	"	13.42	14.01	5.50	5.41	16.5	902	3102	1751	235	39	1684	2238	506	13
17618	"	14.20	15.06	4.97	4.89	13.5	2460	8002	4331	640	87				
17619	"	15.06	15.55	4.40	4.33	11.6	2808	8002	4076	731	85	5005	4813	1434	31
17620	"	15.55	16.45	3.90	3.83	9.8	2942	8002	3963	766	75	5341	4271	1460	33
17621	"	16.44	17.15	3.46	3.40	9.4	1589	4166	1943	414	39	2914	2172	829	14
17622	"	20.05	20.46	5.95	6.13	16.8	2309	8002	4569	601	101	4369	5874	1337	35
17623	"	20.47	21.21	5.33	5.09	16.7	1994	6357	3483	519	87	3694	4419	1135	31
17624	"	21.22	22.07	4.86	4.62	11.6	2688	8001	4234	700	81	5079	5149	1537	34
17625	"	22.07	12.58	4.32	3.74	9.6	2994	8002	3978	779	75	5415	4652	1584	30
17626	"	23.07	23.52	3.76	3.55	8.6	2635	6556	3082	686	59	4725	3413	1365	18
17627	4/08/84	1.42	1.57	5.45	5.08	11.7	845	T_{rig} 2608	IBM: 1720	220	52	7248	7361	Readings from TV screen	
17628	"	1.59	2.04	5.16	4.78	10.3	276	734	334	64	6	440	404	126	2
17630	"	2.08	2.16	5.05	4.68	10.6	467	1302	683	121	12	787	850	220	6
17631	"	3.23	4.03	5.97	6.06	16.8	2337	8002	4502	608	102	4353	5787	1358	35
17632	"	4.03	4.43	5.40	5.18	16.3	2351	8001	4420	611	99	4272	5516	1368	40
17633	"	4.45	5.26	4.86	4.95	13.3	2492	8001	4257	649	86	4679	5379	1583	30
17634	"	4.39	6.16	4.39	4.47	10.8	2789	8002	4074	725	78	5066	4983	1580	25
17635	"	6.17	7.09	3.93	4.07	9.5	3080	8002	3694	802	76	5369	4577	1558	23
17636	"	7.09	7.13	3.51	3.59	8.5	1250	3075	1387	326	28	2099	1663	632	7
17637	"	8.08	8.20	5.82	5.69										
17638	"	8.24	9.05	5.58	5.48	14.9	2405	8001	4338	626	93	4387	5602	1259	27
17639	"	9.06	9.46	5.01	5.06	13.9	2405	8002	4174	626	86	4635	5231	1417	26
17640	"	9.46	10.31	4.52	4.58	11.6	2636	8002	4135	606	80	4977	4868	1463	26
17641	"	10.31	11.21	4.06	4.12	9.6	2995	8001	3903	779	75	5286	4442	1482	32
17642	"	11.22	11.30	3.63	3.69	9.6	494	1382	673	116	12	943	720	284	7
17643	"	12.13	12.51	5.96	6.05	18.2	2255	8002	4550	587	107	4171	6021	1329	25
17644	"	12.51	12.54	5.36	5.44	23.8	110	414	214	28	8	206	273	80	3
17645	"	16.17	17.04	4.92	4.85	11.5	2614	8001	4289	681	78	4919	4889	1367	34
17646	"	17.05	17.54	4.91	4.84	10.8	2752	8001	4299	717	78	4993	4855	1428	31
17647	"	17.55	18.43	4.33	4.27	9.8	2855	8002	4070	742	73	5356	4392	1444	25

Processors ON/OFF N50	MIP	TOF	FAMP	<L>	$\int L dt$	$\int L dt_{Exp}$	IBM TAPE OUTPUT	AT Run ID (μA)	AT Run Start TOF (V)	ONLINE REJECTION MIPROD (T_2)	ONLINE REJECTION NORD-50 ($T_1 \cdot T_2$)	Σ_{Beam}	MH	E_B	MAGNET FIELD	REMARKS
					nB^{-1}	Exp	TAPE			T_2 Rej Fract.						15
ON	ON	ON		2.77	7.69	284071	IBM	2.1	0.56	40	79	3		22,100		
"	"	"		2.18	6.43	284714	"	2.0	0.50	40	84	3		"		
"	"	"		1.80	1.52	284866	"	2.0	0.42	39	15	0		"		Beams dumped.
"	"	"		4.88	11.58	2860.24	"	2.4	0.85	39	140	4		"		
"	"	"		4.00	3.60	2863.84	"	2.2	0.74	41	49	1		"		Stopped due to IBM link failure.
"	"	"		3.50	8.60	287244	TAPE F225C2	2.1	0.66	41	84	3		"		
"	"	"		2.63	7.37	287981	IBM	1.8	0.56	42	88	1		"		
"	"	"		2.53	7.44	2887.25	"	1.7	0.48	42	93	3		"		
"	"	"		2.09	3.32	2890.57	"	1.6	0.42	47	47	1		"		beam dumped
"	"	"		4.13	9.53	2900.10	"	2.2	0.89	41	95	0		"		
"	"	"		3.26	6.49	2906.59	"	1.6	0.60	43	81	3		"		
"	"	"		3.10	8.34	2914.93	"	1.5	0.60	46	94	2		"		
"	"	"		2.55	7.63	2922.56	"	1.3	0.50	47	77	3		"		
"	"	"		1.79	4.73	2927.29	"	1.1	0.45	50	68	1		"		beam lost
"	and	Scaler	Panel	3.59	2.5	2929.79	"	2.4	0.65					"		Hangup of NORD 10
"	"	"		3.10	0.76	2930.55	"	1.9	0.63	39	6	0		"		After beam Hangup Illegal Monitor call
"	"	"		3.12	1.46	2932.01	"	1.8	0.58	45	14	0		"		beam dumped after partial loss
"	"	"		4.08	9.53	2941.54	"	2.3	0.80	40	107	2		"		17629 = shot run with computer problem
"	"	"		3.20	7.51	2949.05	"	2.1	0.70	40	92	3		"		
"	"	"		2.66	6.63	2955.68	"	1.9	0.64	42	67	6		"		
"	"	"		2.22	6.20	2961.88	"	1.7	0.58	44	77	1		"		
"	"	"		1.90	5.86	2967.74	"	1.4	0.50	47	77	4		"		
"	"	"		1.59	7.94	2969.68	"	1.25	0.4	47	76	1		"		Beams dumped
"	"	"		4.02	2.24	2971.92	"	2.0	0.8	57	—	—		"		NORD crash!
"	"	"		3.56	8.55	2980.47	"	2.0	0.75	39	76	3		"		~1 Beamgas background.
"	"	"		3.06	7.36	2987.83	"	1.8	0.6	40	72	1		"		
"	"	"		2.32	6.12	2993.95	"	1.8	0.6	43	78	4		"		
"	"	"		1.98	5.93	2999.88	"	1.8	0.5	44	67	0		"		
"	"	"		1.88	0.93	3000.81	"	1.5	0.45	45	8	1		"		Beams dumped.
"	"	"		3.68	8.29	3009.10	"	2.0	0.92	40	102	3		"		
"	"	"		2.47	0.27	3009.37	"	2.0	0.80	32	6	1		"		Beams lost
"	"	"		4.36	11.41	3020.78	"	2.0	0.7	50	137	1		"		
"	"	"		3.64	10.02	3030.80	"	1.8	0.6	49	108	3		"		
"	"	"		3.05	8.70	3039.50	"	1.5	0.5	45	94	4		"		

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ. $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT 2 $E_1 > 6$ GeV	T_2 BIT 17 $2T \cdot E_4 \cdot \geq 2$TR

Processors ON/OFF N50	MIP	TOF	FAMP	$\langle L \rangle$	$\int L dt$	$\int L dt$ Exp.	IBM TAPE OUTPUT	AT Run ID (μA)	Start TOF (V)	ONLINE REJECTION MIPROC (T_2)	NORD-50 ($T_1 \cdot T_2$)	$\leq$ Bhabha	MH	E_{BEAM}	MAGNET FIELD	REMARKS

4.8.84

13^{00} Beams lost — energy → 0.0 — PKR say a magnet was running hot — some kind of failure of the water cooling system. They don't know how long it will take to fix.

16^{00} Heinzelmann / Hill on shift.
16^{17} Fill ready.
18^{30} TOF TDC NO HITS 7 12
18^{30} TOF TDC NO HITS 55
18^{45} RESET HV MFR53 CH13
19^{30} TOF TDC no hits 40, 20 Trigger 1 output missing 50
20^{30} NORD HANG UP Level 9
21^{15} TOF TDC NO HITS 60 Histogram o.k.
21^{35} Grill party smell in the counting house. Also outside the Hall.
21^{55} TOF TDC 60 NO HITS. TOF Histogr. o.k.
22^{15} RESET HV MFR 53 CH 13
22^{30} TOF TDC NO HITS 45
22^{55} Trigger 2 output missing 121. TR 2 OUTPUT Histogram o.k.
23^{10} — " — 189 — " —
23^{35} Reset HV MFR 53 CH 13

5/8/84

0:00 Bowdery and Hellenbrand on shift
1:40 $\langle \mathcal{L} \rangle \approx 5.1 \times 10^{30}\ cm^{-2}s^{-1}$ for last run. This is a (local) record, as far as we can see for 1984. (for a run with 8002 events)
4:10 Lumi down to $2.7 * 10^{30}$ (~ 75% of initial value)
PKR has problems with a broken transmitter, so we have to wait for a new fill.
4:15 Standard Histogrammes checked O.K.
4:53 PKR signals to switch off high voltage.
5:34 One LG power supply was showing OVERCURRENT → HT alarm during power-up. (PS#6)
We switched OFF then ON at the supply box and it then worked.
8:00 Ramcke & Takeshita
8:45 TOF-TDC no hits #13
Trigger I Input missing 328
Trigger I Ouput missing 45
9:10 TOF-TDC no hits # 40
10:17 ID-Softtrip
10:19 ID-hardtrip
10:15 — " —
11:36 NO TRIGGER : Level 2 stop the RUN and restart new RUN.
13:23 TOF-TDC no hits #13 ; Trigger I Input missing 37 ; Trigger I Output missing 45 ← 2X (13:29)
13:35 — " —
13:40 YVOHS: TOF-HFR=53 Chan=13 HV reseted via 2DAS
15:03 Trigger box hang up (Level 2) RUN stopped

16^{00} Duit mid & Stephens
18^{45} JDAS Readout Error 33 missing CAM branch 2 crate 6 : Backplane ADCs
20^{45} JDAS Readout Error 33 " " 3 crate 2 : Inner Chamber
20^{49} YVOHS: TOF-HFR=53 Chan=13 HV reset.
21^{10} YMAGNE: Comm.-Error during magnet readout (CHUx - Channel not set)
22^{00} short break

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0^{00} Kuhlen & Warming on shift
0^{20} "Short Break" due to transmitter failures during ramping up the energy at injection we ran down magnet to 500 Amps.
2^{45} new fill ready
3^{12} Nord hang up Level 09 (Lights on: 13.9, interrupt, paging, prot 2, Level +, active Level)
keyboard blocked → restart Nord 10 [event selection for display was active
7^{49} PKR says, that there are problems and that there will be no new fill this morning (probably), so we agreed to keep this fill instead of low current.
7^{58} Nord hang up level 09 as before
8^{00} Yanada / Hill on shift.
8^{02} NORD restricted
8^{05} PETRA has problems with the cooling water and vacuum. ∆ ≥ (2~3) hours break.
8^{30} JADE cooling system has also problems. → The magnet is set to 0 during the repair work. (8:30)
→ There will be no air conditioning for ≈ ½ hour.
All Flash ADC's & DL8's are switched off!
9^{40} DL8's on again

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ. $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT 2 $E_1 > 6$ GeV	T_2 BIT 17 $2T \cdot E_4 \cdot \geq 2TR$	Processors ON/OFF N50	MIP	TOF	FAMP	$\langle L \rangle$	$\int L dt$	$\int L dt_{Exp}$	IBM / TAPE OUTPUT	AT Run ID (μA)	Start TOF (V)	ONLINE REJECTION MIPROD (T_1)	ONLINE REJECTION NORO-SO ($T_1 \cdot T_2$)	Σ Bhabha	MH	E_{BEAM}	MAGNET FIELD	REMARKS
17648	4/8/84	18:43	19:36	3.86	3.79	8.7	3134	8002	3884	815	71	5617	3983	1560	24	On	On	On		2.33	7.31	3046.81	IBM	1.2	0.4	53	90	0	22.100			
17649	"	19:36	19:59	3.44	3.26	8.3	968	2459	1116	252	21	1772	1154	492	6	"	"	"		2.07	2.01	3048.82	"	1.1	0.4	53	17	2	— " —			beams dumped.
17650	"	20:30	20:32						~99															1.8	0.8							Nord hang up
17651	"	20:35	21:26	5.56	5.39	12.7	2479	8001	5371	645	78	4972	4957	1775	26	"	"	"		4.17	10.33	3059.15	"	1.8	0.8 0.56	44	129	2	"			
17652	"	21:26	22:11	4.83	4.69	11.2	2653	8002	4288	690	78	5200	4673	1525	30	"	"	"		3.27	8.69	3067.84	"	1.5	0.56	47	75	4	"			
17653	"	22:11	23:00	4.31	4.18	9.6	2918	8002	4179	759	73	5603	4239	1606	19	"	"	"		2.60	7.59	3075,43	"	1.3	0.5	40	74	1	"			
17654	"	23:00	23:32	3.84	3.72	8.7	3122	8007	3807	812	70 0.9	5777	3905	1595	19	"	"	"		2.20	6.88	3082,37	"	1.2	0.4	49	75	1	"			
17655	"	23:34	23:55	3.41	3.31	9.0	43	190	94	11	ED	126	53	32	1	"	"	"		1.44	0.06	3082,37	"			15	3	0	"			
17656	5/8/84	0:55	1:33	6.30	6.31	14.2	2176	8002	6420	566	81	4450	5560	1401	35	On	On	On		5.12	13.62	3095.99	"	1.8	0,75	40	150	5	"			Lumi record!
17657	"	1:33	2:11	5.67	5.70	17.8	2268	8002	4495	590	105	4306	6079	1461	36	"	"	"		3.96	8.99	3104.98	"	1.8	0.70	47	95	3	"			
17658	"	2:12	2:54	5.11	5.13	13.7	2466	8002	4328	641	88	4626	5644	1489	41	"	"	"		3.37	7.54	3112.52	"	1.7	0.58	43	83	4	"			
17659	"	2:54	3:41	4.58	4.60	10.6	2786	8001	4010	724	77	5137	5009	1586	34	"	"	"		2.80	7.79	3120.31	"	1.7	0.54	46	84	2	"			
17660	"	3:41	4:32	4.08	4.00	9.3	3042	8002	3806	791	73	5492	4480	1658	25	"	"	"		2.19	5.90	3126.21	"	1.2	0,45	48	65	5	"			
17661	"	4:33	4:54	3.62	3.65	8.7	1258	3270	1462	327	28	2320	1610	634	7	"	"	"		1.69	2.36	3128.57	"	1.0	0.40	47	26	0	"			Beam dumped
17662	"	5:34	6:13	6.07	6.27	16.0	2176	8002	5101	566	90	4369	5772	1435	35	"	"	"		4.25	8.90	3137.47	"	1.9	0.86	40	98	3	"			
17663	"	6:13	6:50	5.43	5.62	16.3	2194	8001	4524	570	93	4540	5558	1569	25	"	"	"		3.58	7.87	3145.34	"	1.7	0.74	41	79	3	"			
17664	"	6:50	7:30	4.91	5.19 4.82	13.0	2334	8001	4347	607	79	5058	5033	1766	27	"	"	"		3.05	7.12	3152.46	"	1.5	0,65	45	71	2	"			
17665	"	7:30	8:15	4.43	4.61	10.7	2698	8001	4225	702	75	5282	4723	1610	34	"	"	"		2,50	6.74	3159.20	"	1.3	0,58	46	77	1	"			
17666	"	8:16	9:04	3.97	4.14	9.7	2902	8002	3962	756	73	5611	4178	1678	19	"	"	"		2.16	6.27	3165,47	"	1.2	0.50	48	67	2	"			
17667	"	9:05	9:37	3.57	3.73	8.8	1909	4988	2365	497	44	3622	2396	1088	21	"	"	"		1.77	3.37	3168.84	"	1.0	0.44	50	38	2	"			Beam dumped
17668	"	10:09	10:52	6.04	6.09	16.6	2243	8002	4535	584	97	4478	5626	1415	38	"	"	"		3.80	8.53	3177,37	"	2.0	0.88	41	90	1	"			
17669	"	10:53	11:36	5.34	5.33	14.6	2170	7538	4053	565	83	4295	5290	1306	38	"	"	"		3.15	6.84	3184,21	"	1.8	0.75	42	73	0	"			
17670	"	11:36	12:18	4.77	4.77	12.4	2507	8002	4208	652	81	4957	5038	1583	23	"	"	"		2.59	6.49 6.26	3190.70	"	1.6	0.66	44	76	3	"			
17671	"	12:19	13:04	4.30	4.30	10.6	2716	8002	3979	707	75	5318	4532	1681	32	"	"	"		2.08	5.05	3196,96	"	1.4	0.56	46	67	2	"			
17672	"	13:05	13:51	3.87	3.88	9.4	2763	7496	3543	719	68	5326	3778	1616	24	"	"	"		1.80	4.96	3201,92	"	1.3	0.50	48	44	3	"			Beam dumped
17673	"	14:23	14:59	6.04	6.11	16.7	2154	8002	5327	467	93	4462	5670	1383	27	"	"	"		3.71	8.00	3209.92	"	2.0	0.92	41	84	3	"			
17674	"	15:00	15:03	5.45	5.53	14.1	49	213	124	13	2	100	133	26	2	"	"	"		4.28	0,21	3210,13	"	1.8	0.90	31	3	—	"			Trigger box hang up
17675	"	15:03	15:40	5.40	5.48	12.4	2208	8002	4496	574	100	4592	5427	1474	24	"	"	"		3.78	8.35	3218.48	"	1.8	0.88	40	70	2	"			
17676	"	15:41	16:21	4.86	4.94	13.2	2399	8002	4347	624	82	4862	5026	1500	26	"	"	"		3.41	8.18	3226.66	"	1.8	0.64	42	87	3	"			
17677	"	16:21	17:05	4.35	4.42	11.1	2604	8001	4109	677	75	5267	4504	1572	17	"	"	"		2.82	7.34	3234.00	"	1.6	0.57	44	68	2	"			
17678	"	17:05	17:17	3.89	3.96	10.4	675	2057	1018	176	18	1405	1065	426	6	"	"	"		2.63	1.78	3235.78	"	1.4	0.48	44	23	1	"			Beam dumped
17679	"	18:02	18:41	6.10	6.03	16.7	2237	8002	4660	581	97	4488	5481	1382	28	"	"	"		4.68	7.9	3243.68	"	2.2	0.9	39	87	3	"			
17680	"	18:41	19:17	5.47	5.60	16.5	2134	8001	4491	555	92	4779	5089	1655	29	"	"	"		3.92	8.37	3252.05	"	2.0	0.7	40	84	1	"			
17681	"	19:17	19:55	4.96	4.89	14.2	2252	8002	4326	586	83	5141	4668	2018	28	"	"	"		3.19	5.81	3257.86	"	1.8	0.65	42	64	3	"			

RUN	DATE	START	STOP	AT RUN START I+	AT RUN START I−	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL ×10⁶	TØ REJ. ×10⁶	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT 2 $E_1>6$ GeV	T_2 BIT 17 2T·E_4·≥2TR
17682	5.8.84	19:56	20:38	4.47	4.42	11.6	2495	8002	4264	649	75	5520	4632	2036	24
17683	"	20:38	21:21	4.03	3.95	9.8	2575	7256	3657	669	65	5144	3695	1520	20
17684	6.8.84	2:48	~~5:52~~	5:52	4:88	~	~	run summary		lost					
17685	"	3:17	4:10	5:16	4:56	9.6	3109	8002	3971	809	77	5034	5041	1327	27
17686	"	4:10	4:51	4:60	4:04	8.5	2400	5786	2703	625	53	3790	3393	951	20
17687	"	5:23	6:05	6:14	6.15	13.8	2437	8002	4740	634	87	4368	5957	1282	38
17688	"	6:06	6:51	5.23	5.23	11.6	2670	8002	4371	695	80	4811	5440	1351	15
17689	"	6:51	7:42	4.40	4.40	9.3	3109	8002	3965	809	75	5298	4726	1476	20
17690	"	7:43	~~~	3.74	3.75	8.4	–	1418	721	–	–	run summary	lost		–
17691	"	12:55	13:16	COSMIC		(8.2)	1221	2182	1053	318	10	1530	661	258	1
17692	"	13:19	13:28	COSMIC		(3.8)	503	1002	527	131	5	668	282	106	0
17693	"			COSMIC				No RUN SUMMARY — NORD CRASH							
17694	"			JUNK		—	(Z-CH TEST WITH NO Z-CH !)								
17695	"							No RUN SUMMARY — NORD CRASH							
17696	"	23:57	1:02	4:12	4:38	7.7	3691	8002	4946	960	74	5525	4455	1278	22
17697	7.8.84	1:02	1:22	3.54	3.78	7.1	1127	2430	1130	293	21	1688	1251	352	3
17698	"	2:54	3:52	4.83	4.49	8.5	3411	8001	3976	888	75	5260	4766	1109	27
17699	"	3:52		4.22	3.91			No RUN SUMMARY							
17700	"	4:22	5:25	3.95	3.65	7.6	3642	8002	3717	948	72	5697	4240	1336	22
17701	"	5:26	5:35	3.94	3.17	7.0	488	1041	504	127	9	722	554	176	3
17702	"	6:08	7:06	4.69	4.50	8.4	3296	7794	4357	857	72	5190	4511	1246	32
17703	"	7:06	8:05	4.10	3.93	8.1	3476	8002	4226	905	73	5539	4448	1340	22
17704	"	8:05	9:07	3.62	3.47	7.4	3720	8002	3678	968	72	5893	4146	1322	19
17705	"	9:08	9:17	3.20	3.05	7.2	509	1090	503	132	9	763	555	181	5
17706	"	10:07	10:09	4.80	4.79	9.5				NORD CRASH				CR	A 5+1
17707	"	10:13	11:04	4.73	4.63	10.1	3069	8002	3980	799	81	4848	4995	1168	30
17708	"	11:05	11:58	4.20	4.10	9.8	3168	8001	3741	825	81	5049	4794	1248	20
17709	"	11:58	12:50	3.73	3.45	9.0		Nord crash							
17710	"	13:50	14:43	4.40	4.38	10.4	3000	8002	5871	781	82	4707	5266	1145	29
17711	"	14:44	15:35	3.89	3.88	10.0	3079	8002	3665	802	80	4992	4698	1219	22
17712	"	15:38	16:19	3.14	3.14	12.6	2416	5527	2470	629	79	3585	3132	900	24
17713	"	16:22	16:31	3.07	3.07	8.2	503	1230	568	131	11	788	653	200	3
17714	"	17:15	18:12	5.70	5.97	10.9	2998	8002	4115	780	85	4830	5112	1165	28
17715	"	18:12	18:29	3.98	3.93	9.8	798	~~3576~~ 2400	1015	208	20	1305	1240	317	10

Processors ON/OFF N50	MIP	TOF	FAMP	<L>	$\int Ldt$	$\int Ldt$ Exp.	IBM TAPE OUTPUT	At Run Start ID (μA)	At Run Start TOF (V)	Online Rejection MIPROC (T_2)	Online Rejection NORD-50 ($T_1 \cdot T_2$)	Σ Bhabha	MH	E_{beam}	MAGNET FIELD	REMARKS
ON	ON	ON	ON	2.71	7.99	3265.87	IBM	1.6	0.55	45	88	3		22.1		
"	"	"	"	2.41	6.17	3272.04	"	1.3	0.45	47	68	2		"		Beams dumped
"	"	"	"	~	~	~	"	1.6	0.58	~	~	~		"		Nord hangup
"	"	"	"	2.80	8.69	3280.73	"	1.4	0.48	44	84	3		"		
"	"	"	"	2.22	5.33	3286.06	"	1.4	0.40	45	68	1		"		Beams dumped
"	"	"	"	3.73	9.10	3295.16	"	1.7	0.77	42	118	2		"		
"	"	"	"	2.96	7.91	3303.07	"	1.5	0.65	45	87	5		"		
"	"	"	"	2.19	6.82	3309.89	"	1.2	0.50	47	80	2		"		
"	"	"	"	1.88	1.07	3310.96	"	1.0	0.40	—	—	—		"		Beams dumped
"	OFF	"	"	—	—	—	IBM+FILM	—	0.04	12	—	—		0		COSMICS FOR Z-CH TEST
"	OFF	"	"	—	—	—	" "	—	0.03	"	"	—		0		" " " " NO RUN-SUMMARY - NORD CRASHED
"	OFF	"	"	—	—	—	" "	—	"	"	"	—		0		" " " "
"	ON	"												0		
"	ON	"														
"	"	"	"	2.81	10.37	3321.03	IBM	1.4	0.38	48	115	7		22.100		
"	"	"	"	2.61	2.95	3323.98	"	1.1	0.30	46	30	1		22.100		Beams dumped
"	"	"	"	3.46	11.80	3335.78	"	1.4	0.45	46	91	5		22.100		
								1.2	0.35							Nord Hangup.
"	"	"	"	2.12	7.74	3343.52	"	1.2	0.3	49	87	3		22.100		
"	"	"	"	2.08	1.02	3344.54	"	1.0	0.3	48	9	1		22.100		Beams dumped
"	"	"	"	3.09	10.19	3354.73	"	1.4	0.47	46	131	5		22.100		no triggers, run stopped
"	"	"	"	2.44	8.49	3363.22	"	1.2	0.37	48	100	2		"		
"	"	"	"	1.80	6.70	3369.92	"	1.2	0.30	48	69	1		"		
"	"	"	"	1.44	0.73	3370.65	"			49	12	1		"		
"	"	"			0.16	3370.81	"	1.9	0.5					"		NORD CRASH
"	"	"	"	3.09	9.48	3380.29	"	1.8	0.5	40	120	4		"		
"	"	"	"	2.58	8.16	3388.45	"	1.8	0.45	42	71	2		"		
					IL 3.74	3392.19		2.0	0.42					"		Nord crash.
"	"	"	"	2.76	8.28	3400.47	"	2.2	0.6	41	82	3		"		
"	"	"	"	2.68	8.25	3408.72	"	2.2	0.45	40	87	2		"		
"	"	"	"	2.06	4.97	3413.69	"	2.0	0.4	42	63	3		"		
"	"	"	"	2.15	1.08	3414.77	"	2.0	0.37	36	9	1		"		Beams dumped.
"	"	"	"	3.26	9.79	~~3424.56~~ ~~3422.54~~	"	2.6	0.80	41	83	1		"		
"	"	"	"	2.93	2.34	3426.90	"	2.0	0.60	40	19	1		"		no triggers, run stopped

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ. $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT 2 $E_1 > 6$ GeV	T_2 BIT 17 $2T \cdot E_4 \cdot \geq 2$ TR

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10^{45} Concerning YHDISP error on page 12. The implication from the entry in log book is that YHDISP gave errors after DOWN-HV. It would be much more helpful if the report had said they were trying to display the cross-section (where the file was again corrupt). HBO

Cross-section display altered to take account of the 1.54 bhabha luminosity factor.
Z-vertex routine changed to just find "normal" vertex - should be faster.

1^{57} Level 9 Nord Hang-up during z-ch test cosmic run

16^{00} Martin Neschen (Ferienstudent) and H. Rieseberg on shift

Situation at PETRA: One RF window has been exchanged. Further work on the vacuum is in progress in the East. RESTART ca 23^{q}.

Situation on Nord: Howard Mills is checking the Nord

LG-High Voltage: 2 High Voltage Distributor R3 two dc cards were repaired were exchanged by T. Takeshita and T. Meshkins

Nord work. Disc regenerated.
System rebuilt
JDAS rebuilt
Disc copied to backup.

Afterall this at least the Muon-test works (except crates 2 & 4 give trouble).

19:30 Muon crate 2 exchanged. (30A fuse has blown 3 times in a few days) P.H + C.B.

21:00 Start of injection. Magnet → 7500 A
23:55 Filling ready. Start run # 17696
YVOLTS Error Mainframe 53, Channel 13 Reset via ZDAS

7.8.84
0:00 Stephen Klamradt.
0:05 I.D. trip - run paused.
0.35 YMAGNET: Camac error during magnet reading. MUX channel not set.
(This error occured already twice during injection)

Processors ON/OFF N50	M I P	TOF	FAMP	<L>	$\int$Ldt	$\int$Ldt Exp	IBM TAPE OUTPUT	AT Run ID (μA)	Start TOF (V)	ONLINE REJECTION MIPROC (T_2)	NORD-50 ($T_1 \cdot T_2$)	$\lesssim$ Bhabha	MH	E_{BEAM}	MAGNET FIELD	REMARKS

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0:40 YSPY Error: TOF TDC no hits in channel 0
0:45 " " " " " " 1
1:18 " " TOF TDC " " : 39
3:23 " " " " " " : 31, 44
3:38 " " " " " " : 6, 48
3:45 " " " " " " : 41 , 3:49 again
4:00 " " " " " " : 18
4.06 100% Dead Time NORD crash. restart.

4:25 ID SC/H Trip pause run restart OK

4:46 YSPY Error TOF TDC no hits : 11
5:10 " " " " " : 70
6:14 " " " " " : 42
6:29 " " " " " : 2 70, 79

7:06 No triggers, run stopped, new started → OK (#17702)

4:13 YSPY Error TOF TDC no hits : 17, 41 , 7:20 : 59 , 7:35 : 0 , 7:43 : 1
7:50 : 42, 65 , 7:57 : 0 ,
8:00 Nye & Zorn.
9:00 Q. Why have all these TOF TDC errors suddenly appeared?
The prize for answering this question is a Friday evening shift for 2!

10:10 NORD 10 CRASHED - Restarted OK.
" 30 JDAS Redond error 33 - Missing HAM branch 2 crate 7 : TOF 1 counters
12:21 then YSPY error TOF TDC no hits : 28
12:50 Nord 10 crash - Restarted OK (with some delay)
13:50 New full ready.
14:05 Slow ID trip.
16:00 Trigger box stopped triggering - Level 5 error - followed instructions → everything OK.

16^{00} Kreis + Middleton.
16^{20} In order to test hypothesis that new ZREAD (z-chamber readout) is causing the frequent NORD hangups in the last days, the old version is reinstalled (from R.17713) and will run for the next 24 hours. Please note down if a NORD crash (hangup) occurred and when! J.O.
crash (hangup) and when

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ. $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT 2 $E_1 > 6$ GeV	T_2 BIT 17 $2T \cdot E_4 \cdot \geq 2TR$

24 7.8.84

16:30 beams dumped & HV down.

16^{50} SETCL (the RT program that initialises the system after a Nord reload) has been modified to clear the Infoton-4600 terminal (T9) and print a guide to the shift crew. Maybe this helps night-time reloaders!
Also hacking carried out to repair user LH2-TEST 1 K/e SCRATCH05:DATA
HEM

17^{20} ID Trip, because of partial beam loss
18^{20} No triggers, but no reason; run stopped, new run started, trigger continues
19^{10} 1) JDAS READ OUT ERROR 33, missing LAM branch 2 crate 3 : TOF1 counters
19^{25} 2) HV wrong, union crate missing, faulty part 1
19^{45} 4) YSPY error 4
19^{55} HV down & beams dumped.
21^{09} could not raise L6-HV. overcurrent on one of the Lemo supplies (switched off, then on ... O.K.) — all OK now. Ok to start new run.
~22^{00} Nord 50 hang up; Memory out of range at 600370
After EXIT, start according to procedure A3 in JDAS manual
23^{00} We notice, that the JDAS version we got up as described in previous line, was setting MIPROC-16 ~~=TOF~~ and TOF = OFF, (runs 17722, 17723); before starting run 17724 we set it them to ON in dialogue.

23^{30} YSPY error 4 : occurred 2 times at run 17724 (TOF TDC no hits)
23^{45} " " 2 : HV on MFR 53, CH 13 wrong

8-AUG-84

0^{22} Schneekloth & Mashimo
0^{52} Run 17725 YSPY error TOF TDC no hits : 22
2^{05} Run 17727 we had E_b = 22.118 GeV for a few minutes and got the normal value again.
3^{30} During ~~discovered~~ discovered a dip in the jet chamber wire map wires = 1336 – 1375
3^{32} beams ~~lost~~ dumped, checked DL8's no obvious problems
4^{02} new fill, started run 17729
4^{06} beams lost, shift break
4^{54} new fill ready, started run 17730, same problem with wire map, called Rissberg
5^{02} beams lost
5^{22} new fill, started run 17731, Herr Rissberg came and exchanged one DL8 (#167, wires 1336–1343)
5^{59} continue data taking, run 17732 Error occured during Run 17727 at about 2:20.
6^{09} I.D. trip

Processors ON/OFF N50	MIP	TOF	FAMP	$\langle L \rangle$	$\int L dt$	$\int L dt$ Exp	IBM TAPE OUTPUT	AT Run ID (μA)	Start TOF (V)	ONLINE REJECTION MIPROC (T_2)	NORD-50 ($T_1 \cdot T_2$)	$\leq$ Bhabha	MH	E_{BEAM}	MAGNET FIELD	REMARKS

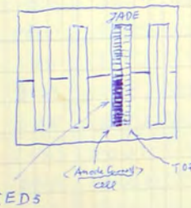
8.8.84 25

6:51 ID trip
8:00 Ball, Mannschaft on shift
8:17 Missing LAM Break 2 Crate 3 TOF1. TASSO. lumi low, everyone else OK. 3:1 vote to keep fill
9:25 Trigger 2 Out Put Missing
9:26 Beam lost – new fill had in any case been agreed for 9:30. I.D. trip.
11^{10} New version of READ (for 2-ch.) installed again as additional evidence for hang-up version. J.O.
NOTE: The persistent and unavoidable "in crate 11 missing" problem, which has plagued us since this run period started at a rate of ~ 1/200 events, suddenly improved dramatically to < 1/1000 events early on 1st August (~09:00). If, as suspected, the cause was external pickup, then the source of this pick-up vanished about then. Any suggestions? Please call in expert if the problem re-appears – maybe we can trace the cause.
13:41 New fill. Immediate I.D. trip after 6 events of run ~~17729~~ 17736.
14:10 I.D. slow trip.

16^{00} Zorne Stephens on Shift.

16^{45} Still no beams.

17^{30} Signal $\frac{\langle \text{ID Anode Current} \rangle}{\text{cell}}$ is now connected to the left JADE meter in the PKR.
The indication there reads the horizontal trace (of the meters) if the over current threshold (soft trip) is reached. Eventually the sensitivity ~~has~~ may have to be increased by increasing the gain of the Inverting DC Amplifier (former BP Amplifier).
The reading of the meter on top of the colour TV is unchanged RBg



In PKR
Background-Meters

Added on 10.8.84 on Mean anode current / cell :
If indication on our colour TV console is 2.2
the indication in PKR is 21 LEDs at gain 1.
The horizontal trace is at 20 LEDs (2 Volts?), total range is 60 LEDs. → Miniaturization of background is possible with the signal.

~1940 VOLTS MFR 53 ch. 13 reset OK.
20:10 Cello check that PKR will be able to fill after dumping beams. PKR is "optimistic". So we agree to a new fill.

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ. $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT2 $E_1 > 6$ GeV	T_2 BIT 17 $2T \cdot E_4 \geq 2TR$	Processors ON/OFF N50	MIP	TOF	FAMP	$\langle L \rangle$	$\int L dt$ Run	$\int L dt$ Exp	IBM TAPE OUTPUT	AT Run ID (μA)	Start TOF (V)	ONLINE REJECTION MIPROC (T_2)	ONLINE REJECTION NORD-50 ($T_1 \cdot T_2$)	Σ Bhabha	MH	E_{beam}	MAGNET FIELD	REMARKS
17716	7-8-84	18:29	19:25	3.82	3.77	8.4	3360	8001	3781	875	73	5332	4403	517	18	ON	ON	ON		2.37	7.98	3434.88	IBM	2.0	0.40	43%	86	1	22.100		
17717	"	19:26	19:53	3.37	3.33	7.9	1618	3794	1695	421	33	2624	2003	670	11	"	"	"		1.94	3.14	3438.02	"	1.5	0.35	46%	39	2	"		beams dumped
17718	"	21:06	21:47	~~4.26~~ 5.75	5.84	15.8	2405	7973	6071	626	99	4284	5765	1167	29	"	"	"		4.84	11.65	3449.67	"	2.3	0.70	39%	107	3	"		Nord-50 crashed
19	"	22:00	22:02	4.94	5.02	16.8	85	294	169	22	4	150	181	38	0	?	"	"		3.14	0.27	3449.94	"	—	—	31	5	1	"		~22^{00} NORD-50 hangup
20	"	22:05	22:06	4.88	4.96	31.4	62	209	121	16	5	98	127	21	0	?	"	"		3.84	0.24	3450.18	"	—	—	27	2	1	"		" " "
17721	"	—	—																					1.9	0.55						
17722	"	22.09	22:51	4.81	4.90	22.8	2483	8002	4459	646	147	3696	4121	495	21	ON	~~OFF~~	~~OFF~~		3.07	7.62	3457.80	"	1.8	0.50	~~48%~~	88	0	"		once TOF MIPROC-16 is OFF
17723	"	22:53	23:12	4.29	4.37	15.8	1155	3701	1870	301	47	1850	1753	209	7	"	OFF	OFF		2.78	3.21	3461.01	"	1.7	0.50	~~48%~~	30	0	"		MIPROC and TOF are ~~OFF~~ ON
17724	"	23:13	0:06	4.07	4.15	9.0	3179	8002	4005	827	75	5279	4605	1318	41	"	ON	ON		2.54	8.09	3469.70	"	1.7	0.45	~~43%~~	82	2	"		" " are ON
17725	8-8-84	0:07	1:07	3.56	3.64	7.9	3582	8002	3621	932	74	5463	4488	1287	27	"	"	"		1.78	6.39	3475.47	"	1.5	0.40	47	70	3	"		
17726	"	1:07	1:27	3.06	3.14	7.2	1133	2458	1101	245	21	1689	1308	402	6	"	"	"		1.75	1.99	3477.48	"	1.3	0.32	46	15	0	"		beams dumped
17727	"	1:57	2:54	5.82	5.75	8.0	3411	8002	4219	887	71	5066	4456	1105	25	"	"	"		2.08	7.08	3484.56	"	2.0	0.70	38	89	0	"		became pretty lost
17728	"	2:54	3:32	3.31	3.27	7.1	2256	5263	2778	586	42	3398	2592	791	18	"	"	"		1.74	3.93	3488.49	"	1.1	0.32	33	43	2	"		beams dumped
17729	"	4:02	4:06	6.07	6.02	15.7	223	774	559	58	9	369	458	101	2	"	"	"		5.28	1.18	3489.67	"	2.0	0.70	19	11	1	"		beams lost
17730	"	4:54	5:02	6.21	6.29	15.5	425	1388	963	110	17	672	819	152	3	"	"	"		3.66	1.55	3491.22	"	1.9	0.~~7~~	18	12	1	"		beams pretty lost
17731	"	5:32	5:38	6.30	6.38	32.3	320	1177	879	83	27	497	770	134	4	"	"	"		5.15	1.65	3492.87	"	2.3	0.71	16	13	0	"		
17732	"	5:59	6:48	5.79	5.88	29.9	2744	8002	4680	713	214	4080	6223	1722	32	"	"	"		3.72	10.22	3503.09	"	2.2	0.68	40	123	5	"		
17733	"	6:48	7:36	5.03	5.06	11.8	2701	8001	6061	703	83	4665	5554	1780	~~3~~ 30	"	"	"		3.84	10.37	3513.46	"	1.8	0.55	43	111	1	"		
17734	"	7:43	8:35	4.34	4.33	9.7	3123	8002	4008	813	787	4983	4948	1185	29	"	"	"		3.16	9.88	3523.34	"	1.6	0.45	42	93	2	"		
17735	"	8:35	9:26	3.79	3.79	10.5	2980	7458	4356	776	81	4325	3821	1012	22	"	"	"		2.07	7.36	3530.70	"	1.6	0.4	42	71	2	"		beams lost
17736	"	No	DATA													"	"	"					"	2.2	0.62				"		No Data
17737	"	13:41	14:32	5.52	5.33	22.9	2470	8002	5703	643	147	3272	4161	797	24	"	"	"		3.12	7.71	3538.41	"	2.2	0.62	40	78	2	"		
17738	"	14:32	15:25	4.75	3.81	10.2	3156	8002	4034	821	84	4798	5141	1139	27	"	"	"		3.04	9.61	3548.02	"	1.8	0.50	41	81	6	"		
17739	"	15:25	15:32	4.23	3.36	10.2	345	843	418	89.6	9.1	534	489	129	3	"	"	"		2.51	0.87	3548.89	"	1.6	0.42	43	9	1	"		
17740	"	17:42	18:41	4.62	4.22	9.6	3496	8001	5567	910	78	5054	4949	1101	37	"	"	"		3.0	10.49	3559.38	"	2.0	0.45	44	113	4	"		
17741	"	18:41	19:42	4.06	3.81	7.9	3653	8001	3745	950	75	5332	4591	1115	19	"	"	"		2.39	8.75	3568.13	"	1.7	0.38	46	90	4	"		
17742		19:42	2.0.22	3.57	3.24	7.5	2314	4962	2229	603	45	3498	2574	782	12	"	"	"		1.97	4.56	3572.69	"	1.4	0.32	48	48	2	"		
17743	"	21.07	21.53	5.83	5.77	14.6	2753	8002	4294	717	104	4556	5409	1072	34	"	"	"		4.53	12.47	3585.16	"	2.1	0.62	40	125	4	"		
17744	"	2153	22.42	5.15	4.91	13.0	2891	8002	4280	752	97	4829	5264	1257	22	"	"	"		3.54	10.23	3595.39	"	1.8	0.53	43	127	5	"		
17745	"	22.42	23.35	4.55	4.32	9.3	3096	8001	4783	805	95	5207	4629	1276	35	"	"	"		2.90	8.99	3604.38	"	1.6	0.46	44	84	2	"		
17746	"	23.36	0:33	4.02	3.81	8.3	~~3407~~ 3607	8001	4538	885	74	5552	4276	1306	21	"	"	"		2.22	7.54 and night 3.5	3611.92	"	1.4	0.38	47	77	2	"		
17747	9.8.84	0:33	0.35	3.54	3.35	7.6	~150	387	158	—	Run	Sum	Lost			"	"	"		—	~0.30	3612.22	"	1.2	0.31	—	—		"		Beams lost and Nord 10 crash
17748	"	1:50	2.36	5.81	5.89	18.3	~~2730~~ 8001	8001	4530	710	130	4386	3421	1150	45	"	"	"		4.10	11.19	3623.41	"	2.1	0,62	40/47	125	5	"		
17749	"	2:37	3:22	5.14	5.21	13.5	2728	8001	4368	709	95	4686	5476	1209	36	"	"	"		3.50	9.54	3632.95	"			43/48	107	0	"		

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ. $\times 10^6$	T_4 ACC SUM	T_2 ACC SUM	T_1 BIT2 $E_1 > 6$ GeV	T_2 BIT 17 $2T \cdot E_4 \cdot \geq 2$TR

9.8.84

0:00 Howard Mills and Hans Rieseberg on shift

Everything is running smoothly $\langle L \rangle = 2.3 \cdot 10^{30}$ at $I^{\pm} = 3.5$ mA
Standard histograms look normal

0:26 YSPY errors reported: TOF TDC no hits : 13, Trigger 1 input missing : 37, Trigger 1 output missing : 45
– error not visible on histograms

0:35 Beam loss and simultaneous crash of Nord-10 on level 14.

1:45 New fill ready. Start Run 17748
After run start YVOLTS error MFR53, CHAN 13. Reset via ZDAS → ok
PATRCH ID 21482 cut raise from 350 to 400 hits for this run → (17748)

3.50 Two REFORM jobs submitted. Eversince I started selecting events on the Online event display I havn't had a SINGLE Mhadron event – but any number of barrel bhabhas!

4.05 MHs are coming
The known "pick-up" in Ring 3 of the ID is rather strong. Especially the segments 9, 12 and 17 are affected

5.48 Stops run 17752 for refilling

6.14 Just when two beams of 6.15 and 6.05 mA where accelerated to 22.000 GeV they got lost, and PETRA Energy → 0 !

6.40 PETRA magnet current was switched off by a loss of water in the magnet circuit.
PKR hopes that it won't take long to repair. Nevertheless we run our magnet down to 2500A
Magnet gets stuck at 2570

7.33 Injection starts. Magnet → 7500A

7.58 New fill is ready

8.00 Middleton / Kuhlen on shift

8.05 Mainframe 67 (tagging counters) HV = 0.0, reset by hand.

8.20 I.D. trip.

9.45 IDAS REMOUT ERROR 44 → DMA TIMEOUT branch 2 crate 1 : latch.

10.30 beams dumped

11.35 new fill ready

14.30 YVOLTS: TOF – MFR53 CHAN 13 HV error — reset via ZDAS.

15.25 beams dumped.

Processors ON/OFF N50	MIP	TOF	FAMP	$\langle L \rangle$	$\int L dt$	$\int L dt$ Exp	IBM TAPE OUTPUT	AT Run ID (μA)	Start TOF (V)	ONLINE REJECTION MIPROD (T_2)	NORD-50 ($T_1 \cdot T_2$)	$\leq$ Bhabha	MH	E_{BEAM}	MAGNET FIELD	REMARKS

9.8.84

16:00 Felst, Ewen + Hellenbrand on shift
16:40 Forward μ trigger installed during RUN 17761 by H. Krebiel
if any problems, phone Krebiel
22:35 NORD hangup level 3, reloaded
23:15 NORD hangup level 9

10.8.84

0:00 Unies & Takeshita: a very smooth shift, without any perturbation

8:00 Howard Mills & Gus Zorn as shift Kedder

8:00 Trigger box "Level 6" hang up.
10:55 Nord hangup – reloaded

15:55 New Fill – YPARA claims Crate 13 was missing permanently. Herr Krebiel clambers over experiment.

16:00 Bowdery & Nye.

17:26 MFR 53 CHAN 13 needed resetting. (TOF HV)
18:00 YVOLTS LG DISTR. # 1, 4, 6, 7, 8, 9, 12, 14 – wrong voltages. Takeshita says it was caused by his HV monitoring program interfering with SDAS readout. Voltages really ok.
18:04 Nord Crash level 9 – restarted ok.
19:28 Nord crash " " " "
Would it be possible to have an alarm to warn the shift crew? (no signal sent to a CAMAC unit → generate alarm)
As it happened we spotted these crashes within seconds as the deadtime meter showed 100%.
20:36 ID trip

Z vertex program still apparently causes large, transient variations of the dead time for large e^+e^- currents.

11.8.84

0:00 FELST & MIDDLETON.
0:05 soft ID trip.
1:52 reset TOT HV mainframe 53 chnl. 13

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ. $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT2 $E_1 > 6$ GeV	T_2 BIT 17 $2T \cdot E_4 \cdot \geq 2TR$
30															
17750	9/8/84	3.22	4.12	4.57	4.64	10.5	2956	8001	4166	769	81	4914	5091	1256	30
17751	"	4.12	5.07	4.06	4.13	9.1	3217	8001	3880	837	76	5249	4720	1299	24
17752	"	5.07	5.48	3.61	3.67	8.7	2455	6086	2737	639	55	4315	3121	1409	24
17753	"	8.02	9.01	5.18	5.30	9.7	3409	8002	4104	887	86	4932	5343	1130	30
17754	"	9.02	10.00	4.09	4.05	8.6	3457	8002	3845	900	77	5421	4467	1304	36
17755	"	10.01	10.31	3.60	3.57	8.1	1787	4073	1881	465	38	2782	2141	626	10
17756	"	11.37	12.23	5.94	6.07	24.2	2719	8002	4442	708	171	4249	5787	1198	37
17757	"	12.24	13.03	5.29	5.40	23.9	2683	8001	4506	688	166	4322	5642	1205	32
17758	"	13.20	13.56	4.67	4.78	14.3	2739	8002	3927	712	101	4706	5216	1189	21
17759	"	13.56	14.46	4.15	4.25	10.6	2881	8002	3914	775	81	4994	4798	1259	27
17760	"	14.47	15.25	3.67	3.77	9.3	2284	5937	2809	594	55	3932	3219	971	17
17761	9/8/84	16.52	17.36	5.62	5.77	22.6	2495	8002	5323	649	146	4159	5905	1704	32
17762	"	17.37	18.20	4.93	5.08	17.1	2601	8002	4344	677	115	4370	5151	1152	25
17763	"	18.21	19.08	4.36	4.50	11.7	2772	8001	4256	721	84	4906	4502	1217	22
17764	"	19.09	19.59	3.96	4.00	9.4	3047	8001	4030	793	75	5192	4236	1264	25
17765	"	20.00	20.52	3.41	3.54	8.3	3068	7340	3555	799	66	5084	3776	1215	20
17766	"	21.41	22.23	5.73	6.01	17.0	2536	8002	4761	660	112	4451	3367	1174	26
17767	"							2800			RUN	SUMMARY	LOST		
17768	"	22.37									RUN	SUMMARY	LOST		
17769	"	23.21	0.11	4.32	4.56	10.0	2994	8008	4192	779	77	5122	4658	1267	21
17770	10/8/84	0.11	1.06	3.79	4.02	8.5	3286	8002	3933	855	73	5486	4276	1361	25
17771	"	1.07	1.32	3.32	3.53	28	1495	3497	1620	389	30	2485	1751	626	5
17772	"	2.08	2.50	6.05	6.08	18.9	2500	8002	4778	650	123	4369	5247	1204	21
17773	"	2.50	3.34	5.33	5.36	15.0	2598	8002	4620	675	101	4660	5298	1312	25
17774	"	3.34	4.21	4.69	4.72	10.8	2818	8002	4350	733	79	5024	4836	1283	22
17775	"	4.22	5.17	4.12	4.15	8.6	3302	8002	3980	859	74	5426	4525	1387	24
17776	"	5.17	5.58	3.57	3.60	8.1	2408	5814	2725	627	50	4066	2989	1038	18
17777	"	6.32	7.14	5.91	6.05	16	2493	8002	5534	647	104	4367	5401	1241	38
17778	"	7.15	8.04	4.76	4.89	13.5	2921	8002	4365	760	102	4896	5042	1292	26
17779	"	8.04	8.37	3.64	3.75	8.3	1952	4625	2231	507	41	3183	2588	796	13
17780	"	10.09	10.55			11.5									
17781	"	11.09	11.55	4.73	4.65	12.0	2785	8002	4405	725	87	4771	4686	1261	33
17782	"	11.55	12.49	3.91	3.92	10.7	2917	8002	4144	678	81	4899	4392	1298	25
17783	"	12.50	12.57	3.15	3.07	9.0	400	1062	537	103	9	637	545	162	6
17784	– lost entirely														

Processors ON/OFF N50	MIP	TOF	FANP	<L>	$\int$Ldt RUN	$\int$Ldt EXP.	IBM/TAPE OUTPUT	AT RUN START ID [μA]	AT RUN START TOF [V]	ONLINE REJECTION MIPROD (T_1)	ONLINE REJECTION NORO-SO ($T_1 T_2$)	Σ BHABHA	MH	E_{BEAM}	MAGNET FIELD	REMARKS
ON/OFF N50	MIP	TOF								T_2 REJ. FRACT.						31
ON	ON	ON		2.92	8.64	3641.59	IBM	1.7	0.5	43	111	4		22.100		
"	"	"		2.27	7.30	3648.89	"	1.5	0.42	45	81	2		"		
"	"	"		2.01	4.94	3653.83	"	1.4	0.37	47	62	3		"		Beams dumped
"	"	"		2.70	9.19	3663.02	"	1.8	0.6	46	95	2		"		
"	"	"		2.47	8.54	3671.56	"	1.5	0.38	46	97	0		"		
"	"	"		2.10	3.76	3675.32	"	1.3	0.34	45	38	4		"		beams dumped
"	"	"		3.19	8.68	3684.00	"	2.4	0.72	40	82	4		"		
"	"	"		3.89	9.36	3693.36	"	2.2	0.6	38	95	1		4		
"	"	"		3.11	8.52	3701.88	"	2,2	0.55	40	89	42		4		
"	"	"		2.77	8.27	3710.15	"	2.0	0.49	41	89	0		4		
"	"	"		2.77	6.32	3710.47	"	1.8	0.42	42	66	2		"		beams dumped
on	on	on		4.54	11.34	3727.81	IBM	2.3	0.6	47	118	0		22.100		
"	"	"		4.01	10.44	3732.25	"	1.9	0.5	40	112	3		"		FWMV-trigger in
"	"	"		3.32	9.20	3741.45	"	1.6	0.45	42	114	5		"		
"	"	"		2.56	7.41	3749.26	"	1.3	0,40	44	93	0		"		
"	"	"		2.17	6.67	3755.93	"	1.2	0.35	49	78	1		"		beams dumped
"	"	"		5.03	12.77	3768.70	"	1.7	0.60	41	139	7		"		
					~0											NORD hang up
"	"	"				3778.70	"	1.6	0.55							"
"	"	"		2.90	8.69	3787.39	"	1.6	0.50	46	74	2		"		
"	"	"		2.29	7.54	3794.93	"	1.6	0.45	49	83	3		"		
"	"	"		1.77	2.09	3797.02	"	1.1	0.36	51	23	0		"		Beams dumped
"	"	"		4.65	12.17	3809.19	"	1.9	0.75	40	134	2		"		
"	"	"		3.90	9.81	3819.00	"	1.6	0.65	44	108	2		"		
"	"	"		3.16	7.35	3826.35	"	1.4	0.55	45	81	0		"		
"	"	"		2.38	7.17	3833.52	"	1.3	0.45	50	77	/		"		
"	"	"		1.90	4.99	3838.51	"	1.1	0.40	48	55	2		"		Beams dumped
"	"	"		4.18	10.42	3848.93	"	1.9	0.75	42	120	2		"		
"	"	"		2.48	7.25	3856.18	"	1.6	0.75	45	83	1		"		
"	"	"		1.61	3.14	3839.32	"	1.1	0.48	51	35	1		"		Beams dumped
				3.56	9.27	3848.69	"	1.6	0.63							N+1-10 restart – Summary lost
"	"	"		3.27	9.10	3857.79	"	1.8	0.51	43/49	85	3		"		
"	"	"		2.09	6.17	3863.96	"	1.6	0.55	44/49	69	1		"		
"	"	"		1.47	0.59	3864.55		1.6	0.55	42/44	3	0		"		Beams dumped

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ. $\times 10^6$	T_1 Acc SUM	T_2 Acc SUM	T_1 BIT2 $E_1 > 6$ GeV	T_2 BIT 17 $2T \cdot E_4 \cdot \geq 2TR$
32															
17795	10/9/84	15:58	16:52	3.93	4.63	8.6	3281	8002	4889	853	74	5055	4341	1181	23
17796	"	16:53	17:49	3.42	4.06	8.5	3340	8002	3880	869	74	5321	4255	1295	26
17787	"	17:49	18:09	2.84	2.69	8.2		2246	1022		NO RUN			SUMMARY	
17788	"	18:09	18:18	2.65	3.19	7.8	502	1167	547	131	10	840	529	224	3
17789	"	18:51	19:28	5.71	5.71	21.1		6720	3939			NO	RUN	SUMMARY	
17790	"	19:33	20:17	4.78	4.78	14.3	2609	8002	4410	679	97	4476	4769	1228	34
17791	"	20:17	21:11	3.95	3.96	9.7	3051	8002	4069	794	77	5133	4433	1344	26
17792	"	21:11	21:23	3.20	3.22	8.5	686	1744	812	179	15	~~284~~ 1146	873	284	6
17793	"	22:01	22:42	5.54	5.98	16.1	2459	8002	4885	640	103	4314	4790	1144	32
17794	"	22:42	22:55	4.72	5.14	15.4	731	2587	1370	190	29	1368	1342	380	6
17795	"	23:36	0:18	6.08	6.32	19.6	2297	8002	5732	598	117	4012	5493	1056	30
17796	11/8/84	0^{19}	1^{01}	5.27	5.42	18.0	2537	8002	4543	660	115	4400	5328	1194	30
17797	"	1^{02}	1^{48}	4.44	4.62	11.3	2771	8007	4319	727	87	4878	4624	1379	27
17798	"	1^{49}	2^{41}	3.79	3.85	9.1	3136	8002	4176	815	74	5422	4205	1367	20
17799	"	2^{42}	3^{11}	3.25	3.40	8.0	1730	4068	1850	450	36	2841	2074	643	16
17800	"	4:04	4:46	5.76	5.89	21.2	2516	8002	4787	655	139	4338	5449	1154	41
17801	"	4:47	5:31	4.99	5.11	14.3	2610	8002	4444	679	97	4718	5023	1230	40
17802	"	5:32	6:26	4.37	4.48	10.4	2920	8002	4154	760	79	5184	4518	1387	23
17803	"	6:27	7:22	3.75	3.85	8.4	3288	8002	3823	856	72	5417	4303	1434	26
17804	"	7:23	7:29	3.27	3.36	7.7	301	748	350	78	6	500	352	128	0
17805	"	8:52	9:37	5.91	5.83	14.8	2575	8001	4730	670	99	4648	4905	1202	25
17806	"	9:37	10:22	4.99	4.93	12.6	2666	8002	4461	694	87	4787	4802	1280	20
17807	"	10:23	11:11	4.29	4.23	10.3	2874	8002	4291	748	77	5038	4342	1305	31
17808	"	11:11	11:21	3.53	3.48	9.3	558	1661	981	145	14	977	781	247	2
17809	"	11:27	11:28	3.31	3.26	9.4	18	78	41	5	0.4	42	25	10	0
17810	"	12:25	13:13	4.84	4.92	11.1	2865	8002	4409	745	82	4861	4700	1170	24
17811	"	1314	14:07	3.98	4.06	9.7	3046	8002	4088	792	76	5165	4325	1333	30
17812	"	14:07	14:48	3.25	3.31	8.5	2230	5566	2622	580	49	3838	2658	963	15
17813	"	19:51	20:55	2.83	2.95	7.5	3818	8002	4681	994	74	4711(!)	4382	1019	28
17814	"	20:55	21:43	2.15	2.50	9.3	3232	8002	4388	841	78	4256	3277	994	16
17815	"	21:50	22:18	2.04	2.23	13.6	1614	7721	5476	420	57	2126	1581	485	5
17817	"	23:36	23:44	3.57	3.28	69.7	433	3038	2898	112	78	216	231	55	1
17818	"	23:51	00:16	3.42	3.20	26.6	1470	8002	6470	383	102	1542	1940	364	9
17819	12/8/84	00:16	00:38	3.21	3.01	35.4	1306	8002	6765	340	120	1306	1399	364	8
17820	"	0:39	1:40	2.99	2.84	8.2	3631	8002	3153	844	77	5102	4810	1312	19

Processors ON/OFF N50	MIP	TOF	FANP	<L>	$\int Ldt$	$\int Ldt_{Exp}$	IBM TAPE OUTPUT	AT Run ID (μA)	Start TOF (V)	ONLINE REJECTION MIPROC (T_2)	NORD-50 ($T_1 T_2$)	Σ Bhabha	MH	E_{BEAM}	MAGNET FIELD	REMARKS
ON/OFF																33
N50	MIP	TOF		<L>	$\int Ldt_{TAGGL}$	$\int Ldt_{Exp}$	IBM TAPE	AT RUN ID	AT RUN TOF	T_2 Rej FRACT	Σ Bhabha	MH	E_{BEAM}	REMARKS		
ON	ON	ON		2.35	7.70	3942.25	IBM	1.6	0.45	43	75	1	22.100			
"	"	"		~~1.75~~	5.84	3948.09	"	1.5	0.42	48	54	4	"			
"	"	"			1.23	3949.32	"	1.4	0.40	—	—	—	"	NORD CRASH		
"	"	"		1.17	0.59	3949.91	"	1.2	0.36	51	11	1	"	beams dumped		
"	"	"			?		"	2.3	0.80				"	NORD CRASH		
"	"	"		2.91	7.59	3947.50	"	?	?	41	60	3	"			
"	"	"		2.09	6.37	3953.87	"	1.8	0.54	46	69	4	"			
"	"	"		1.67	1.14	3955.01	"	1.3	0.44	44	10	0	"	Beams dumped		
"	"	"		4.17	10.24	3965.25	"	2.0	0.8	38	107	2	"			
"	"	"		3.46	2.53	3967.78	"	1.8	0.64	37	32	2	"	beams lost		
"	"	"		4.62	10.62	3978.40	"	2.2	0.77	39	123	3	"			
"	"	"		3.52	8.34	3987.34	"	1.9	0.68	42	98	4	"			
"	"	"		3.05	8.45	3995.79	"	1.7	0.55	43	89	7	"			
"	"	"		2.46	7.71	4003.50	"	1.4	0.45	46	83	3	"			
"	"	"		2.07	3.58	4007.08	"	1.2	0.41	49	34	0	"			
"	"	"		4.44	11.17	4018.25	"	2.0	0.7	42	137	2	"			
"	"	"		3.72	9.71	4027.96	"	1.8	0.6	43	92	3	"			
"	"	"		3.19	9.30	4037.26	"	1.6	0.52	45	98	4	"			
"	"	"		2.39	7.87	4045.13	"	1.4	0.42	48	88	3	"			
"	"	"		2.09	0.63	4045.76	"	1.2	0.35	44	7	0	"	Beams dumped.		
"	"	"		4.99	12.86	4058.62	"	1.9	0.67	41	157	1	"			
"	"	"		3.89	10.36	4068.98	"	1.8	0.57	43	106	4	"			
"	"	"		2.99	8.59	4077.57	"	1.7	0.52	42	90	2	"			
"	"	"		2.30	1.28	4078.85	"	1.4	0.48	24	21	0	"			
"	"	"		1.59	0.03	4078.88	"			16	2	0	"	Beams dumped		
"	"	"		3.77	10.80	4089.68	"	1.9	0.68	43	99	3	"			
"	"	"		2.56	7.81	4097.49	"	1.8	0.50	46	90	1	"			
"	"	"		1.69	3.78	4101.27	"	1.7	0.42	46	41	4	"	Beams dumped		
"	"	"		0.55	2.11	2.11	"	1.8	0.55	45	30	0	23.285			
"	"	"		0.46	1.47	3.58	"	1.5	0.3	48	16	0	"			
"	"	"		0.43	0.69	4.27	"	1.5	0.3	48	4	0	"	Beams dumped		
"	"	"		0.32	0.14	4.41	"	2.7	0.7	0	0	0	"			
"	"	"		0.62	0.91	5.32	"	?	?	44	6	0	"			
"	"	"		0.46	0.60	5.92	"	~1.8	~0.6	44	3	0	"			
"	"	"		0.52	1.88	7.80	"	1.8	0.55	44	21	0	"			

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ. $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT 2 $E_1 > 6$ GeV	T_2 BIT 17 $2T \cdot E_4 \cdot \geq 2TR$

34 11.8.84

11.8. 2^{50} TOT - TDC - 70 no hits

4^{00} Crate 3 in rack 1 (filled with quad-discriminators from Epsi) had a noisy fan, after switching off and on the crate showed overload and wrong voltages. Exchanged both the fan unit and the power supply - seems to be O.K. now

6^{00} slow ID trip.

7^{28} beam dumped.

8^{00} short trip, magnet @ 3000 Amps

G. Zorn and H. Rieseberg on shift

8^{13} Injection starts. Magnet to 7500 A

8^{48} New fill ready, start of Run 17805

This is a run with good luminosity $\langle L \rangle_{\text{Run, 8000 records}} = 4.99 \times 10^{30}$ (nearly record), and rather low background.

Pile driver that started at 8:00 (saturday) shakes strongly (±5%) the ANODE CURRENT/CELL

11^{45} During Run # 17808 YSPY reports missing DL8 # 167 (wires 1336 - 1343). Illegal bits

Cleaning of contacts helps. The last 5 to 10 min of run 17807 were also corrupted.

11^{28} Stop Run 17809 for beam dump.

12^{17} New fill ready

14^{21} During Run 17812 YSPY detects error TOF TDC no hits 13

TRIGGER 1. Input 37

" 1 Output 45

As we have a hang-up of the display, we cannot look at histograms. End of this fill is near.

14^{28} and 14^{34} same errors.

14^{40} HV MFR 53, Ch 13 needs reset

14^{48} Stop R 17812 and Run down HV for change of energy. ~~PKR expects Hints that beam life time may be longer at a slightly different energy~~ They stay for some time at $E_b = 23.185$ GeV

EXIT and RELOAD to get Display back into operation: TOF Hitmap ch 13 is low. Trigger 1 input 37 and trigger 1 output 45 low as found by YSPY.

My Explanation: HV of TOF channel 13 was down. YSPY reported the error earlier than the VOLTS, as the switch-off occured probably during the run

15^{32} Test at Mark-J Energy 23.285 GeV $I^+ = 3.12$, $I^- = 3.18$ mA

TOF rate is over 10 Volts! I switch off. Orbit is not yet adjusted

I call PKR: The intention is to stay at this energy.

15^{50} Herbert Drumm here, on holidays!

Processors ON/OFF N50	MIP	TOF	FAMP	$\langle L \rangle$	$\int Ldt$	$\int Ldt_{Exp}$	IBM TAPE OUTPUT	AT Run ID (μA)	Start TOF (V)	ONLINE REJECTION MIPROC (T_2)	ONLINE REJECTION NORD-50 ($T_1 \cdot T_2$)	$\leq$ Bhabha	MH	F BEAM	MAGNET FIELD	REMARKS

11.8.84 35

16.00 Yamada & Hardt on shift

17.20 New filling - conditions in last run were unacceptable (CELLO obtained $< 1\ nb^{-1}$)

19^{48} Good filling. TOF rate reduced to the normal level.

23:44 Run 17817 stopped to exchange DL8 #113 (wire 904-911): No Amplitude, timing was o.k. RBg

23^{25} Shortly after run start have to reload Nord

T3 dominates trigger rate (see "TRIGGER BITS")

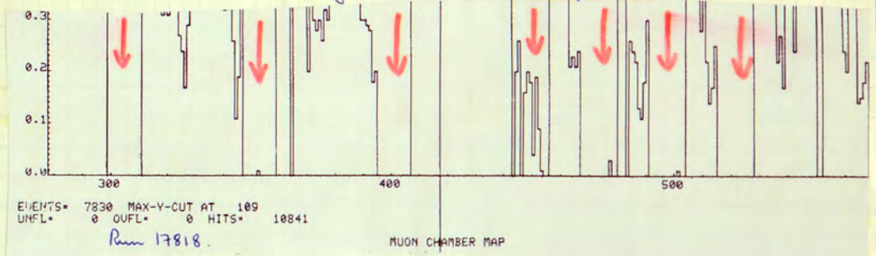
T3 must be taken out for the time being. Since we know B.N. is coming in 8 hours, the job of removing T3 is left for her.

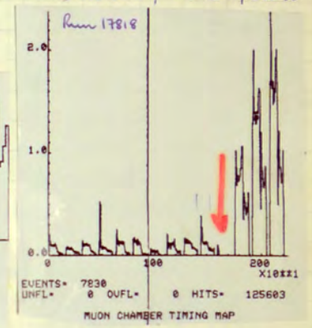
0^{00} 12.8.84 Ball + Becker

0^{05} YSPY error: Tr. 3 I/P μ digitiser missing

μ crates 7 & 11 H.T. overload occurred during attempts to fill between 15:00 & 19:45

As is obvious from the muon timing map, there was no useful data from crate 11 for runs 17813 → 17818. YSPY didn't spot the problem because, even at standby voltages, the endwall chambers next to the beam-line still register a few hits (at v low drift times). It must, however, have spotted the gaps in the hitmap, as is clear from the outbreak of "problems detected by YSPY" in the run summary. Please watch out for this fault





Root cause of this + high T3 rate is the increase in energy & consequent higher rate of background hits in μ chambers + forward counters. Despite action described on next page, these symptoms may recur. If so: CALL in EXPERT

1^{07} YSPY error: TOF TDC no hits: 60

gaps in TOF mean TDC II histograms in channels 1→21 and 43-63. Traced to upper ~~NIM~~ NIM crate in rack 1 (discriminators) which had PSU overload. Reset OK after off/on.

1^{20} μ crate 2 permanently missing. - fuse holder disintegrated after overheating due to fan failure. Temporary external fan fitted, since it is a long 2-man job to replace the damaged one.

1^{59} Trigger box hang-up:- LEVEL 5!

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $*10^6$	T∅ REJ. $*10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT 2 $E_1>6$ GeV	T_2 BIT 17 $2T\cdot E_4 \geq 2TR$
36															
17821	12.8.84	1:41	2:42	2.53	2.48	11.3	3654	7591	3964	951	108	5064	4356	1274	36
17822	"	3:17	3:35	4.11	4.20	48.7	621	1218	659	162	79	586	2290	157	2
17823	"	4:27	4:31	4.09	3.99	45.1	235	474	258	61	28	225	667	51	0
17824		— all junks —					no luminosity								
17825	"	8:27	9:26	3.70	3.76	21.8	3244	7143	3532	844	184	3579	7363	896	34
17826	Acctable: no high voltage; stopped immediately														
17827	"	9:32	10:32	2.87	2.98	8.9	3619	8002	3398	942	84	4761	5448	1199	28
17828	"	10:33	11:40	2.20	2.61	8.6	4014	8001	3183	1045	89	5299	4575	1192	20
17829	"	11:51	12:12	1.30	2.25	9.3	1847	3847	1523	480	47	2592	2016	582	8
17830	"	13:54	14:20	4.04	4.05	23.4	1562	4769	2277	406	95	2237	4636	519	17
17831	"	15:08	16:07	4.09	3.52	10.4%	3354	8001	3964	873	90	4527	5891	1150	33
17832	"	16:08	16:34	3.25	2.76	8.3%	1546	3480	1464	402	33	2199	2089	522	11
17833	"	17:15	18:13	4.02	3.67	9.3%	3425	8002	3498	892	83	4650	5427	1114	35
17834	"	18:13	18:22	3.00	2.73	8.6	511	1219	529	133	11	803	680	201	3
17836	"	19:04	20.00	4.02	4.00	9.5	3317	8002	3654	863	82	4810	5048	1079	24
17837	"	20.00	20.25	3.13	2.84	8.0	1438	3171	1260	374	29	2088	1747	463	7
17838	"	21:06	22:07	4.13	3.55	8.6	3575	8002	3565	931	80	4832	5047	1135	29
17839	"	22:08	23:07	3.20	2.57	7.5	3551	7443	2978	924	69	5054	4087	1224	18
17840	13.8.84	00:28	01:28	4.26	4.11	10.0	3427	8002	3466	891	89	4551	5609	1120	29
17841	"	01:28	2:20	3.26	3.09	7.5	3088	6553	2707	804	61	4216	3766	1013	14
17842	"	2:46	3:44	4.11	4.02	9.5	3424	8001	3587	890	85	4615	5442	1150	28
17843	"	03:44	04:30	3.07	2.95	7.8	2719	5831	2398	708	55	3764	3436	945	18
17844	"	4:57	5:57	4.16	4.26	10.9	3473	8002	4008	904	98	4659	5446	1165	23
17845	"	05:58	07:01	3.05	2.99	7.7	3754	8002	3254	978	75	5207	4529	1244	27
17846	"	07:01	07:02	2.48	2.41	8.2	23	118	55	6	05	79	25	6	0
17847	"	15.06	16.05	3,84	3,75	9.6	3379	8002	4619	879	84	4575	5534	1322	24
848	"	} only pedestal events,													
849	"														
850	"	16.07	16"	3.27	2.86	8.1	207	467	201	54	4	294	280	69	1
851		no summary sheet													
852		16:41	17:46	3.94	4.08	10.4	3555	8002	3633	925	96	4851	5065	1153	21
853		17:46	17:49	3.07	2.11		23	105	49	6	1				
854	"	18 33	19.20	3.68	3.74	8.8	3913	8002	4888	888	78	5003	4857	1319	25
17855	"	19.31	19.44	2,84	2.68	7,7	759	1686	755	197	15	1128	869	313	4
1785															

Processors ON/OFF N50	MIP	TOF	FAMP	<L>	$\int Ldt$	$\int Ldt$ Exp.	IBM/TAPE OUTPUT	AT Run ID (μA)	Start TOF (V)	ONLINE REJECTION MIPROC (T_2)	ONLINE REJECTION NORD-50 ($T_1 T_2$)	Σ' Bubble	MH	E_{BEAM}	MAGNET FIELD	REMARKS
37																
"	"	"		0.40	1.44	9.24	IBM	1.6	0.4	46%	11	0		23.285		beams dumped
"	"	"		0.63	0.39	9.63	"	2.7	0.9	74	1	0		"		
"	"	"		0.72	0.17	9.80	"	2.5	1.0	66	1	0		"		beams lost
"	"	"		0.70	2.28	12.08	"	2.5	1.2 / 0.7	54	8	0		"		stopped because of message "short track"
"	"	"		0.46	1.68	13.76	"	2.2	0.7	43	20	1		"		
"	"	"		0.36	1.43	15.19	"	1.9	0.85	44	11	0		"		
"	"	"		0.28	0.52	15.71	"	1.8	0.40	42	5	0		"		beams dumped
"	"	"		0.88	1.37	17.08	"	3.0	0.9	61	14	0		"		Beams lost
"	"	"		0.81	2.71	19.79	"	2.8	0.8	44	25	1		"		
"	"	"		0.61	0.94	20.73	"	2.0	0.48	42	9	0		"		Beams lost
"	"	"		0.92	3.14	23.87	"	2.5	0.75	42	36	1		"		
"	"	"		0.88	0.45	24.32	"	2.0	0.42	44	5	0		"		Beams lost
"	"	"		1.03	3.43	27.75	"	2.4	0.65	40	28	1		"		No run # 17835
"	"	"		0.66	0.95	28.70	"	1.9	0.40	42	6	2		"		beams lost
"	"	"		1.01	3.62	32.32	"	2.2	0.60	41	26	1		"		
"	"	"		0.63	2.23	34.55	"	1.7	0.40	45	23	2		"		beams lost
"	"	"		1.03	3.53	38.08	"	2.6	0.7	42	23	0		"		
"	"	"		0.59	1.82	39.90	"	1.8	0.43	42	17	0		"		beams dumped
"	"	"		0.82	2.82	42.72	"	2.4	0.7	42	43	1		"		
"	"	"		0.53	1.43	44.15	"	1.8	0.45	43	15	1		"		beams dumped
"	"	"		1.02	3.53	47.68	"	2.6	0.7	42	30	0		"		
"	"	"		0.61	2.37	49.99	"	1.9	0.45	42	9	1		"		
"	"	"		0.92	0.02	50.01	"	1.8	0.40	0	0	0		"		beams lost
"	"	"		0,96	3,23	53,24	"		0,60	41/30	32	1		"		
							"							"		} Famp-test
							"							"		
"	"	"		0.95	0.20	53.44	"		0,40	45/55	0	0		"		beams lost.
								2.9	0.5					"		NORD crash
"	"	"		1.27	4.50	57.94	"	2.2	0.5	41/53	42	1		(17"/32")		new beam temporarily kicked?
"	"	"		1.15	0.03	57.97	"	2.3	0.5		0	0		"		beams lost
"	"	"		1,23	4,19	62,16	"	2.0	0,45	41/18	29	1		"		
"	"	"		0,86	0,65	62,81	"			41/57	5	0		"		beams lost

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	T0 REJ. $\times 10^6$	T_4 ACC SUM	T_2 ACC SUM	T_1 BIT 2 $E_1 > 6$ GeV	T_2 BIT 17 $2T_0 E_4 \cdot \geq 2$ TR

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T3 trigger disconnected from run 17820 onwards. Deadtime now < 10%.
High rate caused by 2 factors: 1) FWD μ counters 5 & 27 VERY NOISY – see hit map.
both probably due to synchrotron 2) μ chambers 453,456 477,480 501,504, 525,528 } -z } v. noisy
radiation being much worse than at E_B = 22 GeV. 549,552 573,576 597,600 621,624 } +z }
all these temporarily disconnected from H.T.

2:38 New fill suggested. CELLO has 16 nb^{-1}, we have ~ 8 nb^{-1} at this energy.
3:16 Soft trip preceded by another trigger box hang-up: LEVEL 5.
house for background optimisation.
3:28 trigger hang-up (level 5). Raw trigger rate 9.5 Hz.
μ crate 13 had to be reset at crate.
3:30 trigger hang-up (level 5) – due to v. high trig rate? All expts have background problems.
I.D. trip, beams lost.
4:25 New fill – high beam current again = high background = short beam lifetime.
= high trig rate = trigger box level 5 hang-ups
4:30 Beam lost I.D. trip.
5:07 New fill. I_{beam} < 4mA but background still bad.
~100% dead-time. Triggers dominated by (supposedly now-resistant) bit 15. No luminosity.
No expts see any lumin. Wrong RF bucket filled? Right-hand beam-wors module shows no signal.
PKR claim that collisions are occurring ..... but where?
They have problems with one transmitter – being run at 80% of normal power at this energy,
but will persevere with attempts to run at 23.285 GeV. If that fails, go back to 22 GeV. (22.100)

7:10 Thwge unterbrechung. Rabbit studying JADE poster inside hall! (I failed to recruit it as night-shift fodder)
(You should have said Guten Tag Hare Rabbit)

7:40 Observant readers will note that this has not been the most peaceful of nights! .... those with a superstitious nature and a long memory need look no further than the bottom of P.34 for the source of the trouble ....

Processors ON/OFF N50	MIP	TOF	FAMP	$\langle L \rangle$	$\int L dt$	$\int L dt$ Exp	IBM TAPE OUTPUT	AT Run ID (μA)	Start TOF (V)	ONLINE REJECTION MIPROC (T_2)	ONLINE REJECTION NORD-50 ($T_1 T_2$)	$\leq$ Bhabha	MH	F BEAM	MAGNET FIELD	REMARKS

12.8.84

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8:00 Nadine, Sybiter
8:25 New filling ready. start run 17825.
8:49 ID soft trip.
8:55 trigger hang-up. Level 5. We had the same errors several times.
9:00 — " —
Missing CAM 6r 2 cr 5 3. time
Trigger hang-up
9:15 "Short break". It was really short ~ 30 sec
11:02 trigger hang-up. Level 5.
11:58 YSPY Error Run 17829 : TOF TDC no hits: 24 , check TOF histograms → no problem
12:12 CELLO asked PKR for a new filling.
12:37 "Short Break"
13:53 New filling ready. start run 17830. ID current ≈ 3.0 μA (< max. allowed) deadtime ≥ 35%
13:57 trigger hang-up. level 5. (probably due to high trigger rate)
14:20 ID soft trip due to beam lost.

14:00 Naroska, Riesberg
16:34 Beams lost.
17:12 New filling ready. start run 17833
Rather good fill: $L = 0.95 \times 10^{30}$, Deadtime 10%
18:22 Beams lost. – B_z trip of quadrupole magnet
19:00 New filling ready. Start run 17836
20:24 Beams lost.
21:05 New filling ready. start run 17838
22:00 H. Drumm volunteers to take over (the night) from Beate Naroska
23:07 Beams lost

13/08/84 Nye, Jüngst on shift
00:28 New fill ready; start run 17840
00:50 JDAS READOUT ERROR 33 – Missing CAM branch 6 crate 7
5:00 " " " " " " branch 6 crate 4 – ID ring 3 > pi – 3 times, one after
5:05 " " " " " " " " " " several times the other.
– pause & continue => problem goes away
5:25 Yet more JDAS readout error 33 – as before – pause & continue => OK

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ. $\times 10^6$	T_4 ACC SUM	T_2 ACC SUM	T_1 BIT 2 $E_1 > 6$ GeV	T_2 BIT 17 $2T_0 E_4 \cdot \geq 2TR$

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5:40 VDA) random error 33 : branch 2 crate 3 - TOF1 counters

07:02 beams lost because of faulty power supplys ; short break for ~ ½ - 1 hours.

8:00 H. Mills & J. Olsson on shift

9:00 Beams lost during shut up of High Voltage

9.53 Vacuum leak East

Magnet) lowered to 500A

10:07 Cello say break will be ~ 1 hour

12.00 Ralph Eichler was here! Now Temporary access

13:00 Restart now est @ 14:00 Magnet steerwalks!

15:15 ID soft trip

16:35 beams back, restacted but deactive soon goes to 100%. Nord10 hang up on level 9.

16:00 R. Marshall & P. Laurikainen on shift

16:45 beam energy temporarily up to 23.3 GeV (run 17852) after Klystron breakdown

17:00 PKR told to Cells coordinator that the energy had not changed, only the displayed value was up.

17:20 several DAT readout errors 33 : branch 6 crate 4 missing LAM (Also fatal DL8 interrupt) power & continue

17:45 beams lost ½ h break restart

there was an endcap LG HV trip caused by the beam dump (must have been a big one)

Reset the HV unit → OK now

19:45 ID fast alarm beams lost ½ h

20:40 restart 5min → beams lost again ID anode current & endcap LG trip

21:10 10min break for injection due to broken power supply

22:50 back again

22:20 beam optimisation brings dead time down 12 → 9.0%

23:35 VDAS error 33 : missing LAM b. 3 cr. 2

14-8-84 TAKESHITA # 5 WAGNER ON SHIFT.

1:05 NEW FILL READY : START RUN 17860

1:15 YSPY DETECTED ERROR : JET-CHAMBER DL8s giving no response : 167 (167) 1336 → 1375

THERE WAS A HOLE (WIRE # 1330-1375). I PUSHED DL8 # 167. RESTART RUN 17861

YSPY ERROR └ THIS HELPED

1:37 TOF TDC NO HITS : 60

2:01 " " " : 38

2:10 " " " : 19

3:20 " " " : 5 32 40 82 (HISTS LOOK OK)

Processors ON/OFF N50	MIP	TOF	FAMP	<L>	$\int Ldt$	$\int Ldt_{Exr}$	IBM TAPE OUTPUT	AT Run ID (nA)	Start TOF (V)	ONLINE REJECTION MIPROC (T_2)	NORD-50 ($T_1 \cdot T_2$)	$\leq$ Bhabha	MH	F BEAM	MAGNET FIELD	REMARKS

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6:35 NORD10 HANG UP : LAST RUN SUM 17865 : RESTART NORD

6:41 MISSING LAM branch 6 crat 4 : ID, Ring 3 >Pi several times

7:54 NORD HANG UP. AGAIN AT RUN 17867

7:59 BEAMS DUMPED.

8:00 Davies Fuhr on shift

11:50 Missing lam branch 6 crate 4 : ID. Ring 3 >Pi again (twice)

15:59 beams lost because of magnet fault (pilotherm) ; short break for ½ ~ 1 hours.

16:00 Yamada / Fünfe on shift

18:40 New fill ready

18:45 Test Run (17876) for FAMP.

20:05 Nord trap. level 9 Restarted.

21:02 Nord 10 hang up level 9 ; Restarted

21:57 problems with Gould plotter caused by bad humidity ; tomorrow the day shift people should try to refill the bottle with aqua dest. for the Gould plotter.

23:30 NORD 10 hang up again level 9 ; Restarted

00:00 15|8|84 Ball, Dieckmann

00:33 HV error TOF MFR 53 ch 13. reset normally.

1:06 Nord hang up. Reloaded

01:17 beams dumped.

02:58 new fill. run 17887. storing of missing LAMs BRS C6 ID sope trip.

03:02 NORD hang up level 9. Reload.

03:36 " "

04:09 missing LAMs BRS C6. Woggle branch connectors - OK.

06:02 Beams dumped.

6:31 New fill - lost almost immediately.

8:00 Matsumura, S. Wagner on shift

8:20 Short Break

8:29 Magnet → 1000 A

9:30 DL8 Wire # 1285 was missing now repaired MA

10:14 Magnet → 7500 A

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 BIT2 $E_1 > 6$ GeV	T_2 BIT 17 $2T \cdot E_4 \cdot \geq 2TR$
17856	13.8.84	20:41	20:48	4.25	4.32	11.9	413	1031	512	108	13	564	741	142	2
17857	"	21:52	22:49	3.45	4.45	10.7	3272	8002	3798	851	91	4580	5645	1199	32
17858	"	22:48	23:47	3.23	3.48	8.4	3539	8001	3469	921	78	5260	4432	1424	210
17859	"	23:48	0:11	2.66	2.79	7.7	1339	2922	1231	348	27	1965	1488	470	5
17860	14.8.84	1:07	1:24	3.38	2.98	8.2	981	2328	1245	256	21	1308	1340	289	8
17861	"	1:29	2:34	3.19	2.80	7.4	3869	8002	3276	1007	25	5355	4427	1285	31
17862	"	2:34	3:38	2.71	2.34	6.7	3781	7411	2884	983	66	5262	3759	1203	16
17863	"	~	JUNK	RUN	→	IBM	LINK	PROBLEMS							
17864	"	5:23	6:20	4.02	4.25	10.6	3442	8002	4413	896	95	4545	5870	1231	31
17865	"	6:21		2.89	3.10										
17866	"	6:37	7:45	2.70	2.89	7.6	4014	8002	3300	1044	80	5300	4427	1170	27
17867	"	~~7:45~~	~~7:54~~	2.14	2.09	6.8		846	344						
17868	"	7:59	8:01	2.04	2.21	7.2	81	216	96	21	2	144	74	26	1
17869	"	8:30	8:41	3.79	4.15	8.5	620	1350	549	161	14	704	1025	150	2
17870	"	9:50	10:52	3.46	3.49	9.2	3563	8002	3490	927	85	4529	5622	1097	31
17871	"	10:53	11:59	2.96	2.99	9.1	3782	8001	3367	985	90	4997	4723	1115	14
17872	"	11:59	12:46	2.55	2.61	7.5	2805	6057	2473	730	54	3848	3300	850	13
17873	"	13:44	13:47	4.30	4.23	11.5	1118	4685	2259	499	57	2632	3461	732	18
17874	"	14:36	15:31	4.09	4.37	11.1	3296	8001	3693	858	95	4410	6063	1143	14
17875	"	~~15:31~~	15:59	3.36	3.60	11.0	1612	4067	1912	419	46	2308	2887	572	13
17876	"	18:46	18:54	4.05	4.20	10.4	397	954	471	103	10.7	490	748	112	3
17877	"	18:54	19:49	3.97	4.12	10.3	3304	8002	3757	860	89	4589	5569	1249	40
17878	"	19:49	20:03	3.31	3.57	10.0	763	1924	877	198	20	1145	1187	292	11
17879	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
17880	"	20:17		2.98	3.33										
17881	"	21:08	21:57	2.57	2.87	9.3	2511	5229	2115	654	48	3534	2887	805	7
17882	"	22:23	23:16	4.28	4.28	10.9	3173	8002	4402	826	90	4468	5761	1145	38
17883	"	23:16	23:30	3.16	3.65	9.3		1726	763						
17884	"	23:32	00:33	2.90	3.48	8.2	3621	8001	3455	942	773	5094	4695	1198	14
17885	"	00:33		2.23	3.02	7.4		3314							
17886	15.8.84	01:08	01:17	2.01	2.80	9.1	441	1076	428	115	10	621	644	143	4
17887								N40							
17888		8:06	8:36	3.72	3.81	10.4		3661	1637						
17889		8:39	8:40												

Processors ON/OFF N50	MIP	TOF	FANP	<L>	$\int L dt$	$\int L dt$ EXP	IBM/TAPE OUTPUT	AT Run ID (μA)	Start TOF (V)	ONLINE REJECTION MIPROC (T_2)	ONLINE REJECTION NORD-50 ($T_1 T_2$)	Σ BHABHA	MH	E_{BEAM}	MAGNET FIELD	REMARKS
ON	ON	ON		1.83	0.76	63.57	IBM			42/54	5	0	23.285			beams lost
"	"	"		1.53	5.01	68.58	"	2.3	0.60	43/55	52	1	"			
"	"	"		1.10	3.89	72.47	"	2.0	0.40	42/57	26	3	"			
"	"	"		0.90	1.20	73.67	"	1.8	0.32	43/	9	0	"			beams dumped
"	"	"		1.22	4.20	74.87	"	2.0	0.40	29/	7	1	"			
"	"	"		0.94	3.63	78.50	"			44	36	0	"			
"	"	"		0.67	~~3.45~~	~~81.93~~	"	1.51	0.3	46	34	0	"			BEAMS DUMPED
"	"	"		~			"	2.4	0.7	~			"			JUNK RUN
"	"	"		0.95	3.28	84.30	"	2.4	0.8	44	42	1	"			
"	"	"					"	1.9	0.4				"			NO SUMMARY, NORD HANG
"	"	"		0.73	2.92	87.22	"	1.8	0.3	43	32	0	"			
"	"	"		0.56	0.23	87.45	"	1.5	0.28	~~30~~	~~2~~	0	"			NO RUN SUMMARY NORD10 HANGUP
"	"	"		0.46	0.04	87.49	"			30	2	0	"			BEAMS DUMPED
"	"	"		0.20	0.13	87.62	"	2.3	.55	41	0	0	"			Beam lost
"	"	"		1.20	4.29	91.91	"	2.4	0.50	41	31	0	"			
"	"	"		0.91	3.44	95.35	"	2.4	0.50	40	27	0	"			
"	"	"		0.72	2.01	97.26	"	2.1	0.3	39	17	0	"			beam dumped
"	"	"		1.46	2.79	100.15	"			44	34	0	"			beam lost
"	"	"		1.39	4.58	104.73	"	2.6	0.65	44	46	1	"			
"	"	"		1.32	2.13	106.86	"	2.5	0.5	43	17	0	"			beams lost
"	"	"		1.53	0.61	107.47	"	2.6	0.65	43	4	1	"			Test run with FANP analysis
"	"	"		1.50	4.95	112.42	"	2.5	0.6	42	39	1	"			
"	"	"		1.35	1.03	113.45	"	2.2	0.52	39	15	0	"			Nord 10 hang up
—	—	—		—	—	—	—	—	—	—	—	—	—			Finish
"	"	"					"	1.9	0.45				"			Nord 10 hang up; no run summary
"	"	"		0.63	1.59	115.04	"	1.6	0.38	45	19	0	"			beams dumped
"	"	"		1.45	4.61	119.65	"	2.6	4.75	42	53	2	"			
"	"	"		1.23	0.89	120.54	"	2.2	0.55				"			NORD hung up. Level 9.
"	"	"		0.85	3.10	123.64	"	2.0	0.5	42	37	0	"			
"	"	"		0.52	0.87	124.51	"	1.8	0.4				"			Nord hung up level 9
"	"	"		0.43	0.19	124.70	"	2.0	0.4	35	1	0	"			beams dumped
								2.6	0.7							NORD hung, level 9.
				1.28	1.39	126.09		2.7	0.8							" " " "
								2.2	0.5							" " " "

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ. $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT2 $E_1 > 6$ GeV	T_2 BIT 17 $2T \cdot E_4 \cdot \geq 2TR$

Processors ON/OFF N50	MIP	TOF	FAMP	<L>	$\int Ldt$	$\int Ldt_{Exp}$	IBM TAPE OUTPUT	AT Run ID (nA)	Start TOF (V)	ONLINE REJECTION MIPROC (T_2)	NORD-50 ($T_1 \cdot T_2$)	$\leq$ Bhabha	MH	F BEAM	MAGNET FIELD	REMARKS

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11:38 FINALLY HAVE A FILL, THOUGH IT'S VERY POOR.
ONE LG POWER SUPPLY (EC) HAS TO BROUGHT UP MANUALLY.
PROBLEMS WITH DL8'S DURING RUN → MATSUMURA & REISEBERG ARE WORKING ON IT. RUN STOPPED AT 12:00.
12:33 Magnet Trip Run stopped PILLAT CALLED.
13:45 FUSE REPLACED → RESTART DATA TAKING.
15:06 ID Soft Trip
07 Beam lost
16:00 DAVIES & FELST ON SHIFT
16:12 NORD HANG, LEVEL 9
17:30 Ball replaces Davies
17:38 beam lost!
18:34 new fill – lost almost immediately.
19:08 New fill. Run 17901 started with many BR5 CG missing LAM's. Stopped to polish DL8.
20:07 Beams lost.

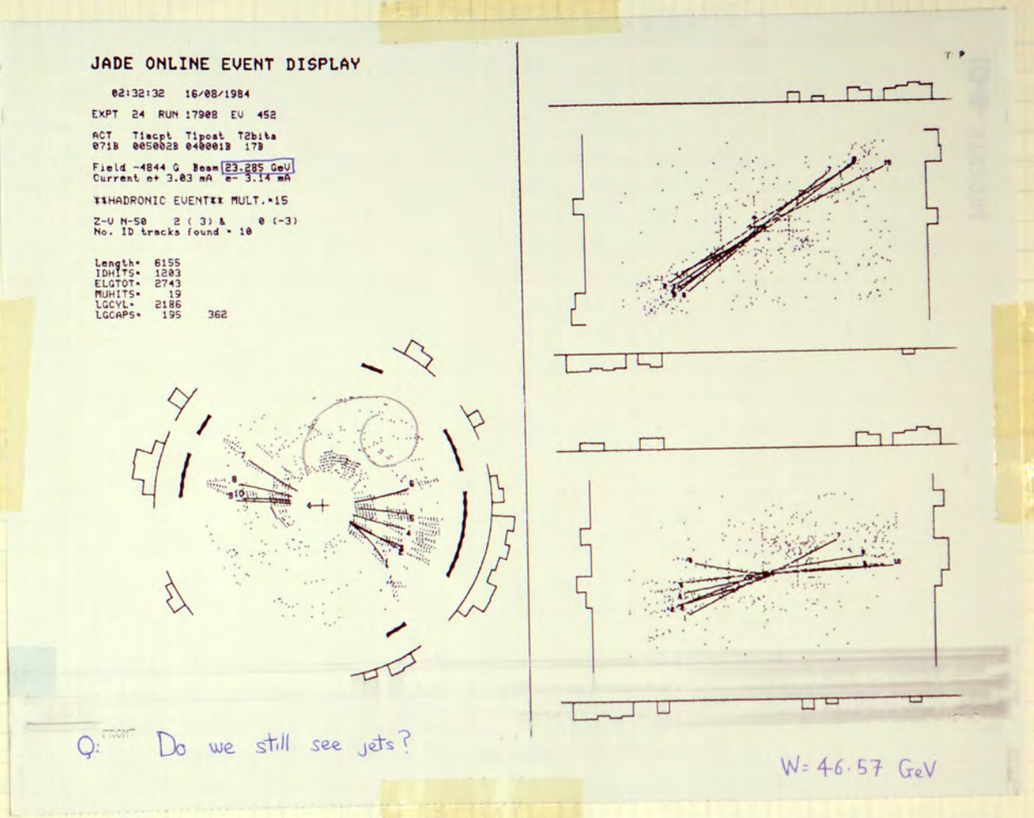
16.8.84 Mashimo and Bowdery on shift.

0:02 YSPY Error Run 17906 TOF TDC no hits: 72. (Very low lum.)
0:16 Beams lost (but they were about to be dumped anyway!)
Problem in the PETRA magnet cooling system. We wait.

2:02 JDAS Readout error 33 – Missing LAM branch 2 crate 3: TOF1 counters
2:55 2x JDAS Readout error 33 Br 6 Cr 3 (ID Ring 3 >π)
3:15 The above timeout suddenly happened for every event. We checked the connections in the crate and the problem went away!
4:00 DESY has a vacuum leak. We will have to keep this fill.
4:20 Recurrence of JDAS readout problem. We investigate

We eventually called out Mr. Matsumura. He exchanged the fran unit for Br 6 Cr 3.
6:29 Beams lost but DESY will restart at 07:00(?)
7:50 Actually we haven't seen any beams yet!
We had a look at R for 44.2 GeV. It was not there!
Reason: Bhabha count overflow → "-ve" number.

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8:00 Takeshita + Zorn on shift
8:25 Magnet trouble, we can't controll. call MKK.
"Leistungs schalter" = interrupted. Mr Pilat thinks, that this is due to a short power cut at ≈ 6 30.
One DL8 exchanged (Ring 1/10, 2. DL8) shows only large amplitudes (defect during runs 17909 – 17911)
14:00 RUN 17912 ; YSPY detected error: JETS DL8's giving no response 164 } There was a hole wire# 1298 – 1319 3-DL8s module.
JETS V34 163
14:55 We stop the Run and pullout DL8 #162 and pullin again. Just at that time, beams ~~are~~ lost.
HV slow trip while beam optimizating.

RUN	DATE	START	STOP	AT RUN START I+	AT RUN START I-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL ×10⁶	TØ REJ. ×10⁶	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT2 $E_1>6$ GeV	T_2 BIT 17 $2T \cdot E_4 \cdot \geq 2TR$
46 RUN	DATE	START	STOP	RUN I+	START I-	DEAD-TIME %	TIME (s)	RECORDS IN	RECORDS OUT	ALL ×10⁶	TØ REJ ×10⁶	T1 ACC. SUM	T2 ACC. SUM	T_1 BIT2 $E_1>6$GeV	T_2 BIT 17 $2T \cdot E_4 \cdot \geq 2T_R$
17890	15/8/84	3:48	4:51	3.33	3.43	10.1	3681	8002	3478	958	96.4	4856	4980	1131	22
17891	"	4:51	5:56	2.75	2.93	7.4	3892	8002	3255	1013	75	5205	4575	1220	20
17892	"	5:57	6:02	2.29	2.54	7.0	279	631	278	72	5	401	303	89	4
17893	"	6:31	6:34	4.60	4.43	15.8	96	311	179	25.0	3.9	148	269	36	2
17894	"	11:42	12:01	3.37	2.83	8.8	1111	2806	1742	289	26	1289	1764	254	13
17895	"	12:08	12:35	3.20	2.67	8.8	1612	3462	1457	499	37	1928	2419	435	9
17896	"	13:49	14:12	2.56	2.12	6.5	1334	2399	868	347	23	1432	1487	259	9
17897	"	14:56	15:07	4.09	4.01	17.5	616	1578	815	160	28	770	1877	176	6
17898	"	16:12	—	3.92	3.87	18	—	144	91	—	—	—	—		
17899	"	16:18	17:15	3.84	3.80	11.2	3405	8002	3734	886	99	4326	6553	1045	10
17900	"	17:16	17:40	3.06	3.20	8.7	442	3280	1383	375	32.8	1946	2063	441	14
17901				—	no	data.	—								
17902	"	18^{22}	20^{10}	3.83	3.83	9.2	2858	6676	2854	744	68	3859	4352	996	18
17903	"	20^{44}	21:40	4.21	4.22	11.3	3317	8001	3725	863	98	4485	5923	1242	23
17904	"	21^{40}	22^{40}	3.37	3.47	8.4	3554	8002	3426	924	78	5005	4800	1199	13
17905	"	22^{40}	23^{44}	2.74	2.95	7.4	3822	8002	3790	994	73	5233	4431	1175	24
17906	"	23^{44}	00:17	2.33	2.55	7.0	1883	3696	1435	490	34	2486	2004	556	16
17907	16/8/84	1:32	2:28	3.55	3.59	11.6	3341	8002	3594	870	101	4259	6394	1074	38
17908	"	2:29	3:02	3.05	3.16	9.6	~~4413~~ 2935	~~1869~~ 4+13	1869	503	48	2625	2838	642	15
17909	"	3:16	4:22	2.63	2.85	7.8	3870	8002	3233	991	77	5002	4690	1199	27
17910	"	4:23	4:47	2.16	2.47	8.7	1376	2857	1120	358	31	1888	1526	437	12
17911	"	6:22	6:29	1.56	1.96	6.8	387	794	312	100	7	559	379	146	3
17912	"	13:50	14:03	1.75	2.78	10.8	788	1731	807	205	22	922	1406	210	7
17913	"	14:54	16:04	3.87	3.81	8.4	3947	8002	3455	1027	84.6	4708	5748	999	24
17914	"	16:04	17:16	2.65	2.49	6.6	4268	8002	7833	1110	73.7	5397	4486	1186	22
17915	"	17:16	17:31	2.05	2.00	6.2	875	1545	597	228	14	1097	818	208	3
17916	"	"	17:58	4.20	4.18		No	RUN	SUMMARY		—	NORD	CRASH		
17917	"	18^{23}	19^{19}	4.35	4.32	11.4	3342	8002	4073	870	99	4364	6585	1085	255
17918	"	19^{20}	1947	3.27	3.27	8.8	1602	3699	1620	417	37	2227	2316	510	125
17919	"	20^{13}	2044	4.41	4.41	13.9	597	1351	699	155	37	659	1293	188	36
17920	"	20^{46}	2055	4.07	4.04	13.1	482	1279	628	126	16	655	1003	159	33
17921	"	21^{20}	22^{17}	3.86	3.83	10.2	3430	8002	4054	892	91	4455	5794	1127	263
17922	"	22^{18}	2252	2.61	2.72	11.6	2037	3915	1630	530	61	2481	2293	579	110
17923	"	23:16	23:17	4.32	4.31	10.4	24	100	61	6	0.7	39	53	8	0

Processors ON/OFF N50	MIP	TOF	FANP	<L>	$\int Ldt$	$\int Ldt$ Exp.	IBM/TAPE OUTPUT	AT RUN START ID (μA)	AT RUN START TOF (V)	ONLINE REJECTION MIPROC (T_2)	ONLINE REJECTION NORD-50 ($T_1 T_2$)	Σ Bhabha	MH	E_{BEAM}	MAGNET FIELD	REMARKS
ON/OFF N50	MIP	TOF		<L>	$\int Ldt$ TAGG.	$\int Ldt$ EXP.	IBM TAPE	AT RUN START ID (μA)	AT RUN START TOF (V)	T_2 REJ FRACT.		Σ BHABHA	M.H.	E_{BEAM}		REMARKS 47
ON	ON	ON		0.86	3.18	126.27	IBM	2.2	0.45	40	27	1		23.285		
"	"	"		0.60	2.35	128.62	"	1.9	0.4	43	26	0		"		
"	"	"		0.55	0.15	128.77	"	"	"	34	0	0		"		Beams dumped
"	"	"		1.27	0.12	128.89	"	2.8	0.7	49	2	0		"		Beams lost.
"	"	"		0.96	1.07	129.96	"	2.4	0.5	18	4	1		"		DL8 PROBLEMS, DOUBTFUL QUALITY
"	"	"		0.86	1.38	131.34	"			40	12	1		"		
"	"	"		0.52	0.69	132.03	"	2.3	0.35	39	12	0		"		
"	"	"		1.64	1.01	133.04	"	2.9	0.65	~~60~~ 60	9	0		"		beam lost
"	"	"			0.06	133.1	"	3.1	0.70					"		NORD HANG, LEVEL 9
"	"	"		1.33	4.51	137.61	"	3.0	0.7	47	42	2		"		
"	"	"		0.88	1.27	138.88	"	2.5	0.6	40	12	1		"		beams lost.
								2.9								DL8 problems.
"	"	"		1.23	3.53	142.41	"	2.3	0.55	39	25	2		"		Beams lost
"	"	"		1.34	4.43	146.84	"	2.7	0.65	44	35	2		"		
"	"	"		1.00	3.55	150.39	"	2.3	0.4	42	39	0		"		
"	"	"		0.69	2.63	153.02	"	2.0	0.35	42	29	2		"		
"	"	"		0.63	1.18	154.20	"	1.7	0.30	44	12	0		"		beams lost
"	"	"		0.73	2.44	156.64	"	2.7	0.53	44	19	1		"		
"	"	"		0.64	1.24	157.88	"	2.4	0.49	41	14	1		"		run terminated because of JDAS error
"	"	"		0.44	1.69	159.57	"	2.1	0.40	40	18	1		"		
"	"	"		0.37	0.51	160.08	"	1.8	0.33	41	7	0		"		run terminated because of JDAS error
"	"	"		0.15	0.06	160.14	"	?	0.25	46	1	0		"		beams lost
"	"	"		0.44	0.35	160.49	"	?	?	46	5	0		"		Beams lost
"	"	"		1.05	4.16	164.65	"	3.1	0.60	46	36	1		"		
"	"	"		0.55	2.35	167.00	"	1.6	0.60	46	34	1		"		
"	"	"		0.44	0.39	167.39	"	1.2	0.3	51	2	0		"		Beam dumped.
"	"	"			-		"	2.8	0.65					"		Nord crash, level 9 — then beam ~~is~~ lost
"	"	"		1.36	4.54	171.83	"	2.9	0.68	48	54	2		"		
"	"	"		0.97	1.56	173.39	"	2.4	0.48	41	9	0		"		Beams lost
"	"	"		~~1.42~~ 0.88	0.85	174.24	"	3.0	0.80	49	9	0		"		beams lost — they were other beams anyway!
"	"	"		1.58	0.76	175.00	"	2.7	0.67	42	6	1		"		Beam lost
"	"	"		0.95	3.27	178.27	"	2.4	0.60	42	38	3		"		
"	"	"		0.59	1.20	179.47	"	2.2	0.42	41	14	1		"		Beam dumped
"	"	"		2.43	0.06	179.53	"	2.6	0.72	13	0	0		"		Beam lost yet again!

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ. $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT2 $E_1 > 6$ GeV	T_2 BIT 17 $2T \cdot E_4 \cdot \geq 2$TR

16.8.84

15~~5~~0 – Magnet Fluctuation – ⇒ reset magnet current
15~~5~~5 ~~&~~ spy #4 directed ~~&~~ reset ⇒ Magnet fluctuation ⇒ reset

16:00 Ball and Cartwright on shift

16:12 Y-spy detected error, TOF TDC 65 no hits. Histo look OK, probably just statistical effect.
16:29 " " " 20 " "
17:05 " " " 22 " "

17:17 New fill agreed for 17:30.

YLIST altered – change in output format of TOF bank.iter

17:29 Beams dumped.
17 55 Nord hangup – level 9 Ball replaced by Davis.
17 58 beams lost
1933 YSPY – TOF TDC no hits 60 Histo looks OK
1941 " " " 19 " " "
1946 Beams lost
20^15 Mum crate 13 missing – doesn't go away and won't reset
20^19 No events for ... seconds – fixed by Pause/Continue
JDAS readout error 33 Missing LAM br 3 cr 2 ; µ chambers
JDAS readout error 45 – MPIB analysis incomplete : YY = 1 (occurred after PAUSE)
20^22 Beams lost
20^52 µ crate 13 reset in the hall according to instructions from Chris Bowdery
20^53 beams lost again
22^25 Level 5 trigger hangup. Reset by following instructions.
23:22 "Short" Break

Aug 17 00^00 Duerdoth & RAHCKE.
0.29 Start Run – but NORD is DEAD Restart NORD.
(100% dead time, no response from terminal 9, on NORD, level=09)
TOF rate is high & not steady – ask PKR to improve.
1.12 Beam lost
3.00 We have had several SOFT ID trips (> 3µA/coil). PKR say they improved TASSO's background & the implication is that this has made it worse for us. Hm
3^30 We are now unable to run, TASSO also off & Cello have bad background.

Processors ON/OFF N50	MIP	TOF	FANP	<L>	∫Ldt	∫Ldt Exp	IBM TAPE OUTPUT	AT Run ID (µA)	Start TOF (V)	ONLINE REJECTION MIPROC (T_2)	NORD-50 ($T_1 \cdot T_2$)	≤ Bhabhas	MH	F BEAM	MAGNET FIELD	REMARKS

17.8.84

Cello are phoning Heucke and have persuaded PKR to go back to an old file. Yes this works (for us) and we start data taking again.
Note in the middle of the above troubles the NORD10 died on us again (we reloaded it)
It bombed out after a long PAUSE with DISPLAY SELECTING EVENT.

4.16 NORD HANGS UP again. Start again: This time no TV screen & IN $$$$$ message.
can't enter EXIT (It's stuck again!). Try again
4^32 NORD CRASH again – level 09. Date 021000 PROJECT RING 2
↑ occasional flash to 3 CONTINUE ON (other OFF)
This time we do an ↑EXIT & get JADE in green.
4^40 Another CRASH ; associated with asking for displays? ; In restarting we had to do an EXIT.
4^58 New run 17931 – we will not display events.
5^35 Yet another NORD crash – Howard, shall we phone you?
7^05 – " –

08.00 Greenshaw and Skard on shift
08,05 Nord crash (9), reload, start new run
08,15 Nord crash (9), reload, start new run
09.00 Nord crash (9), reload, start new run
09,19 Nord crash (9), reload, start new run. ~~FECO~~ (wires 1280-87)
09,50 Repeated missing lams from br 6 cr 3. Stop run, Rinneberg will change a bad DL8 in the relevant crate. Jan Olsson is also here and will reboot the DAS tasks in an attempt to prevent the computer hang ups, when the beams are dumped.
10,30 Nord crash (9) No memory error, reload, start new run.
10,40 DL8 missing (wires 24-31) run stopped to Rinneberg an investigate.
11.40 During Fill we rebuilt the Nord Operating system and JDAS to see if the level 9 hangups go away. HEP
At end of run 17941 TOF 13 missing – can be reset at power supply if error not reported on console, otherwise computer control also possible.

16^00 D. Haidt + A. Wagner
at beginning of run 17945 hole in wire map (wires 1288 – 1320).
shaping of the appropriate DL8 (17.3) restores the pictures, and the wire map.
16^35 Reload Nord
17^05 again level 9. Call Jan Olsson to load old program versia
17^20 Old Program for read out loaded again

RUN	DATE	START	STOP	AT RUN START I+	AT RUN START I-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL *10^6	TØ REJ. *10^6	T_4 ACC SUM	T_2 ACC SUM	T_1 BIT 2 $E_1 > 6$ GeV	T_2 BIT 17 $2T_0 E_4 \geq 2TR$
17924	16/8/84							No	RUN	SUMMARY			Nord	CRASH	
17925	17/8/84	0:50	1:21	3,78	3,78	9.6	1881	4656	2466	499	47	2442	3085	591	15
17926	"	1:49	2:09	4.30	4.30	14.1	558	1499	865	145	20	696	1150	159	5
17927	"														
17928	"														
17929	"														
17930	"							TRIG 1460	IBM 666						
17931	"														
17932	"	5:38	6:37	2.62	2.53	8.0	3511	8002	3871	913	73	4710	4575	1115	22
17933	"			2.30	2.23			TRIG 3094	IBM 1309						
17934	"	07,35	08,05	4,19	4,14	18,2		4051	2727						
17935	"	08.10	08,15	3,64	3,58	15,6		1055	505						
17936	"	08,24	09,00	3,48	3,44	14,2		5035	2526						
17937	"	09,08	09,14	3,06	3,04	15,9		1642	744						
17938	"	09,26	09,50	2,91	2,90	12,5	1745	3263	1557	350	43,9	1797	2492	689	15
17939	"														
17940	"	10,12	10,44	2,46	2,48	7,9	623	1380	555	162	12,8	852	801	167	2
17941	"	10,49	11,15	2,37	2,34	7,5	1503	3334	1257	391	29,2	2049	1681	548	8
17942	"	12.54	13.01	4,35	3,92	14.6	3224	8002	4535	839	123	4243	7078	1159	31
17943	"	13.01	14.03	3.54	3.15	8.2	3661	8002	3381	953	78	4930	4947	1138	31
17944	"	14.04	14.48	3.01	2.62	7.4	2599	5288	2054	676	50	3484	2992	800	17
17945	"	16.08	16.36	3.85	3.66	~14%		4642	2753						
17946	"	16.42		3.46	3.26			418	178						
17947	"	16.50	17.05	3.38	3.19	~11%		1393	621						
17948	"	17.20	18.21	3.10	2.93	8.3	3602	8001	3459	937	78	4800	5081	1100	21
17949	"	18.21	18.35	2.63	2.47	7.1	794	1620	687	206	15	1041	928	235	6
17950	"	20.11	21.30	4.13	4.10	11.1	3385	8001	5351	881	98	4113	7037	977	40
17952	18/8/84	16.32	16.55	3.34	2.81	6.3	1321	2380	1003	344	22	1599	1422	272	3
17953	"	17.02	18.22	3.15	2.64	5.8	4702	8002	3221	1224	71	5583	4560	1197	24
17954	"	18.22	18.25	2.71	2.26	5.5	156	260	106	40	2	168	133	31	1
17955	"	19.16	20.28	3.60	3.31	6.5	4276	8002	3355	1113	73	5386	4854	1074	34
17956	"	20.28	21.41	3.10	2.79	6.1	4366	8002	3250	1137	69	5608	4271	1151	15
17957	"	21.41	22.32	2.69	2.40	5.7	3011	5328	2030	783	44	3344	2752	776	13
17958	"	23.36	00.41	4.37	4.39	7.5	3864	8002	4113	1005	1505	5080	5091	1080	23

Processors ON/OFF N50	MIP	TOF	FAMP	<L>	$\int L dt$	$\int L dt$ Exp	IBM TAPE OUTPUT	AT RUN START ID (μA)	AT RUN START TOF (V)	ONLINE REJECTION MIPROC (T_2)	ONLINE REJECTION NORD-50 ($T_1 T_2$)	Σ Bhabha	M.H.	E_{BEAM}	MAGNET FIELD	REMARKS
ON	ON	ON					IBM	2.6	.66					23.285		Nord 50 hang up No Summary, NoEvents
"	"	"		1.07	2,02	181,55	"	2.3	.64	32	26	0	"			Beam lost
"	"	"		1.14	0.64	182.19	"	2.6	.80	34	5	0	"			half beam lost then dumped.
								~~2.7~~	~~.74~~							Does not exist. NoEvents Nord CRASH No Run Summary
								2.7	.74							No HISTOS exists: NordCRASH, No Run Summary, A.
					42.00	184.19										NordCRASH No Run Summary.
								2.4	.5							NordCRASH
								2.2	.48							— " —
"	"	"		0.55	1.94	186.13	"	2.0	.44	32	22	0	"			
					0.56			1.8	.40							NORD CRASH No Run Summary
"	"	"		1,20	1,91	188,04	"	2.9	1.00				"			NORD CRASH, No run summary
"	"	"		1,22	0,50	185,09	"	2,8	0,7				"			NORD CRASH, No run summary
"	"	"		0,96	1,91	190,00	"	2,8	0,74				"			Nord crash, No run summary
"	"	"		0,71	0,51	190,51	"	2,6	0,6				"			Nord crash, No run summary.
"	"	"		0,72	0,97	191,48	"	2,6	0,62	45	72	0	"			
"	"	"					"	2,0	0,36				"			Nord crash, No run summary.
"	"	"		0,54	0,76	197,82	"	2,0	0,36	51	3	0	"			
"	"	"		0,64	0,97	192,79	"	2,0	0,36	40	9	0	"			Beams dumped
"	"	"		1.17	3.77	226.56	"	3,1	0,88	50	45	0	"			
"	"	"		1.06	3.87	230.43	"	2.2	0.5	42	32	0	"			
"	"	"		0.60	1,57	232.00	"	1.9	0.4	44	16	0	"			Beams dumped
"	"	"		1.12	2.00	234.00	"	3.1	0.79	?	?	?	"			NORD STUCK level 9
"	"	"		0.94	0.16	234.16	"						"			" level 8 after MIPROC. to day
"	"	"		1.03	0.58	234.74	"	2.6	0.56	?	?	?	"			NORD STUCK level 9 ← old read out progr. re installed
"	"	"		0.69	2.48	237.22	"	2.4	0.48	41	19	1	"			
"	"	"		0.63	0.50	239.72	"	2.0	0.40	24	2	0	"			Beams dumped
"	"	"		1.18	4.00	241.72	"	3.0	0.78	48	34	1	23,285			beams lost
"	"	"		1.14	1.51	~~1,51~~	"	1.0	0.3	49	17	1	22.100			Trigger problem & Petra vacuum problem, light ions
"	"	"		1.02	4.80	6.31	"	1.0	0.2	51	55	0	"			
"	"	"		0.67	0.10	6.41	"	"	"	48	0	0	"			Beams dumped
"	"	"		1.38	5.89	12.30	"	1.4	0.4	50	51	2	22.100			
"	"	"		1.05	4.59	16.89	"	1.2	0.3	48	32	1	"			
"	"	"		0.81	2.44	19.33	"	1.0	0.25	51	20	0	"			Beams dumped
"	"	"		1.99	7.70	27.03	"	~~1.6~~	~~0.5~~	46	79	0	"			

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $*10^6$	T0 REJ. $*10^6$	T_4 ACC SUM	T_2 ACC SUM	T_1 BIT 2 $E_1 > 6$ GeV	T_2 BIT 17 $2T_0 E_4 \cdot \geq 2$TR

52 17.8.84

18^{30} beams dumped for new fill. TASSO requested accen until 19^{00}.
20^{11} beams back again
21^{30} normal end of run and beams lost
23^{30} Long after "SHORT BREAK" CAVITY Fensterbruch

Fri 18.8. 0^{00} - 8^{00} Becker + Peters

0^{00} ~~Cavity~~ window broke restart not before 7^{00}
7^{30} Call from Cello: PETRA restart not before 2^{00} pm
" can run for about 1 day only at $E \tilde{=} 22$ GeV

08^{00} DUGGBOTH & ZORN.
9^{30} Beams now expected at ~13^{00} hrs. It will be at 22.1 GeV, and stayed this reduced energy for about 1 day.
15^{57} Still no beam. Nye & Biedermann on Shift.
16^{30} New run started - NORD50 hangup - reloaded ok Run 17951 does not exist
17^{00} ~~"No Trigger" on Astro.~~ Level 2 → ~~Level 5~~ → White Lamp Steadily on. it not level 5 but level 1
Start a new Run → Cooler ok.

Present period of $E = 23.285$	
$\int \mathcal{L}$ =	TASSO 242
	MARK J 254
	CELLO 256
	JADE 242

19. Aug.
00^{00} MATSUMURA & HEDGECOCK.

1:06 TOF TDC no hit 15 41

08^{00} YAMADA AND LAURIKAINEN
8:20 ~~e~~ Beams lost ~~started at~~
10:00 start again
10:15 soft trip ? Beams condition was ~~bad~~ good. Why ID trip?
10:34 HV WRONG MFR 61 CHANNEL 5 → Reset
11:05 " " " again → Reset. 3 more times
12.06 Tagging Channel 5 in MFR 61 was oscillating. Even when counter was removed. So I changed the cable to output 24 and set it to 1259 V. Channel 5 is now 0. The fill
(PUB) GARETH was adjusted accordingly!!! B.N. TAG

Processors ON/OFF N50	MIP	TOF	FAMP	<L>	$\int Ldt$	$\int Ldt_{Exr}$	IBM TAPE OUTPUT	AT Run ID (μA)	Start TOF (V)	ONLINE REJECTION MIPROC (T_2)	NORD-50 ($T_1 \cdot T_2$)	$\leq$ Bhabha	MH	F_{BEAM}	MAGNET FIELD	REMARKS

19.8.84 53

16^{00} Krehbiel & Mashimo
16^{05} YSPY ERROR Run 17973 TOF TDC no hits: 13,
Trigger 1 Input missing : 37
Trigger 1 Output " : 45
16^{11} Reset TOF HV MFR 53 Ch 13. → OK.
16^{41} JADE Readout error 33 Missing LAM branch 3 crate 2: Muon Chambers
"No triggers more than 5 sec", PAUSE & CONTINUE. helped.
16^{55} "JADE Readout error 33 - Missing LAM branch 6 crate 4: I.D. Ring 3 > π." many times, but it disappeared after 3 minutes.
Possible cause: DL8 No. 167. Conversion lamp is sometimes steadily ON during this problem.
17^{14} Beams dumped
17^{40} Beams ready. Good conditions.
19^{05} "JADE Readout error 33" the same as before. It came to the normal state after a few minutes.
19^{15} The same error again. Stop run 17976. start a new run, but it didn't help.
19.30 DL8 - trouble too pertinent. The on-call-man could not be reached. EUROSIGNAL didn't work. (Besetzt-Zeichen.) After some telephoning we found Matsumura at home who advised us how to exchange a DL8. It was ~~crate 6~~ Branch 6 Crate 4, Third from Left. Adress plug 167. Afterwards we discovered that he had been in the Rucksack all the time, doing the daily checks.
20.30 IBM busy several times. How short?
20.39 Beams lost. Energy figure went to 0. Probably PETRA magnet trouble. Indeed soon "Short Break"
21.30 Cello says "Kühlwasserprobleme bei PETRA-Magnet"
22.10 "Injection"
23.00 Beams lost again. Transmitter problems
23.38 Beams ready

20/8/84
0.00 Kuhlen / Talaslasta on shift
0.52 YSPY detected error: TOF TDC 41 no hits, histogram shows channel 38 low. (lost?)
1:24 Very Very high background we have. ToF rat > 10 V for ~3 min, finaly PLR (dumped) beams.
4:15 Now fill ready but very high background, we asked PLR to reduce it.
7.35 CAMAC magnet read error
7.55 Beam lost

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $*10^6$	TØ REJ. $*10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT 2 $E_1 > 6$ GeV	T_2 BIT 17 $2T_0 E_4 \cdot \geq 2$ TR	Processors ON/OFF N50	MIP	TOF	FAMP	$\langle L \rangle$	$\int L dt$	$\int L dt$ Exp	IBM / TAPE OUTPUT	AT Run Start ID (μA)	AT Run Start TOF (V)	ONLINE REJECTION MIPROC (T_2)	ONLINE REJECTION NORD-50 ($T_1 \cdot T_2$)	Σ Analog	MH	E_{BEAM} GeV	MAGNET FIELD	REMARKS
54																																
17959	19/8/84	00 41	01 49	3.79	3.72	7.0	4044	8002	3439	1052	735	5279	4836	1199	20	ON	ON	ON		1.24	5.03	32.06	IBM	1.4	0.36	47	55	2	22.100			
17960	-"-	01 49	02 32	3.30	3.30	6.6	2541	4950	2187	661	435	3458	2612	797	16	"	"	"		0.92	2.35	34.41	"	1.3	0.31	48	24	0	-"-		BEAMS DUMPED.	
17961	"	02 56	03 56	4.60	4.64	8.0	3523	8002	3750	917	735	5092	4748	1126	30	"	"	"		2.16	7.60	42 01	"	1.7	0.49	43	70	0	-"-			
17962	"	03 56	05 00	4.01	4.03	7.8	3786	8002	3566	984	764	5311	4610	1213	27	"	"	"		1.63	6.18	48.19	"	1.6	0.40	46	65	2	-"-			
17963	"	05 00	06 07	3.42	3.48	7.0	3961	8002	3425	1031	726	5523	4355	1249	27	"	"	"		1.14	4.50	52 69	"	1.4	0.34	49	62	2	-"-		BEAMS DUMPED.	
17964	"	ABANDONED AFTER REVESTIN EVENTS WHEN SWITCH OFF HV APPEARED.																			~0	52.69										
17965	"	06 29	07 26	4.82	4.87	8.9	3389	8001	3822	882	786	4918	5035	1139	39	"	"	"		1.90	6.43	59.12	"	1.7	0.52	43	65	3(2)	-"-			
17966	"	07 26	08 23	4.24	4.28	7.9	3358	7447	3336	874	695	4851	4378	1179	31	"	"	"		1.47	4.93	64.05	"	1.7	0.44	45	63	1	-"-		E^5 Beams lost partly	
17967	"	10 02	11 04	4.14	4.41	8.2	3551	8002	3778	924	758	4823	4898	1060	24	"	"	"		2.30	8.17	72.22	"	1.8	0.45	40	86	2	"			
17968	"	11:05	12:03	3.58	3.83	8.3	3419	8002	3478	890	738	4999	4624	1172	~~22~~ 31	"	"	"		1.77	6.07	78.29	"	2.0	0.40	39	65	2	"			
17969	"	12.03	13:02	3.15	3.39	8.2	3503	8021	3348	912	747	5035	4554	1211	25	"	"	"		1.50	5.25	83.54	"			39	63	1	"			
17970	"	13:01	13:28	2.77	2.99	7.6	1490	3297	1346	387	295	2134	1776	512	10	"	"	"		1.24	1.85	85.39	"	2.1	0.35	39	26	0	"			
17971	"	13:52	14:44	4.78	4.66	11.4	3071	8001	3903	799	913	4583	5606	1148	27	"	"	"		2.93	9.00	94.39	"	2.2	0.62	43	84	0	"			
17972	"	14:45	15:37	4.20	4.08	10.0	3108	8002	3766	809	805	4833	5102	1209	41	"	"	"		2.35	7.30	101.69	"	2.3	0.55	42	76	1	"			
17973	"	15:38	16:33	3.68	3.58	8.9	3288	8002	3461	856	763	5136	4568	1301	30	"	"	"		1.79	5.88	107.57	"	~~2.0~~?	~~0.47~~?	41	54	3	"			
17974	"	16:33	17:24	3.23	3.14	10.9	2295	5094	2168	597	653	3291	2916	844	20	"	"	"		1.37	3.07	110.64	"	2.0	0.47	42	38	2	"			
17975	"	17:45	18:46	4.27	4.17	7.9	3565	8001	3783	928	734	5403	4631	1410	37	"	"	"		2.73	7.58	118.22	"	2.3	0.61	48	88	0	"			
17976	"	18:48	19:45	3.64	3.54	12.7	1621	3397	1460	422	534	2480	1736	582	11	"	"	"		1.48	2.40	120.62	"	1.2	0.42	52	24	0	"			
17977	"	No data (DL8 Readout problem)																														
17978	"	19:38	20.40	3.25	3.15	6.7	3681	7542	3714	958	644	5491	3808	1255	24	"	"	"		1.24	4.55	125.17	"	1.0	0.34	50%	40	2	"		Beams lost	
17979	"	23:43	0.46	5.14	5.24	8.2	3551	8001	4702	924	755	5020	5132	1304	25	4	4	4		2.26	8.02	133.19	4	1.7	0.6	45	91	1	"			
17980	20/8/84	0:45	1.22	4.08	4.31	7.7	2136	4720	2102	555	426	3144	2818	786	17	"	"	"		1.41	3.01	136.20	"	1.3	0.44	48	36	1	"		Beams lost or dumped	
17981	"	4:19	5:16	5.52	5.58	9.3	3349	8002	3895	871	81	4777	~~5269~~ 4777	1202	33	4	4	4		2.58	8.65	144.85	"	1.8	0.63	42	87	3	"			
17982	"	5:17	6:17	4.80	4.80	8.3	3568	8002	3627	929	77	5170	5039	1327	28	4	4	4		1.74	6.22	151.07	"	1.5	0.5	47	64	0	"			
17983	"	~~6:17~~	7:21	4.23	4.23	7.3	3798	8001	3469	988	72	5308	4791	1280	33	^	^	^		1.34	5.09	156.16	"	1.3	0.44	47	46	1	"			
17984	"	7:20	7:56	3.71	3.71	6.8	2050	4122	1783	533	36	2893	2269	719	1	"	"	"		1.23	2.51	158.67	"	1.0	0.38	51	14	0	"		beams lost	
17985	"	19:44	19:52	4.81	4.85	9.5	460	1138	575	119	11.3	647	778	139	7	"	"	"		2.88	1.33	160.00	"	2.1	0.60	42	12	0	22.100		with FAMP.	
17986	"	19:53	20:53	4.71	4.76	8.6	3448	8002	4217	897	77	4833	5122	1211	23	"	"	"		2.26	7.78	167.78	"	2.0	0.54	41	94	2	"			
17987	"	20:54	21:50	4.14	4.19	8.7	3340	8002	3825	868	75	5063	4685	1250	17	"	"	"		2.76	9.22	177.00	"	2.2	0.4	41	108	0	"			
17988	"	21:50	22:49	3.62	3.67	8.0	3514	8002	3617	976	73	5404	4132	1355	17	"	"	"		2.32	8.16	185.16	"	2.0	0.35	43	102	3	"			
17989	"	22:50	23:16	3.16	3.21	7.5	1535	3448	1501	399	29.8	2400	1711	547	6	"	"	"		2.02	3.09	188.25	"	1.6	0.27	46	35	0	"		Beams dumped.	
17990	~~24~~/8/84	1 26	2 19	5.20	5.29	9.2	3153	8001	4204	820	76	5027	4862	1225	31	"	"	"		4.54	14.31	202.56	"	18	.55	43	140	4	"			
17991	"	2:20	3:15	4.38	4.75	8.6	3307	8002	3983	860	73	5197	4585	1318	21	"	"	"		3.52	11.64	214.20	"	1.7	.45	43	102	4	"			
17992	"	3:16	4:03	3.75	3.66	7.7	2786	6523	3132	724	56	4500	3317	1131	29	"	"	"		2.79	7.78	221.98	"	1.5	.35	45	75	0	"		Beam dumped	

RUN	DATE	START	STOP	AT RUN START I⁺	AT RUN START I⁻	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL *10⁶	TØ REJ. *10⁶	T_4 ACC SUM	T_2 ACC SUM	T_1 BIT2 $E_1 > 6$ GeV	T_2 BIT 17 $2T \cdot E_4 \cdot \geq 2TR$

Processors ON/OFF N50	MIP	TOF	FAMP	<L>	$\int L dt$	$\int L dt_{Exp}$	IBM TAPE OUTPUT	AT Run ID (μA)	Start TOF (V)	ONLINE REJECTION MIPROC (T_2)	ONLINE REJECTION NORD-50 ($T_1 \cdot T_2$)	$\leq$ Bhabha	MH	F_{BEAM}	MAGNET FIELD	REMARKS

56 20.8.84

8:00 W. Bartel & H. Mills on shift

8:25 Short break - PETRA has a water leak. CELLO say this could take between 30 mins and all day to fix! Magnet current lowered.
9:00 Petra has a water leak restart: 15⁰⁰
13:00 New message restart 22⁰⁰
Magnet off K-people are working on the magnet safety interlock system. There is a broken diode in the system and a spurious short.

— The counting house will no longer be permanently manned every 1 ÷ 2 hours the temperature will be controlled.

13:45 temp ok
16:00 temp ok
~~16~~ 16⁰⁰ - 24⁰⁰ Hellenbrand + Yamada on shift.
19⁰⁰ magnet up to 7500 Amp.
19 29 New fill ready.
Run 17985 with FAMP — just for ONE run.
19⁵⁰ ID slow trip
21:05 Muon digitizers missing 75 76 79 81,82, 122 125 126 128 129
crates 7 11
before I could find out which crates are affected, the error message disappeared
error message comes again after a few minutes
meanwhile I checked HV distributors, two of them showed overload
could not cure the problem, so phoned Austin Ball
21:55 A. Ball arrived.
chamber 397 signal current overload. -x,-z H.T. station had reduced to standby voltage.
#397 temporarily disconnected pending investigations.
AB.
24:00 Overlook, Spieler
Tuesday 21ST. 01³⁵ New Fill — good current, more luminosity, low background.
This shift.- 73 nb⁻¹

21.8.84

9⁰⁰ Dieckmann + Petersen
8⁴⁴ ID high current
8⁴⁵ stop run new fill
10⁰⁴ new fill ready
15⁴⁸ Phone call from R. Felst: ~~transformer~~ one transformer leaks burned oil. burnt? Burned oil found in filter for indication of something potentially dangerous going on!
Repair is scheduled ~~to be~~ for tomorrow morning.
Run down magnet to zero.
Presumably no shifts until then. Shift crew: come every 2-3 hours to check temperature etc.

19⁸⁰ Temp = 15.8 °C
22,00 16.2° C
23.40 15.8°C

22.8.84 0:00 Kado and Kleinwort on shift

0:10 Temp. 15.8°C
3:00 " 15.8°C
6:00 " 16.2°C
8:00 Kolbiol on shift. Temp 15.8°
8:15 Message from Pillert:
The transformer will be operational after lunch.
A 'Klemmenleiste' inside the transformer vessel burnt out. It will be replaced before noon.
W. Bartel
09.40 Greenshaw (for Orion) Temp 15,7 °C.
10:30 15,6 °C
13:30 15,6 °C
14²⁰ The repair of the transformer takes longer. It is not just the "Klemmenleiste". It will be dismounted in the NW-Hall tomorrow morning and we will then see. R. Felst
16⁰⁰ Riesberg here Temp 15.7°C
We decide to leave the DL8 System on, and to have regular checks of temperature etc. as before: At day time every 2 hours, during night time every 3 hours. Last check of evening shift should be around mid night, first check of day shift should be around 8⁰⁰.

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RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $*10^6$	TØ REJ. $*10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT2 $E_1 > 6$ GeV	T_2 BIT 17 $2T \cdot E_4 \geq 2TR$
58															
RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $*10^6$	TØ REJ. $*10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT2 $E_1 > 6$ GeV	T_2 BIT 17 $2T \cdot E_4 \geq 2TR$
17993	84 Aug 21	05:00	5:49	5.88	6.00	10.8	8876	8001	4382	749	81	4904	4974	1179	22
17994	"	5:49	6:41	4.93	5.04	9.4	3071	8002	4082	799	75	5271	4616	1398	33
17995	"	6.41	7.35	4.25	4.36	8.3	3240	8002	3864	843	70	5576	4059	1444	26
17996	"	7.36	8.35	3.69	3.79	7.6	3515	8001	3750	915	70	5660	4053	1465	19
17997	"	8.35	8.48	3.21	3.31	7.2	537	1175	542	140	10	830	593	223	1
17998	"	10:13	11:03	5.42	5.46	10.2	2978	8002	4300	755	79	5025	4798	1289	34
17999	"	11:04	11:55	4.72	4.76	9.4	3079	8002	4087	802	75	5357	4366	1484	22
18000	"	11:55	12:50	4.11	4.07	8.6	3220	8001	3762	838	72	5538	4125	1497	21
18001	"	12:49	13:48	3.59	3.58	7.9	3439	8002	4035	895	70	5552	3920	1361	19
18002	"	13.49	14.06	3.15	3.19	8.3	970	2334	1093	252	21	1638	1055	428	6
359/23			SHORT		BREAK		DUE	TO	MAGNET	POWER	SUPPLY	REPAIR.			
18003	13/9/84	13.47	13.50	3.82	3.51	21.6	189	~~703~~	542	49.3	10.6	477	327	111	3
18004	—"—	14.44		3.41	3.40	13.8	1017	3226	2497	2647	36	2180	1599	244	5
18005	"	14.59	16:00	2.82	2.61	8.7	8607	7639	5191	939	82	5405	3891	696	29
18007										no data					
18008	14.9.84	21.45	22:42	5.23	5.52	12.4	2958	8000	4343	767	96	4542	5729	1094	47
18009	14.9.84	22:44	23:36	4.44	4.71	10.7	3100	8000	4266	806	86	4801	5219	963	38
18010	14.9.84	23:36	0:08	3.85	4.08	9.7	1858	4412	2288	483	46	2726	2670	585	28
18011	15.9.84	0:12	1:13	3.52	3.74	9.7	3679	9001	4237	957	92	5223	4607	992	41
18012	"	1.14	1:18	3.06	3.26	6.8	197	412	192	51	3	247	234	60	4
18014	15.9.84	8:46	9:45	4.80	5.68	10.7	3140	8001	4347	817	87	4834	5369	1103	43
18015	"	9:45	10:43	4.16	4.98	9.0	3437	8001	4039	894	80	4779	5568	1038	43
18016	"	10:43	11:46	3.64	4.40	7.8	3772	8001	3746	982	77	5069	5204	1082	49
18017	"	11:48	12:46	3.17	3.86	7.2	3437	8001	5120	894	64	4318	4467	837	39
18018	"	12:46	12:50	2.83	3.47	6.6	131	352	251	34	2	160	164	27	2
18019	"	14.28	15:14	~~4.89~~ 4.96	~~5.37~~ 5.46	9.2	2786	8002	5977	717	66	3966	4435	983	28
18020	"	15.15	15.32	4.40	4.70	8.4	1030	2962	2186	268	22	1419	1580	273	12
18021	"	15.35	15.59	4.21	4.50	8.3	1433	3949	2829	373	31	2047	2052	410	15
18022	"	16.04	16.28	3.94	4.22	8.1	1384	3598	2158	360	29.2	1847	1967	387	20
18023	"	16.36	17.11	3.68	3.95	8.5	1804	4504	1810	469	40.0	2282	2269	430	12
18024	"	18.03	18.54	5.00	5.65	19.8	2877	8002	3832	748	148	3857	4624	939	40
18025	"	18.54	19.25	4.40	5.02	19.4	1837	5783	2348	478	73	2547	2819	605	20
18027	"	20.23	21.14	3.57	4.12	9.9	3050	8002	3324	793	78	4096	4136	907	33
18028	"	21.14	21.46	3.19	3.71	8.1	1608	4087	1577	478	33.6	2734	2624	450	76

Processors ON/OFF N50	MIP	TOF	FANP	<L>	$\int Ldt$ RUN	$\int Ldt$ EXP	IBM/TAPE OUTPUT	AT RUN START ID [μA]	AT RUN START TOF [V]	ONLINE REJECTION MIPROC (T_2)	ONLINE REJECTION NORD-50 ($T_1 \cdot T_2$)	Σ BHABHA	MH	E_{BEAM}	MAGNET FIELD	REMARKS
ON/OFF																59
N50	MIP	TOF	FANP	<L>	$\int Ldt$ RUN	$\int Ldt$ EXP	IBM/TAPE OUTPUT	AT RUN START ID [μA]	AT RUN START TOF [V]	T_2 REF. FRACT.	Σ BHABHA		MH	E_{BEAM}		REMARKS
ON	ON	ON		4.92	14.14	236.12	IBM	1.9	0.6	42	139	3		22.100		
"	"	"		3.76	11.56	247.68	"	1.6	0.5	45	122	2		"		
"	"	"		2.94	9.53	257.21	"	1.5	0.4	45	103	1		"		
"	"	"		2.31	8.11	265.32	"	1.4	.35	47	83	0		"		
"	"	"		1.69	0.91	266.23	"	1.2	.30	52	11	0		"		Beams dumped
"	"	"		4.55	13.56	279.79	"	1.7	.53	42	159	4		"		
"	"	"		3.61	11.12	290.91	"	1.6	.45	44	127	3		"		
"	"	"		2.80	9.00	299.91	"	1.6	.4	45	116	4		"		
"	"	"		2.14	7.37	307.28	"	1.6	.35	43	84	2		"		
"	"	"		1.74	1.69	308.97	"	1.8	.32	42	21	2		"		Beams dumped
ON	ON	ON		1.01	0.19		IBM	~~0.7~~	0.7	39	3	0		23.285		JUNK! ID NOT ON COMPLETELY?
"	"	"		1.06	1.07	331.77	"	2.1	0.65	39	16	1		—"—		Integrated lumi: see p.63
"	"	"		0.60	2.17	333.94	"	1.8	0.20	46	23	0		—"—		Beams Dumped.
														22.100		
"	"	"		3.44	10.18	319.15		2.0	0.7	43	115	1				
"	"	"		2.82	8.75	327.90		2.0	0.7	44	92	2		22.100		
"	"	"		2.12	3.94	331.84	"	1.5	0.6	44	40	0		22.100	4185	stopped for adding 46 units
"	"	"		1.70	6.25	338.09	"	1.4	0.5	43	55	0		"	4193	
"	"	"		1.57	0.28	338.37	"	1.3	0.4	48	4	0		"	4214	beams dumped
"	"	"		3.39	10.63	349.00	"	1.9	.8	45	114	4		22.100	4333	
"	"	"		2.45	8.43	357.43	"	1.8	.6	46	84	1		"	4142	
"	"	"		1.91	7.19	364.62	"	1.4	.55	46	91	3		"	4165	
"	"	"		1.37	4.70	369.32	"	1.3	.45	22	54	0		"	4165	
"	"	"		1.42	0.19	369.51	"	1.2	0.40	-2	0	0		"	4124	beams dumped
"	"	"		3.07	8.46	377.97	"	1.9	.7	13	97	4		"	4165	
"	"	"		2.63	2.71	380.68	"	1.7	.6	9	37	0		"	4178	
"	"	"		2.25	3.23	383.91	"	1.5	.5	13	26	1		"	4120	
"	"	"		7.84	2.55	386.46	"	1.4	0.5	16	30	7		"	4124	DIB 3x no response
"	"	"		1.51	2.72	389.18	"	1.35	0.5	9	31	0		"	4123	beam lost
"	"	"		3.11	8.94	398.12	"	1.8	0.8	15	101	1		"	~~4167~~ 4155	
"	"	"		2.75	5.05	403.17	"	1.7	0.65	11	54	1		"	4155	computer did "down" out of himself
"	"	"		1.76	5.38	408.55	"	1.9	0.5	10	60	1		"	4150	Runs 18026 - ~~18027~~ Junk
"	"	"		1.46	2.35	410.90	"	1.25	0.45	9	27	0		"	4175	Mond block

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RUN	DATE	START	STOP	AT RUN START I⁺	AT RUN START I⁻	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL *10⁶	TØ REJ. *10⁶	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT2 $E_1 > 6$ GeV	T_2 BIT 17 2T·E₄·≥2TR
60	22.8.84														

18:00	Temp.	15.9 °C	R
20:00	Temp	16.0 °C	L Aurikainzo
22 00	Temp	16.1 °C	L
23:59	Temp	16.2 °C	R
23.8.84			
3:45	Temp	16.0 °C	T. Mashimo
4:30	Temp	15.8 °C	Henzelmann
8.00	"	17.0 °C	L. Becher
10:00	"	15.9 °C	Takeshita
13:50	"	16,0 °C	L. Becher
14:10	"	15.9 °C	Takeshita
19:20	"	16.5 °C	Warming
21:00	"	16.8 °C	Nye
23:55	"	16.9 °C	Bartel
24.8.84			
3.05	Temp	16.7 °C	Warming }
4.10	"	16.5 °C	War }
6.40		17.1 °C	after }
8.15	"	17.5 °C	Barlow
10.35		17.1 °C	Barlow
13.30		16.6 °C	Barlow
24.8.84			
16.30		16.5 °C	DC
17.00	DL-system → off		Rissberg
19.15		14.5 °C	De

* Please continue to check temperature on same regular basis. (Even tho' DL8's are now off).

19 30	Air conditioner	17°C → 19°C	Rissberg
22.50	17.30		De

25.8.84			
2.50 - 3.15	17.0 °C	HE. Milb	
~7 a.m.	17.6 °C	J. Q. Sheard	- All quiet in the ~~JADE~~ hall. (No PETRA beam)
8.45	18.1 °C	KHH	"
11.45	18.3	G. Diedrics	
13.15	15.0 °C	KHH	

Processors ON/OFF N50	MIP	TOF	FAMP	<L>	$\int L dt$	$\int L dt_{Exp}$	IBM TAPE OUTPUT	AT Run ID (μA)	Start TOF (V)	ONLINE REJECTION MIPROC (T_2)	NORD-50 (T_1,T_2)	$\leq$ Bhabha	MH	F_{BEAM}	MAGNET FIELD	REMARKS

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Tasso's transformer is also down since yesterday ~22.00!!
Only Celle and Mark Four are running now. B Naroska

	14.20	15 °C	G. Diedrics	
	15.55	18°C	G. Diedrics	
	16.07	17,8 °C	T. Mashimo	
	21.00	18.0 °C	B. Naroska	23.285 GeV in Petra!
26.8.84	0.02	17.2 °C	B. Naroska	22.00 LG pan makes loud noise,
	02.47	17.3 °C	R. Feist	Petra stk 23.285 " disappears after a few minutes!
	6.10	17.8 °C	Nye	
	8.05	18.0 °C	Rissberg (here for ID)	"FEUERSCHADEN IN HALLE SO. WIEDERBEGINNEN"
26.8.84	08.25	18.0 °C	DC	
	10,58	19.3 °C	De	Alarm sounding. Cannot get answer from any of MKK3 numbers.
	11.30	19.2 °C	De	Have reset thermostat in compressor room to 17.0°C. is recommended value.
	11.40			
	11.45	18,1 °C	De	
	13.20	15,7 °C	De	Nice-n-cool.
	15.05	15,4 °C	De	The "Ice-age" cometh. Perhaps next shift could increase thermostat setting slightly - say 1.0 °C to 18.0 °C ?
	17.50	16 °C	} B. Knudt	
	20.00			
	20.25	15,5 °C	Disk-Room 17.2 °C	Rissberg
	22.55	16,2 °C		Rey
	23.59	14,6 °C		Rissberg

All quiet in the JADE hall

My comment to the above mentioned temperature alarm: The chosen thermostat setting (19°C) was for DL8-off stakes to keep disk-drive and people reasonably warm. To make life more interesting the VTX-FADC's were switched on meanwhile

No beam in PETRA since this morning at ~ 6 am.

27.8.84	2:50	15.8 °C	Schmett	
	06.06	16.0 °C	HILL	
	08:00	15,5 °C	Greenshaw	Later this afternoon TASSO will know what is wrong with their transformer. It looks similar to our transformer fault. W Bartel
	12,00	14,2 °C		
? →	02:00	13,8 °C	Greenshaw	
	16:50	14.0 °C	J. Q. Sheard	
	19.00	14.9 °C	Dzeldzen	
	23 30	14.8 °C	J. Q. Sheard	

RUN	DATE	START	STOP	AT RUN START I⁺	AT RUN START I⁻	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL *10⁶	TØ REJ. *10⁶	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT 2 $E_1 > 6$ GeV	T_2 BIT 17 $2T \cdot E_4 \cdot \geq 2TR$
	28/8/84	7[15]		15.2° C	UHH										
		3[30]		15.5° C	UHH										
		6[20]		15.9° C	S. Yamada:		E = 23.285.		I⁺ = 3,90		I⁻ = 3.52				
		7[40]		cleaning people came in. T = 14.2° C											
		8[02]		T = 15.0 °C	J. Haidt		23.285		I⁺ = 2.77		I⁻ = 2.20				
	28.8.84	16.15		14.3 °C	DE										
		18.05		14.3 °C	DE										
							18[42]: it has been decided to skip the 03[00] turn until further notice R. Fest								
		19:57		15.4°C	Takeshita										
		22:10		15.6 °C											
	29/8/84	01:00		16.0°C	AHB										
		06:20		15.8 °C	AHB.										
		08[06]		15.6 °C (60°F)	RJB										
		10.16		15.1	B. Narroska		E=23.285		3.99 / 3.66		ImA				
		10.30		14.5	RJB										
		18[00]		13.7	RJB										
		15.00		13.8	B. Narroska										
		17.00		14.7	R. Ramcke										
		19.00		14.5	R. Ramcke										
		19.00			From TV: Restart 31.08										
		20[59]		13.8	HERA - like an iceberge here!										
		23[10]		16.8	R. Ramcke										
	30/3/84	5[50]		15.3 °C	D. Haidt										
		08.40		16.3	P. Laurikainen										
		10.20		16.5	PL										
		12.00		16.2	PL										
		13.40		15.2	PL										
		15.00		14.6	Y. Iguchi										
		17.00		15.5	J. Wyre										
		22.50		15.5	Kuhlen										
	31/8/84	0:10		16.2	R. Ramcke										

Processors ON/OFF N50	MIP	TOF	FANP	<L>	$\int L dt$	$\int L dt_{Ext}$	IBM TAPE OUTPUT	AT Run ID (μA)	Start TOF (V)	ONLINE REJECTION MIPROC (T_2)	NORD-50 (T_1·T_2)	$\leq$ Bunches	MH	F_{BEAM}	MAGNET FIELD	REMARKS
	31/8/84	06.04		16.7°	J. Hargmann											
		8:15		15.2°	Riesberg											PETRA still down because of 10 kV Transformator fault. Smell like from burnt wood in the JADE-Hall, door side only, is probably coming from outside. Von Baustelle "B". • Noisy fan in LeCroy HV4032, MPR61. Tag Bauarbeiten beim Wasserschieber vor der Halle. • LUN 35: No copy
		10:20		16.3°C	Riesberg											
		12:35		16.7° C	"											"RESTART ca 15 h"
		12:55		16.9°C	"											The oil is pumped out of the Magnet Transformer
		15:05		15.7°C	"											"RESTART ca 17 h"
		15:55		15.8°C	"											Petra magnets are on
		16:00		15,8°C	G. Kuies											
		19:20		15.1°C	Riesberg											
		21:05		15,2°C	G. Kuies											
	1/9/84	0:45		16.0° C	UHH											
		6:20		16.4° C	Kuhlen											
		8[10]		15.4°	RJB											
		11[23]		16.7°	RJB											"Short break" – and looks as if there wasn't any satisfactory Luminosity last night.
		14[23]		16.5°	L. Becker											
		15[50]		15,0°	J. Olsson											
		18[11]		15,1°	"											
		20[00]		16.2°	T. Takeshita											For more than 12 hours PETRA had no beams at all.
		20[30]		16.3° C	UHH											
		22[25]		15.8												
	2.9.84	0[10]		16.5 °C	V. Schmidtke											
		3[06]		14.8° C	"											PETRA is running again 23.285 GeV
		05[40]		17.4° C	A. Wagner											A beautiful sunrise!!
		8[05]		16.9°C	Kleinwort											
		10[20]		16.8 °C	Kleinwort											Injection
		12[05]		18.3°C	Kleinwort											" , but no beams
		13[20]		15.7°C	Kleinwort											
		14[50]		15.3°C	Yamada											luminosity run going. E_b = 23.285 E_b[20] → injection
		17:10		17.0°	P. Laurikainen											
		18:55		16.6°	PL											
		20[30]		14.9°	A. Wagner											

RUN	DATE	START	STOP	AT RUN START I⁺	AT RUN START I⁻	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL ×10⁶	TØ REJ. ×10⁶	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT 2 $E_1 > 6$ GeV	T_2 BIT 17 $2T \cdot E_4 \cdot \geq 2TR$
64															
	2/9/84	22^{10}		15.0°											
		22^{45}		14.9°											

P. Laurikainen
Ch. Ikdahl
A long day!!

3/9/84 Greenshem 6 O'clock and all's well Temp 16,2 °C.

	9:00	16.7°C	Rösberg	Luminosity at 23.285 GeV
	12:30	15.2°C	Becker	
	16^{10}	15.8°C	CRH.	
	21^{00}	17.7 °C	Nye	
	22^{17}	17.3°C	JRW	
4/9/84	0^{20}	16.2°C	T. Mashimo	
	3^{20}	16.6°C	T. M.	
	6^{10}	15.0°C	A Petrov	
	8^{30}	16.0 C	R. Felst	Luminosity at 23.285 GeV
	10^{00}	16.9° C	Takeshita	"
	14^{00}	15.6°C	"	"
	15^{00}	15.5°	R. Felst	Trouble with PEP vacuum, restart ca 16^{00}
	17^{10}	15.8	Nye	
	21^{45}	15.5	Nye	
	22^{00}	16.6°C	Ukawa	JADE still here.
5/9/84	0^{15}	15.3°C	JRW	
	5^{25}	15.8°C	Rösberg	All is well, SHORT BREAK at Petra
	7^{54}	16.6°C	RJB	
	8^{25}	15.5°C	L. Becker	
	10^{32}	16.9°C	RJB	
	12^{26}	17.1°C	RJB	
	14^{11}	16.3°C	RJB	
	16^{30}	15.3°C	RJB	
	19^{30}	14.7°	Kuhlich	
	21^{07}	16.9°	HILL	
6/9/84	6^{10}	15.7	Nye	
	8^{00}	15.8°	RJB.	
	9^{05}	15.5	G. Dietrich	
	905	17,9° ↑ 18.1°C	Rösberg	No alarm in compressor room
	915	1 Compressor starts, temperature comes down		
	10^{04}	16.9°	RJB	

Processors ON/OFF N50	MIP	TOF	FANP	<L>	$\int Ldt$	$\int Ldt_{Ext}$	IBM TAPE OUTPUT	AT Run ID (μA)	Start TOF (V)	ONLINE REJECTION MIPROC (T_2)	NORD-50 ($T_1 T_2$)	Σ Beating	MH	F_{BEAM}	MAGNET FIELD	REMARKS

	11:00	17°C	G. Dietrich
	12^{09}	16.3°	RJB
	14^{00}	15.3°	RJB
	14^{30}	15.0	G. Dietrich

New system disc initialised and installed (HEM)

	15^{55}	16.6	D. Schmidt
	19^{30}	15.8	Dietrich
	20^{30}	15,4	D Schmidt
	23^{25}	15.8	D. Schmidt
7/9/84	6^{09}	15.0°	H.E. Mills
	8^{52}	15.5°	G Weber
	12^{05}	15.3	CRH
	14^{19}	14.8°	G Weber
	15^{50}	14.1	Wan
	18^{15}	15.5° C	B. Schmeckebier
	20^{10}	14.3	P. Bethke
	21^{20}	15.2°C	B. Schmeckebier
8/9/84	0^{10}	14.8	SS.
	6^{05}	15.3	P. Wan
	8^{20}	16.0	G. Dietrich
	10^{30}	16.3	G. Dietrich
	12^{15}	16.1	G. Dietrich
	13^{05}	15.5	P. Will
	15^{11}	15.9	P. Will
	19^{00}	15.6	T. Mashimo
	22^{35}	16.1	T. Mashimo
9/9/84	2^{15}	15.8	G. Heinzelmann
	6^{20}	16.1	G.H.
	8^{50}	18.0	G. Weber
	9^{25}	16.5	G. Weber
	10^{42}	16.5	G. Weber
	12^{00}	16.0	G. Weber

Entrance door to NW-Hall found locked

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ. $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT2 $E_1 > 6$ GeV	T_2 BIT 17 $2T \cdot E_4 \cdot \geq 2TR$

Before starting data taking contact A. Ball or P. Warming for the HV of the muon ch. system

	14^{35}	15.3 °C	Diedrich
	16^{30}	16.0°	Krehbiel
	18^{30}	15.4	"
	21^{45}	15.1	"
	23^{00}	16.5	CR Hedgcock.
10/9/84	06^{00}	16.0°	C. Bowdery
	9^{10}	17.8 °C	RBg DL8 on
	17.47	16.5°C	Gilchet
	19^{34}	16.0°C	S. Bethke ID-electronics debugged.
11/9/84	2^{55}	16.9°C	T. TAKESHITA
	5^{55}	17.2°C	S. Bethke
	8^{10}	16.4	J.B. Whittaker
	11^{20}	17.6	J.B. Whittaker
	13^{35}	15.9	J.B. Whittaker
	15^{20}	17°	R. Felst
	16^{10}	16.2°	Hardt
	19^{1}	16.4°	Hardt
	21^{15}	17.5	P Murphy
12/9/84	0:20	16.8°C	KAWAMOT & TAKESHITA : OUR LEAD GLASSES ARE READY TO TAKE DATA NOW!
	2:50	16.8°C	G. Dietrich
	6:02	16.7°C	P. Warming
	8:00	16.6°C	T. Mashimo
	10^{00}	16.5°	R. Felst
	11^{25}	ID-electronics checking and debugging finished: everything ok. Before switching on for the first time data taking please call Riesberg or Bethke.	
	11^{25}	16.8°C	S. Bethke
	12^{00}	18.0°	R. Felst 12^{05} 17°C
	13^{30}	16.5°	"
	15^{00}	16.2°	"
	16^{00}	17.1°C	Diedrich
	19.50	17.1	J.B. Whittaker.
	23.12	16.1	J.B. Whittaker

Processors ON/OFF N50	MIP	TOF	FAMP	<L>	$\int Ldt$	$\int Ldt_{Ext}$	IBM TAPE OUTPUT	AT Run ID (μA)	Start TOF (V)	ONLINE REJECTION MIPROC (T_2)	NORD-50 (T_1,T_2)	Σ Buchu	MH	F BEAM	MAGNET FIELD	REMARKS

12.9.84

New default version of Nord-50 program installed (old one on OLD-N50DAT).
Changes :- JETCHAMBER - error checking should produce correct messages for 'illegal ADC' and 'illegal TDC'.
- Hits with one of the ADC's zero included in analysis (reason why N-50 & MIPROC T2ANA differed in past).
JETCALC - Slight change in error condition handling on reject candidates.
HERM

16^{10} According to R. Felst the magnet will be switched on tomorrow (13.9.) morning. So temperature checking goes on...

NOTE When data taking starts inform me (not in the night!) so that the Lorenz angle as used by the online event display and the PATRECH Nord-50 event rejecting algorithms can be changed according to whatever magnet current is reached. Until this the N-50 PATRECH event rejection is temporarily turned OFF. Howard Mills

20^{00} TDC crate 4 N°5 replaced. It showed no Q-response. (TOF 35-36, 77-78)

	22^{40}	16.0°C	S. Bethke	(deadtime 92%, nothing is running)
13-9-84	0^{02}	17.0°C	SRW	
	0^{23}	16.7°C	SRW	
	8.00	16.9° C	B. Narosha	Magnet still off
			Camac clock reset (was 6 mins fast) HERM	

8.00 Hedgecock & Narosha on shift.

11.05 Magnet on 6400 A $\stackrel{1}{=}$ 4137 G Un-regulated
172
161
100
97

11^{10} muon chambers back to full voltage → no big signal currents at 2x 3.2 mA (background seems reasonable) PWA

after Testrun 18003 pulsheights & histograms look all OK.
Lorenz angle of -17.0 degrees specified by H. Riesberg for magnet current of ± 6500A. This figure now built into the PATRECH and event display. HERM

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ. $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT 2 $E_1 > 6$ GeV	T_2 BIT 17 $2T \cdot E_4 \cdot \geq 2$ TR

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T2 input empty. Find Clear cable unplugged in electronics part. Before we can test it, beams are lost. Sextupole circuit missing.

THE MAGNET RUNS NOW UNREGULATED, IT'S SETTING IS CONTROLLED
FROM THE POWER-HOUSE. THE ONLY JOB OF THE SHIFT-CREW IS:

1) IN CASE OF EMERGENCY (FIRE, WATER, ECT.) PRESS THE
EMERGENCY OFF AT THE MAGNET CONTROLL-BOX (YOU HAVE TO
OPEN THE PLEXIGLASS FLAP (KLAPPE) PROTECTING THE SWITCH).

2) IN CASE OF LONGER PETRA BREAK (> 2 h) PHONE MKK (Tel. 3389/~~3366~~ 3285)
AND ASK THE PEOPLE ON SHIFT THERE TO RUN THE MAGNET DOWN.
to ≈ 1500A
(minimum)
mm 8a

R. Felst

13.30 Another TOF TDC exchanged C.3 N27 TOF 25, 26, 67, 68

15.00 ~~Nah diese~~ After this filling there will be a break of two hours.
14:30 Trigger rate grows up again by LG barrel Group trigger.
15:10 We found a crazy counter (14-W0-9 : DIST 22-125 ch) but just after we changed HV of this counter, he became quite. So we left without pulling out HV cable, if the trigger rate raise again please call us (Kawamoto & Takeshita)

The integrated lumi at 23.285 GeV is:
June : 89 (half of the 178 recorded by Bhabha)
August: 241.7 (page 51)
330.7 nb^{-1}

15.37 2x Missing Lam Brand 3 crate 2: Muon chambers.
15.48 Muon Crate Missing 8

Processors ON/OFF N50	MIP	TOF	FANP	<L>	$\int$Ldt	$\int_{Exp}$Ldt	IBM TAPE OUTPUT	AT Run ID (nA)	Start TOF (V)	ONLINE REJECTION MIPROC (T_2)	NORD-50 (T_1 & T_2)	Σ Bhabha	MH	F_{BEAM}	MAGNET FIELD	REMARKS

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15.49 Mark J announces beams to be dumped at 16.00
Then there will be ≈ 2 hours of break for Petra to look at the position monitors and count the broken ones.

15.52 Missing Lam Brand 2 crate 5
Brand 3 crate 2
16:00 Duerdoth + Heintzelmann
16:36 Nord-50 PATRCH online rejection turned ON (was off for runs 18003-5 incl). HEM

16:40 ★ LG barrel counter Ring 14 – W – 9 removed (killed).
[Kawamoto, Takeshita]

18-19^{00} - Missing LAM Br 2 Crate 5 cured by initializing A99
- DL8 #3 (sides 16-25) cleaned with rubber

19 25 short break. PETRA magnet brute cooling.

22 20 New fill ready. High TOF rate. Background opt.
22 30 beams lost. short break. Vacuum leak.
14/1/84 0 00 Whittaker & Haidt on shift
5 15 Vacuum problems : restart ca 9 h
we call MKK to run down the magnet

8 00 Felst + Komamiya
Vacuum problems : restart ca. 11 00 or later on T.V.
9 00 Magnet → 6500 A. Mr. Pillat measures the ~~correct decrease~~ decrease of current caused by the temperature rise

Attempt to read out the Z-chamber in cosmic run failed. No Z-chamber bank appeared. Reason unknown. HEM
17^{00} Magnet down to 1500 A
' Technische Probleme restart ca. 18 00 '.
17.45 Restart not before 20.00 Vacuum is still too bad.

18:00 Muon filter standard decks OK. PWA

RUN	DATE	START	STOP	AT RUN START I⁺	AT RUN START I⁻	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL *10⁶	TØ REJ. *10⁶	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT2 $E_1 > 6$ GeV	T_2 BIT 17 $2T \cdot E_4 \cdot \geq 2$TR

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16.00 Kowamoto, Weber

18.06 Temp. = 17°C

18.40 "Injection" on TV monitor

18.49 Set magnet to 6500 A

21:05 Beams ready. HV (PM's) switch on. very high TOF rate (> 1T). and jumps sometime ≈1.1T

Asked PKR optimization

21:27 RUN 18007 start : Missing LAM BR 2 CR 7 ID Ring 2

ID tripp, LG HV tripp.

The dataway contact of a DL8 was cleaned

↳ test RUN WORKS NOW OK.

21:45 RUN 18008 start Ebm = 22.100 GeV

MUON CRATE 13 missing

22:01 ID trip during runs 18008; reset and continue; ~~beam lift times, quite stable beam~~

22:06 Check mag. current: 6522A;

22:08 ID-trip (slow): pause and reset.

22:14 " " ("): " " "

22:33 Check mag current: 6474A;

24:00 Spitzer, ~~Schmitt~~ Hellenbrand

15.9.84 Problem with JETC TIMING MAP noticed by previous shift (Ring 3)

3:00 PETRA BREAK problem with a broken power line

RESTART CA 8:00 (optimistic)

not possible to reach anybody of K people

PKR promissed that they will inform K people to run down our magnet

we are waiting

5:00 magnet to 7500 Amps

5:30 magnet stable, temperature 15.8°C, everything quiet, so we went home

08:00 Duerdoth + Kleinwort Injection, ask MKK to raise magnet.

18:30 Beams ready Moving LAM BR 4 CR 7 ID Rig 2, DL8 - contact cleaned

Muon crate missing (13) Test Run → O.K.

Processors ON/OFF N50	MIP	TOF	FANP	<L>	∫Ldt	∫Ldt Exp	IBM TAPE OUTPUT	AT Run ID (μA)	Start TOF (V)	ONLINE REJECTION MIPROC (T_2)	NORD-50 (T_1&T_2)	Σ Bhabha	MH	F_{BEAM}	MAGNET FIELD	REMARKS

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8.55 ID trip (slow) pause and reset several times YSPY TOF TAC no hits : 13

9.22 Missing LAM BR 5 CR 6 ID. Rig 1

9.25 ID trip (slow) pause and reset

9.30 Magnet now 4181g (6410 A). Since turn on (90 mins ago) it has drifted down about 5%

It seems to take about an hour to stabilise

13.10 short break (on level 14)

14.25 New fill - try to start run, Nord has died restarted.

14.30 We get MAGNET FLUCTUATION error as soon as ~~the~~ acknowledge previous one.

Set field to 4165 and tolerance 20 (ie ½%). F14, F5.

14.47 " " 4170 "

15.00 4180 5 You get error message when outside the range 4175 – 4185

15.13 → 4177. set 4175 ±10

15.22 → 4185 then falls to 4129 set 4130 ±10 "It's done a quantum jump"

15.43 → ~~4144~~ 4142 set 4135 ±10

15.44 4146 4145 ±10

15.40 noted reject fraction is low and we have lots of JETC ILLEGAL HIT COUNTER & WIRE #.

leave this for expert to fix on next shift.

15.57 4127 set 4130 ±20

16.00 Matsumura & Krebbiel on shift.

16.00 TOF-HV wrong MFR 53, ch. 13. Reset via standard procedure.

" JETC Wire Map #272 ~ wrong DL8 replaced was Ser. Nr. 79. is now Ser. Nr. 23

16.00 Trouble with one DL8: during Run 18022. Gap in Histog. Matsumura is investigating.

16.58 ID Trip, Beams Lost, short Break

18.00 Beams back

19.15 HV of MFR # 53, ch. 13 again off! Can't this blasted channel be repaired

19.35 Computer executed the "DOWN" commands ~~aft~~ when he (it) was supposed to do something else. After Restart, DL-8 missing LAM

20.45 See entry 19:15

21.49 " " " . Before: Nord block, cured by starting a new run.

22.00 Beams dumped

23.10 Beams up again.

RUN	DATE	START	STOP	AT RUN START I+	AT RUN START I-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL *10^6	TØ REJ. *10^6	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT 2 $E_1 > 6$ GeV	T_2 BIT 17 $2T \cdot E_4 \cdot \geq 2$TR
18034	16.9.84	0:00	8:00	1.5	1.5	30	28800	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5

Processors ON/OFF: N50 | MIP | TOF

72

16.09.84

0:00 Finch + Ramcke on shift

0:35 TOF-TDC 13 no hits (YSPY), Trigger I Input missing 37 Trigger I Output missing 45

0:40 HV of MFR 53 channel 13 resetted via ZDAS-Detector-CTRL

1:45 — " —

1:58 (YSPY) Tof-TDC not hits 27 48

2:03 " " " 11 ; ZDAS readout error 33 — missing LAM branch 3 crate 2

2:04 Mark3 ring suggest new fill, I agree

2:05 ~~Stop~~ "Switch off HV" — that was fast!

2:36 New fill # At start of run 18034 - muon crate 14 missing

3:19 TOF TDC no hits 27

3:31 SLOW ID TRIP, followed by "Switch off HV"

4:47 New fill - "Muon wire missing" at run start again (No. 10)

4:48 Soft ID trip

5:36 ZDAS READOUT Error 33 : Missing Lam branch 3 crate 2

5:40 TOF-TDC no hits 60

6:00 " 13

6:10 HV of MFR53 ch.13 wrong → reseted via ZDAS ⇐ happend several times

6:12 TOF-TDC no hits 35, 12, 54

7:12 Mark 3 asked for a new filling, we agree

8:00 JUNGE, KAWAMOTO

08:07 Hang up NORD-50

9:00 HV error MFR 53 ch 13: reset via ZDAS.
YSPY detected no hit in TOF TDC 13

10:20 TOF TDC no hits : 13 ; TRIGGER 1 Input missing : 37 ; TRIGGER 1 Output missing : 45
HV of MFR 53 ch# 13 down → reset HV via ZDAS

10:35 ZDAS READOUT ERROR 33 - Missing LAM branch 2 crate 3 : TOF1 counters

12:45 — " — — " — 3 " 2 : Muon chambers ; 3 times ; PAUSE/CONT. ⇒ ok.

13:16 — " — Branch 2 Crate 3 : TOF1 counters

13:40 HV of MFR 53 ch# 13 down → reset HV via ZDAS

14:30 ——— " ——— — " —

15:16 ——— " ——— — " —

15:40 High Dead Time ~ 30% and fluctuations ~ 20%; PKR will try to improve collimator adjustment

16:00 Bethke Duerdoth.

16:25 Soft ID trip

16.9.84

16:40 HV Mainframe 53, channel 13 again! — reset via ZDAS.
YSPY Trig 1 I/P 37 & Trig 1 O/P 45. TOF TDC no hits 13, 67.

18:00 YSPY: TOF TDC 13, Trig I i/p 37, O/p 45. TOF Hit-Maps: low channel 13.
Clear Histogram to see whether & this bin is filled sometimes.

18:15 Reset MFR 53, Channel 13 (after error) Tof ch. 13 is filled.

18:16 magnet fluctuates: -4129 → -4177 within ~20 min.

18:25 "40 events", but everything looks ok. Stop and start run: it works again

20:20 Reset MFR53/CH13 as requested.

21:05 New Run — again reset MFR53/CH13.

21:20 Looking back at the last 2 days running — the T_2 reject fraction jumped from ~45% to ≤ 20% at Run 18018 for an unknown reason. NOT UNKNOWN - that was when the SETC ERRORS CAME!
Dead Time is high, (~30%) apparently at beginning of fill. We will turn off Analysis of Z Vertex in the N50 at the end of this run (18056).

21:49 Shut Run 18057 (N50 Analysis of Z vertex turned off).

17.09.84

0:00 Bartel & Middleton

1.00 Reset MFR 53 ch. 13
Since 13.9.84 every run starts with the message
%PARA 24: PED CRTZ CH 276 < 100, Value 89 ← with decreasing tendency over days.

We could not find a description of this error. It is not clear in which branch the low pedestal occurs. We assume that experts have seen this error and we ignore it.

1:53 reset MFR53 ch13, again!

3:10 switch FAMP on for run 18062 on

3:15 reset HV MFR 53 ch 13

4:25 YSPY: TDC 13 no signal TOF-maps looks ok clear hit. Took a pain ~~TOF 13 dead~~

4:27 reset HV MFR 53 ch 13
TDC-Map I is ok
TDC-Map II TDC#7 is dead but not 13
something must be wrong here YSPY counts or histogram wrong counts.
after resetting HV 53/13 the gap in the TOF-TDC map II disappears but at no 7!
see plots N50 histograms.

RUN	DATE	START	STOP	AT RUN START I⁺	AT RUN START I⁻	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL *10⁶	TØ REJ. *10⁶	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT 2 $E_1 > 6$ GeV	T_2 BIT 17 $2T_0 E_4 \cdot \geq 2$ TR

Processors ON/OFF N50	MIP	TOF	FANP	<L>	∫Ldt	∫Ldt Exp	IBM TAPE OUTPUT	AT Run ID (NA)	Start TOF (V)	ONLINE REJECTION MIPROC (T_2)	NORD-50 ($T_1 \cdot T_2$)	≤ Brahms	MH	E_{BEAM}	MAGNET FIELD	REMARKS

16.09.84

0:00 Finch + Ramcke on shift

0:35 TOF-TDC 18 no hits (YSPY), Trigger I Input missing 37 Trigger I Output missing 43

0:40 HV of MFR 53 channel 13 resetted via ZDAS-Detector-CTRL

1:45 — " —

1:58 (YSPY) Tof-TDC not hits 22 48

2:03 " " 11 ; JDAS readout error 33 — missing LAM branch 3 crate 2

2:04 Mark 3 ring suggest new fill, I agree

2:05 ~~stat~~ "Switch off HV" — that was fast.

2:36 New fill # At start of run 18034 - muon crate 14 missing

3:19 TOF TDC no hits 27

3:31 Slow IN → AIP, followed by "Switch off HV"

4:17 New fill - "Muon wire missing" at run start again (No. 10)

4:48 Soft ID trip

5:36 JDAS READOUT Error 33 : Missing Lam branch 3 crate 2

5:40 TOF-TDC no hits 60

6:00 " 13

6:10 HV of MFR53 ch.13 wrong → reseted via ZDAS ⇐ happend several times

6:12 TOF-TDC no hits 35, 12, 54

7:12 Mark 3 asked for a new filling, we agree

8:00 JUNGE, KAWAMOTO

08:07 Hang up NORD-50

9:00 HV error MFR 53 ch 13: reset via ZDAS.
YSPY detected no hit in TOF TDC 13

10:20 TOF TDC no hits : 13 ; TRIGGER 1 Input missing : 37 ; TRIGGER 1 Output missing : 45
HV of MFR 53 ch# 13 down → reset HV via ZDAS

10:35 JDAS READOUT ERROR 33 - Missing LAM branch 2 crate 3 : TOF1 counters

12:45 — " — — " — 3 " 2 : Muon chambers ; 3 times ; PAUSE/CONT. ⇒ OK.

13:16 — " — Brand 2 Crate 3 : TOF1 counters

13:40 HV of MFR 53 ch# 13 down → reset HV via ZDAS

14:30 ——— " ——— — " —

15:16 ——— " ——— — " —

15:40 High Dead Time ~ 30% and Multiplicities ~ 20% ; PKR will try to improve collimator adjustment

16:00 Bettike Duerdoth.

16:25 Soft ID trip.

16.9.84

16⁴⁰ HV

YSPY

18⁰⁰ YSPY

Clear

18¹⁵ Reset

18¹⁶ "

18²⁵ " 40

20²⁰ Reset

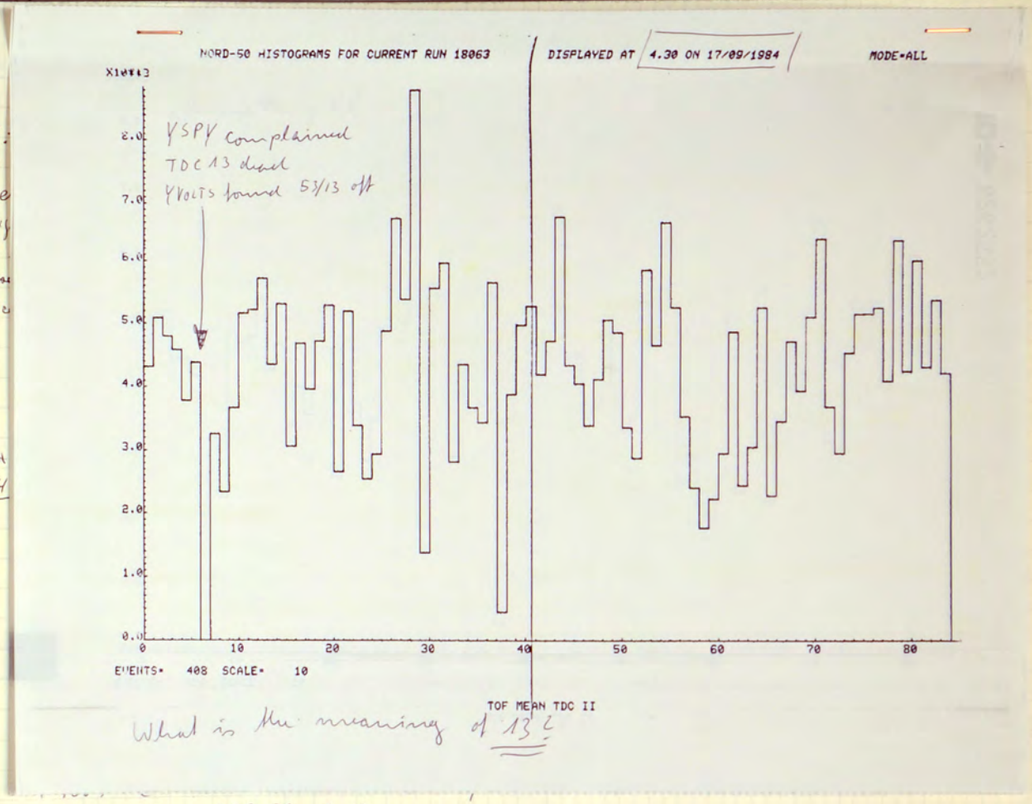
21⁰⁵ No

21⁴⁹ Shut

17.09.84

0:00

1.00



What is the meaning of 13?

1:53

3:10

3:15 reset HV MFR 53 ch 13

4:25 YSPY: TDC 13 no signal TOF-maps looks ok clear hist. look again ~~TDC 13 dead~~

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TDC-Map I is ok
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all plots N50 histograms.

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72

16.09.84

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14:30 ——— " ——— — " —

15:16 ——— " ——— — " —

15:40 High Dead Time ~ 30% and fluctuations ~ 20%; PKR will try to improve collimator adjustment

16:00 Bethke Dwerdoth.

16:25 Soft ID trip

Processors ON/OFF

N50	MIP	TOF	

16.9.84

16[40] HV

YSPY

18[00] YSPY

Clear

18[15] Rese

18[16] muo

18[25] " 40

20[20] Res

21[05] Ne

21[49] Shut

17.09.84

0:00

1.00

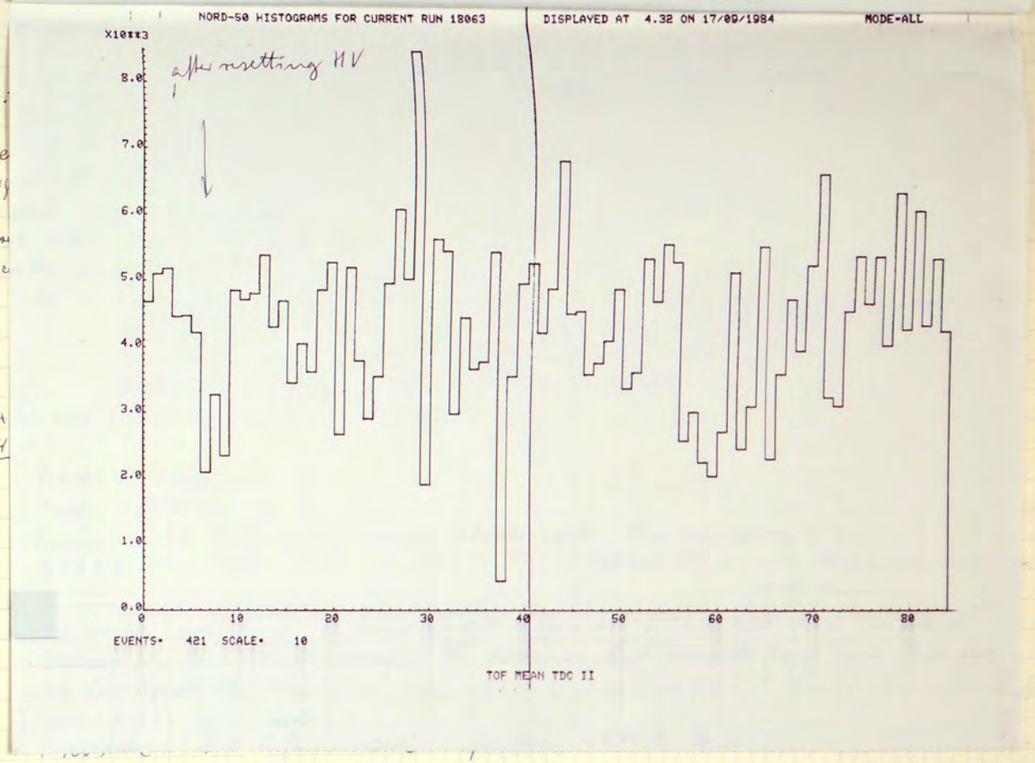
1:53

3:10

3:15 reset HV MFR 53 ch 13

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but at no 7!
all plots N50 histograms.



ID-6- 6262553

RUN	DATE	START	STOP	AT RUN START I⁺	AT RUN START I⁻	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL *10⁶	TØ REJ. *10⁶	T₁ ACC SUM	T₂ ACC SUM	T₁ BIT 2 E₁>6 GeV	T₂ BIT 17 2T₀ E₄·≥2TR
74															
18029	~~15/09~~ 17/09	~~23.47~~ 22.47	22.01	2.99	3.48	7.9	758	1917	746	197	75.5	7000	882	274	6
18030	15/09	23.14	0:02	5.18	5.37	19.5	2831	8002	3773	736	144	4008	4597	1049	31
18031	16/09	0:03	0:51	4.51	4.70	13.9	2889	8002	3704	751	104	4040	4370	946	20
18032	-"-	0:52	1:42	4.00	4.18	10.1	3010	8002	3371	782	79	4216	4099	949	27
18033	"	1:42	2:04	3.57	3.73	8.8	1270	3382	1357	330	29	1775	1670	402	16
18034	"	2:36	3:22	5.57	5.29	20.3	2788	8002	3796	725	147	3970	4625	1102	33
18035	"	3:23	3:31	4.90	4.63	18.4	377	1142	527	98	18	554	605	140	10
18036	"	4:44	5:34	5.46	5.24	23.7	2799	8002	3864	730	172	3880	4623	1154	35
18037	"	5:34	6:21	4.18	4.58	14.2	2836	8002	3609	737	105	4015	4421	1095	34
18038	"	6:22	7:10	4.24	4.05	10.0	2885	8002	3389	753	75	4118	4163	1121	19
18039	"	7:12	7:16	3.77	3.60	9.8	275	784	333	71	7	406	381	116	1
18040	"	07:49	08:07	5.43	5.53	28.6	1085	3120	1532	283	81	1473	1851	433	15
18041	"	08:07	8:56	5.40	5.50	22.4	2742	8002	3785	714	160	3896	4498	1135	25
18042	"	08:56	09:43	4.71	4.79	14.9	2773	8002	3602	722	107	4073	4227	1111	24
18043	"	09:43	10:31	4.13	4.20	10.2	2891	8002	3322	748	76	4228	3995	1119	24
18044	"	10:32	11:02	3.65	3.71	9.8	1753	4578	1819	456	86	2428	2230	623	22
18045	"	11:36	12:23	5.71	5.92	25.8	2784	8002	4184	725	187	3832	4596	1051	30
18046	"	12:23	13:09	4.97	5.23	22.8	2736	8002	3682	712	162	3836	4481	1024	22
18047	"	13:10	13:56	4.36	4.61	13.9	2761	8002	3464	718	100	4029	4215	1042	31
18048	"	13:56	14:40	3.86	4.09	10.4	2611	7288	2968	679	70	3706	3748	947	27
18049	"	15:14	16:03	5.64	5.87	30.9	2935	8002	4081	763.8	836	3642	5160	990	25
18050	"	16:04	16:53	4.90	5.11	21.2	2812	8002	3559	731	155	3897	4654	1039	30
18051	"	16:54	17:41	4.28	4.47	13.0	2850	8002	3362	741	96	4069	4303	1098	22
18052	"	17:42	18:24	3.78	3.97	9.3	2406	6638	2769	626	58	3545	3250	967	20
18053	"	18:25	18:51	3.41	3.59	8.6	1526	4156	1560	397	34	2246	1974	685	8
18054	"	19:30	20:17	5.67	5.70	29.8	2765	8001	4012	720	214	3961	4728	1317	32
18055	"	20:17	21:03	4.95	4.99	21.2	2720	8002	3514	708	150	4083	4343	1434	18
18056	"	21:03	21:48	4.36	4.40	13.5	2694	8002	3259	701	94	4240	4027	1576	20
18057	"	21:49	22:31	~~3.88~~ 3.84	3.92	8.6	2325	6677	2580	605	52	3661	3279	1285	28
18058	"	23:37	0:22	4.92	5.06	13.8	2394	8002	3730	623	86	4009	4553	1304	31
18059	17/09	0:23	1:04	4.90	5.05	11.4	2446	8002	3571	636	72	4177	4239	1485	26
18060	"	1:05	1:48	3.95	4.08	10.3	2588	8002	3417	673	69	4243	4112	1454	24
18061	"	1:49	2:30	3.58	3.70	8.7	2466	7191	2865	641	56	3850	3537	1273	24
18062	"	3:12	3:53	5.13	5.18	16.8	2412	8002	3924	626	105	3842	5106	1272	33

Processors ON/OFF N50	MIP	TOF	FANP	<L>	∫Ldt	∫Ldt Exp	IBM/TAPE OUTPUT	AT RUN START ID (μA)	AT RUN START TOF (V)	ONLINE REJECTION MIPROC (T₂)	ONLINE REJECTION NORD-50 (T₁·T₂)	Σ Bhabha	MH	E BEAM	MAGNET FIELD	REMARKS
75																
ON	ON	ON		7.40	7.06	411.96	IBM	~~1.55~~ 1.2	0.45	6 %	71	0		22.108		Beams dumped
"	"	"		3.42	9.67	421.63	-"-	2.0	0.62	18 %	110	2		-"-		
"	"	"		2.88	8.32	429.95	-"-	2.0	0.60	14 %	89	0		-"-		
"	"	"		2.35	7.09	437.04	"	1.7	0.55	12 %	65	2		-"-		
"	"	"		2.16	2.27	439.31	"	1.4	0.45	9 %	25	Ø		"		Beams dumped.
"	"	"		3.42	9.26	448.57	"	2.5	0.82	17 %	102	1		"		
"	"	"		3.02	1.27	449.84	"	1.8	0.65	10 %	14	Ø		"		Beams dumped
"	"	"		3.07	8.59	458.43	"	2.0	0.82	15 %	102	3		"		
"	"	"		2.69	7.64	466.17	"	1.7	0.76	14 %	81	5		"		
"	"	"		2.14	6.20	472.37	"	1.5	0.64	11 %	61	2		"		
"	"	"		1.77	0.49	472.86	"	1.3	0.56	10 %	5	0		"		Beam dumped
"	"	"		3.98	4.10	476.96	"	2.0	1.05	16	53	1		"	~~4167~~ 4169	NORD50
"	"	"		3.38	9.28	486.24	"	1.8	0.80	13	104	1		"	4165	
"	"	"		2.81	7.78	494.02	"	1.5	0.65	11	75	1		"	4149	
"	"	"		2.23	6.42	500.44	"	1.3	0.58	11	66	1		"	4136	
"	"	"		1.97	3.45	503.89	"	1.2	0.52	9	33	2		"	4117	beams dumped
"	"	"		3.57	9.94	513.83	"	1.9	0.92	13	103	0		"	4156	
"	"	"		2.89	7.90	521.73	"	1.6	0.82	12	81	0		"	4184	
"	"	"		2.60	7.18	528.91	"	1.5	0.72	10	79	3		"	~~4157~~ 4187	
"	"	"		2.05	5.35	534.26	"	1.3	0.62	9	56	0		"	4169	Beams dumped
"	"	"		3.98	8.75	543.01	"	2.5	0.98	20	92	3		"	4171	
"	"	"		2.48	6.96	549.97	"	2.0	0.8	16	76	4		"	4182	
"	"	"		2.14	6.11	556,08	"	1.7	0.7	13	66	3		"	4179	
"	"	"		1.85	4.46	560,54	"	1.5	0.6	10	37	1		"	4127	
"	"	"		1.82	2.32	562.86	"	1.4	0.55	8	23	0		"	4176	Beams dumped.
"	"	"		3.10	8.55	571.41	"	2.2	1.00	19	106	3		"	4188	
"	"	"		2.70	7.33	578.74	"	1.9	0.75	14	66	2		"	4140	
"	"	"		2.39	6.44	585.78	"	1.7	0.65	11	81	1		"	4180	
"	"	"		1.84	4.89	589.47	"	1.5	0.55	11	52	1		"	4162	Beams dumped
"	"	"		3.86	9.25	598.72	"	~~3.2~~ 2.6	1.2	16	86	4		"	4160	
"	"	"		3.10	7.58	606.30	"	1.7	0.87	14	76	1		"	4141	
"	"	"		2.48	6.41	612.71	"	1.7	0.75	13	75	1		"	4133	
"	"	"		1.97	4.86	617.57	"	1.4	0.63	10	52	3		"	4178	beam dumped.
"	"	"		3.48	8.38	625.95	"	2.2	1.1	22	94	7		"	4150	FANP OFF

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $*10^6$	TØ REJ. $*10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT2 $E_1>6$ GeV	T_2 BIT 17 $2T\cdot E_4\cdot \geq 2TR$
18063	17/07	3:53	4:34	5.12	5.16	15	2425	8002	3739	630	45	3893	4776	1247	27
18064	"	4:35	4:54	4.58	4.62	13	1008	3273	1495	262	34	1551	1868	451	13
18065	"	5:37	6:16	3.58	3.61	9.8	2288	6923	2823	596	59	3664	3558	1036	23
18066	"	6:46	7:29	5.49	5.21	16.6	2404	8002	3765	626	104	3859	4916	1196	43
18067	"	7:29	8:12	4.92	4.67	13.0	2526	8002	3509	657	85	4100	4512	1139	42
18068	"	8:12	8:23	4.43	4.19	11.3	611	1938	874	158	17	966	1076	302	9
18069	"	11:55	11:56	JUNK											
18070	"	11:58	12:41	5.66	5.92	21.1	2439	8002	4494	635	134	3918	5325	1019	35
18071	"	12:42	13:22	5.01	5.26	16.8	2411	8002	3764	627	106	4011	5029	1133	34
18072	"	13:23	14:05	4.49	4.73	13.9	2496	8002	3696	650	90	4178	4368	1131	37
18073	"	14:05	14:51	4.00	4.23	9.8	2714	8002	3419	706	69	4374	4105	1109	37
18074	"	14:53	15:22	3.55	3.76	8.2	1689	4756	1883	439	36	2634	2292	642	12
18076	"	16:23	16:34	5.69	6.04	19.6	678	2331	1194	177	35	1087	1497	289	5
18078	"	16:41	17:21	5.41	5.75	19.0	2400	8002	3759	624	118	3767	4979	1115	29
18079	"	17:21	18:03	4.83	5.09	12.5	2495	8002	3565	649	81	3932	4527	1146	21
18080	"	18:03	18:47	4.32	4.55	10.2	2630	8002	3314	684	69	4048	4260	1147	27
18081	"	18:48	19:36	3.84	4.05	8.6	2737	8002	3168	713	61	4291	3924	1251	28
18082	"	19:37	20:00	3.39	3.34	7.9	1389	3742	1395	361	28	2086	1750	599	10
18083	18/04/84	00:07	0:49	5.55	5.40	17.7	2484	8002	3900	646	114	3582	5278	1038	37
18084	"	00:49	1:32	4.98	4.85	13.4	2561	8002	3646	667	90	3701	4906	1084	42
18085	"	01:32	2:17	4.47	4.35	10.4	2647	8002	3438	689	72	3949	4443	1098	25
18086	"	02:17	3:04	4.02	3.91	8.9	2762	8002	3389	719	64	4096	4238	1155	33
18087	"	03:04	03:52	3.62	3.53	7.8	2891	8002	3117	694	58	4345	3851	1214	24
18088	"	04:50	05:31	5.71	5.72	15.6	2445	8002	3533	637	100	3732	4988	1088	28
18089	"	05:32	06:21	5.11	5.12	13.6	2426	8002	3644	631	86	3927	4579	1205	40
18090	"	06:13	06:56	4.60	4.61	9.9	2612	8002	3413	680	67	4073	4327	1250	39
18091	"	06:57	07:00	4.11	4.13	10.5	180	617	265	47	5	307	311	106	3
18092	"	07:07	07:53	4.01	4.03	8.8	2751	8002	3248	716	63	4255	4477	1241	28
18093	"	07:56	08:32	3.58	3.60	7.9	2120	5995	2245	552	43	3283	2871	934	17
18094	"	17:27	18:25	2.11	2.17	7.7	3447	8002	4578	898	69	4376	4080	1160	26
18095	"	18:26	18:30	1.76	1.79	7.2	247	632	382	64	5	371	243	86	1
18096 (18097-8 do not exist due to ped. run errors)	"	19.34	20.03	2.85	2.66	15.2	1657	4154	2495	432	66	2007	3298	635	11
18099	"							~100							

Processors ON/OFF N50	MIP	TOF	FAMP	<L>	$\int Ldt$	$\int Ldt$ Exp	IBM/TAPE OUTPUT	AT RUN START ID (μA)	AT RUN START TOF (V)	ONLINE REJECTION MIPROC (T_2)	ONLINE REJECTION NORD-50 (T_1&T_2)	Σ Brahms	MH	E_{BEAM}	MAGNET FIELD	REMARKS
on	on	on		2.81	6.83	632.78	IBM	2.1	1.0	18	72	1		22.10	4132	
"	-	-		2.35	2.36	635.14	"	1.8	1.0	17	27	0		"	4156	LG system failure
"	"	"		1.73	3.95	639.09	"	—	—	13	48	2		"	4131	beams dumped.
"	"	"		2.58	6.20	645.24	"	2.1	1.5	20	64	2		"	4161	
on	on	on		2.06	5.21	650.50	IBM	2.0	1.0	18	57	4		22.10	4157	
"	"	"		1.80	1.10	651.60	"	1.6	0.9	16	18	0		"	4133	beams ~~stopped~~ lost
								2.3	1.0							
ON	ON	ON		3.44	8.39	659.99	"	2.3	1.0	27	99	2		"	4158	
ON	"	OFF		3.02	7.29	667.28	"	2.3	0.8	24	89	3		"	4152	
"	"	"		2.62	6.54	673.82	"	2.0	0.7	17	60	1		"	4147	Hum crate 8 missing
"	"	"		2.17	5.88	679.70	"	1.8	0.6	16	60	2		"	4151	
"	"	"		1.77	2.99	682.69	"	1.6	0.5	13	25	1		"	4164	Beam dumped
"	"	OFF		3.35	2.45	685.14	"	2.0	1.1	21	27	0		"	4131	
"	"	"		2.97	7.12	692.26	"	2.0	1.1	19	77	3		"	4144	
"	"	"		2.62	6.54	698.80	"	1.6(?)	0.8(?)	14	73	2		"	?	
"	"	"		1.98	5.21	704.01	"	1.5	0.75	11	49	2		"	4147	
"	"	"		1.81	4.96	708.97	"	1.3	0.6	10	63	3		"	4147	
"	"	"		1.76	1.88	710.85	"	~~0~~ 1.2	0.6	11	15	3		"	4125	Beams dumped.
"	"	OFF		2.94	7.39	718.24	"	2.0	1.2	20	83	4		"	4165	
"	"	"		2.56	6.56	724.80	"	1.8	1.2	76	58	1		"	4178	
"	"	"		2.06	5.46	730.26	"	1.5	1.0	13	68	2		"	4138	
"	"	"		1.61	4.46	734.72	"	1.4	0.84	12	48	1		"	4127	
"	"	"		1.39	4.02	738.74	"	1.2	0.55	10	39	0		"	4132	Beams dumped
"	"	"		3.39	8.29	~~747~~ 743.03	"	2.0	1.5	~~185~~	95	5		"	4165	
"	"	"		2.79	6.77	753.80	"	2.3	1.6	15	72	3		"	4150	
"	"	"		2.23	5.82	759.62	"	1.5	1.0	13	70	1		"	4183	
"	"	"		1.77	0.32	759.94	"	1.2	0.8	8	2	0		"	4155	due to IBM problem
"	"	"		1.65	4.50	764.44	FM193	1.3	0.9	~~41~~ 42	44	1		"	4145	
"	"	"		1.39	2.95	767.39	IBM	1.2	0.8	10	35	0		"	4165	Beams dumped
-	-	ON		0.31	1.06	335.00	"	1.0	0.5	16	7	2		23.284	4139	Septum trigger off
-	-	ON		0.26	0.06	335.06	-	1.0	0.3	4	2	0		"	4167	Beam dumped.
"	"	ON		0.47	0.77	335.83	"	~~0.8~~ 2.9	0.8	39	6	2		"	4174	
"	"	OFF			negligible	335.83		2.2	0.6						4153	NORD hang up then beams dumped.

RUN	DATE	START	STOP	AT RUN START I⁺	AT RUN START I⁻	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL *10⁶	TØ REJ. *10⁶	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT2 $E_1 > 6$ GeV	T_2 BIT 17 $2T \cdot E_4 \cdot \geq 2TR$

78 17.9.84

4:50 HV-trip on LG system. Power supply 12-13 fails it cannot be switched on again, trips with overcurrent.
Kawamoto is coming.
1 PM broken. We found it among the first 8 cables we removed out of 120!
It is like a lottery.

5:35 We are back in business

5:40 The HV cable of a LG counter was removed (which caused trip of main HV supply)
→ Ring 5 – Wand – 2 | serial # = 709 is now dead counter
from RUN 18065 (T. Kawamoto)

7:30 YVOLTS complains, that it does not get any response from MFR 15 of the LG-system. I could not find 15 – only 12 seem to be there. A LG-expert should be asked. The LG-map does not show any obvious holes. Then check again, we had at that time only 800 evts.
(distributor box)

7:50 ~~reset~~ TOF TDC 13+28 no hits no holes in hist.
~~reset~~ MFR 53 ch 13

8:00 HAGEMANN, TAKESHITA

8:09 Temp. = 15,8°C

8:31 IBM down (restart = 10h)

9.30 I have now disconnected MFR ~~53~~ 13 channel 13 (which is TOF counter 14 completely. If there is any more trouble please let me know. Counter 14 now triggers only on the +Z counter, which is photomultiplier 56. So it should be a little high in the hist map.
~~There it. see page 73~~

Who turned FAMP flag on? – There is no message I can find in log book to say when it was turned on. – If there are problems there is no way to tell if it has run successfully for 5 days or failed after 5 minutes
(well – msg is there but hidden on page 73 under histograms)
HEH

Processors ON/OFF N50	MIP	TOF	FAMP	<L>	∫Ldt	∫Ldt · ε Exp	IBM TAPE OUTPUT	AT Run ID (μA)	Start TOF (V)	ONLINE REJECTION MIPROC (T_2)	NORD-50 (T_1 & T_2)	Σ Bad hits	MH	E_{BEAM}	MAGNET FIELD	REMARKS

17.9.84 79

11:00 during beam tuning, they lost beams. but after lost-beams. TOF rat was ≥ 5V (PV)
TOF rat was always >10V so PKR could not do anything effectively.

11:55 We switched off (FAMP) and TOF miproc. otherwise NORD10 asked us to input E⁺ currents.
12:04 soft trip ♦RUN 18069 was junk Run

13:43 RUN 18072 Muon Crate Missing (8), pushing of red button doesn't help, no input reachable
14:15 Jan Oberdorfs (+ P. Warning) investigate → faulty status board found
→ replaced → now OK

15:30 TOF A99 (NIT-LOADED.

16:00 FINCH + BOUDRY ON SHIFT
16:22 Started run – JDAS read out errors – solved by running without T.O.F. micro
Until further notice or action by experts leave TOF MICROS OFF

19:24 Slow ID trip

18.9.84 000 Junge + Komamiya

1 50	YSPY DETECTED ERROR TOF TDC < NO HIT
3 20	YSPY DETECTED MUON digitisers missing → reset OK (75-82)
→ 05:40	Muon crate missing; possibly part: 13; pushing red RESET button does not help (because of failed Hardware Reset removed!)
	YSPY DETECTED ERROR MUON DIGITISERS MISSING 143-153
6 50	JDAS ERROR 33, Missing LAM branch? crate 2; MUONCHAMBERS
8:00	Middleton + Ramche on shift
8:30	PKR says, they can run at higher Energy (23,.. GeV), the other Experiments agree!
→ 9:00	muon crate #13 reset in hall.
11:00	μ-camac. interface #13 replaced.

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $*10^6$	TØ REJ. $*10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT2 $E_1>6$ GeV	T_2 BIT 17 $2T \cdot E_4 \cdot \geq 2TR$

4:50

N = 0.4

JADE ONLINE EVENT DISPLAY

01:54:17 18/09/1984

EXPT 24 RUN 18085 EV 3911

ACT Tlacpt Tipcpt T2bits
011B 0000003 0000003 003

Field -4141 G Beam 22.100 GeV
Current e+ 4.85 mA e- 4.14 mA

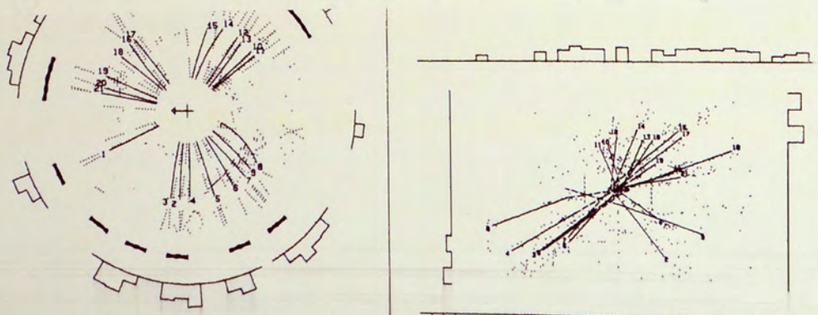
>>DOUBLE RECORD EVENT<<

HADRONIC EVENT MULT.=11

Z-U N-50 0 (-3) & 1 (-3)

Length=	6105 &	905
IDHITS=	1182	
ELGTOT=	3212	
MUHITS=	24	
LGCYL=	2852	
LGCAPS=	198	152

NO TOF HITS



Q Do we still see 3 jet events?

Processors ON/OFF N50	M I P	TOF	FAMP	$\langle L \rangle$	$\int Ldt$	$\int Ldt_{Exr}$	IBM TAPE OUTPUT	AT RUN ID (μA)	AT RUN START TOF (V)	ONLINE REJECTION MIPROC (T_2)	ONLINE REJECTION NORD-50 ($T_1 \& T_2$)	Σ Bhabha	MH	E_{BEAM}	MAGNET FIELD	REMARKS

18.9.84

~~19:24 Slow I.P. trig~~

10^{30} Z-Chamber built permanently into the readout. Changes made to ZDAS, YPARA, YHDISP
Four Z-chamber histograms are included in the "standard histograms". HEM
The SPY also checks the z-chamber DL8s

14^{00} "Short Break"

15^{45} Restart The FAMP processor has been turned ON (does not reject Zhope). HEM

16:00 Bartl + Lorbringer

It has been decided that the Z-chamber will not be turned on tonight as we have no experience running through the day. Do not be upset by empty z-chamber histograms! HEP

16.10 Beate switched off the Jan Olsson trigger R18094 –

17.25 ID repaired start run 18094
↳ reason of fault was a broken power-supply (over-voltage), which burned the motor-control of ID HV. S.B. + H.M.

19.34. After waiting ~ 3/4 hr. for beam conditions to improve, we are eventually able to switch I.D. on.
Despite earlier (15.40) comment, FAMP is OFF for runs 18095, 6 at least.

19.40. 3rd. set ↑ JDAS error 33+47 (TOF MIPROC).
+4th +5th . . . . .

20.00 Switch TOF Mips OFF
2x JDAS error 56 TOF back wrong length.
Stop run.
Start new run with TOF mips OFF but FAMP ON.

— Do not switch on FAMP it causes a hang up in the pedestal data taken at the start of a run
Run 18: YPARA 52: Error during LG-pedestal . . . . .

20.30 NORD 10 hangs level 09. Comp. reloaded successfully.

20.40. Beams dumped.

Remarks to be proven PL.

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $*10^6$	TØ REJ. $*10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT2 $E_1>6$ GeV	T_2 BIT 17 $2T\cdot E_4\cdot 2TR$
18100	18/9/84	21:51	21:55	2.50	2.36			~~3274~~	271						
18101	"	21:58	22:24	2.40	2.30	13.5	1437	3812	2352	374	50	1877	3292	624	12
18103	19/9/84	1.18	2.09	2.72	2.76	14.2	3010	8002	4978	788	111	3795	7686	1032	32
18104	"	2.18	3.12	2.02	2.32	9.7	3245	7998	5220	845	82	4194	5395	1212	18
18105	"	3.12	3.25	1.44	2.00	7.2	772	1846	1067	201	14	1031	901	273	6
18106	"	4.21	5.14	3.32	3.30	10.8	3100	8002	5244	807	87	4226	5535	1322	25
18107	"	5.13	6.12	2.38	2.65	7.5	3490	8002	5085	909	69	4753	3582	1277	29
18108	"	6.12	6.34	1.72	2.23	6.7	1233	2774	1764	321	22	1726	1080	451	7
18110	"	20:46	21:36	3.73	3.81	10.4	3045	8002	5281	792	83	4381	4968	1356	27
18111	"	21:37	22:34	2.87	3.24	~~37~~.1	3437	8002	5001	~~893~~	63.1	4760	3515	1320	35
18112	"	22:35	23:37	2.29	2.79	6.2	3675	8002	4956	955,9	59,4	4983	3059	1291	23
18113	19.	23:37	0:40	1.91	2.44	5.9	3771	8002	4945	981.4	57.9	5703	2902	1362	20
18114	20/9/84	0.41	0:46	1.49	2.13	5.5	246	549	315	64	3.5	341	182	103	2
18115	"	1.29	2:14	3.71	3.74	11.4	3017	8002	5751	785	89	4285	5461	1274	38
18116	"	2.20	3.13	2.85	3.13	8.5	3183	8002	5215	828	70	4578	4099	1265	36
18117	"	3.13	4.16	2.11	2.64	7.0	3583	8002	5056	931	65	4863	3243	1313	27
18118	"	4.16	4.43	1.54	2.22	6.1	1587	2187	1451	412	25	2164	1248	553	15
18119	"	5.16	6.04	3.90	3.90	15.3	2855	8002	5551	742	113	3908	6951	998	26
18120	"	6.04	6.24	2.78	3.04	12.8	1175	3465	2392	306	39	1760	2509	446	8
18121	"	7.21	8.55	4.00	3.68	16.9	2949	8002	5738	767	129	3921	7325	980	29
18122	"	8.55	9.57	2.58	2.56	6.3	3655	8002	3381	951	59	4855	3237	1154	22
18123	"	9.59	10.04	1.93	2.10	5.7	288	556	217	75	4	411	219	117	0
18124	"	10:52	11:07	3.51	3.51	41.0	575	2057	1412	149	61	811	3233	296	5
18125	"	11:41	12:37	3.82	3.79	9.7	3366	7202	3551	875	84	4364	5349	1026	39
18126	"	12:41	13:00	3.14	3.06	9.6		2842	1044						
18127	"	13:02	13:30	2.71	2.88	8.2		4402	1597						
18128	"	13:36		2.59	2.61	"		748	277						
18129	"	13:49	15:06	2.50	2.52	8.9	4595	8002	3213	1196	106	5850	3752	1387	34
18130	"	15:06	15:36	1.92	1.77	5.6	1747	2878	1073	454	25	2253	1725	474	7
18131	"	17:34	17:46	3.78	3.08	7.1	747	1476	618	195	14	925	874	200	7
18132	"	19:35	20:36	3.95	3.96	8.8	~~3665~~	8002	3689	954	84	4786	5632	1291	37
18133	"	20:37	20:41	3.01	3.21	7.4	236	543	520	62	5	346	275	81	3
18134	"	20:44	20:52	2.93	3.15	7.1	457	951	408	119	8	655	445	148	3
18135	"	20[55]	21[32]	2.81	3.04	6.7	~~2127~~	4161	1733	554	37	2870	2114	692	14

Processors ON/OFF N50	MIP	TOF	FAMP	<L>	$\int L dt$	$\int L dt_{EXT}$	IBM/TAPE OUTPUT	AT RUN START ID (μA)	AT RUN START TOF (V)	ONLINE REJECTION MIPROC (T_2)	ONLINE REJECTION NORD-50 ($T_1 \cdot T_2$)	$\sum$ BHABHA	MH	E_{BEAM}	MAGNET FIELD (RUN START)	REMARKS
ON	ON	ON	OFF	0.51	0.07	335.90	IBM	3.0	0.7					23.285	4149	NORD HANG UP.
ON	ON	OFF	OFF	0.45	0.64	336.54	"	3.0	0.7	46	40	5	1	"	4158	Beams lost.
ON	ON	OFF	OFF	0.52	1.55	338.09	"	3.0	0.65	49	39	23	1	"	4172	
"	"	"	"	0.30	0.97	339.06	"	2.7	0.56	34	36	6	0	"	4167	
"	"	"	"	0.14	0.11	339.17	"	2.0	0.40	16	44	1	0	"	4167	beams dumped
"	"	"	"	0.63	1.96	341.13	"	3.1	1.10	37	36	13	3	"	4154	
"	"	"	"	0.98	1.34	342.47	"	2.2	0.7	16	38	9	3	"	4150	
"	"	"	"	0.33	0.40	342.87	"	1.8	0.54	11	38	3	0	"	4171	beams dumped
"	"	ON	"	1.01	3.09	345.96	"	2.8	0.85	32	35	~~31~~	5	23.285		
"	"	"	"	0.60	2.06	348.02	"	2.2	0.75	13	38	15	3	"		
"	"	"	"	0.48	1.76	349,78	"	1.8	0.5	8	39	18	0	"	~~4232~~ 4369	
"	"	"	"	0.31	1.18	350,96	"			6	39	12	0	"	4254	
"	"	"	"	0.32	0.08	351,04	"					0	0			beams dumped
"	"	"	"	0.93	2.82	353.86	"	2.8	0.9	36	29	27	6	"		
"	"	"	"	0.56	1.78	355.64	"	2.2	0.82	21	36	~~32~~ 13	~~81~~	"	4220	
"	"	"	"	0.41	1.48	357.12	"	1.8	0.68	10	38	15	1	"	~~4222~~	
"	"	"	"	0.24	0.38	357.50	"	1.5	0.48	5	38	2	0		4188	beams dumped
"	"	"	"	1.00	2.85	360.35	"	2.8	1.1	44	31	27	~~9~~	"	4186	
"	"	"	"	0.66	0.78	361.13	"	2.5	0.85	35	32	10	0	"	4171	beams lost
"	"	"	"	0.67	1.98	363.11	"	2.9	1.1	47	29	9	3	"	4188	
"	"	"	"	0.40	1.44	364.55	"	1.6		8	59	15	1	"	4191	T.O. N50 rejection enagain
"	"	"	"	0.29	0.09	364.63	"	1.6	0.5	~~48~~	~~64~~	~~43~~	~~0~~	"	4177	beams dumped
"	"	"	"	0.66	0.38	365.01	"	2.8		63	32	3	0	"	4200	Transmitter failed
"	"	"	"	1.00	3.37	368.49	"	2.8	0.9	49	52	31	0	"		stopped to change readout
"	"	"	"				"	2.4	0.8					"	4220	Z-chamber in readout! (readout
"	"	"	"		1.19	369.67	"	2.3	0.75					"	4215	" " " "
"	"	"	"		0.16	369,83	"	2.0	0.62					"		" "
"	"	"	"	0.44	2.02	371,05	"	1.9	0.6	47	61	15	3	"	4224	old readout in again
"	"	"	"	0.27	0.47	371,52	"	1.3	.35	52	64	6	2	"	4226	beams dumped
"	"	"	"	0.93	0.40	371,92	"	2.3	0.7	41	61	4	0	"	4223	Beams lost
"	"	"	"	1.14	4.33	376,25	"	2.8	0.8	46	53	43	0	"	4202	new fill
"	"	"	"	~~1.04~~ 1.04	0.50	376.75	"	~~2.5~~ 2.8	~~0.6~~ 0.8	~~37~~ 46	~~48~~ 62	5	0	"	4204	
"	"	"	"	0.88	0.40	377.15	"	2,0	0.6	41	58	4	0	"	4206	
"	"	"	"	0.67	1.42	378.57	"	2.0	0.56	43	54	18	0	"	7 4226 (AT RUN END)	

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $*10^6$	TØ REJ. $*10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT2 $E_1 > 6$ GeV	T_2 BIT 17 $2T \cdot E_4 \cdot \geq 2TR$

84 18.9.84

21:10 $I^+ = 3.46$ mA
TOF = 1.5V
we cannot switch on the chamber, it trips immediately with a soft trip.
The other experiments are happy and can run.
collimators are in. They help one is at 7.5 mm the other is jammed
We cannot even switch on at 1V Tof rate. In previous runs that was possible, why not now? Where is the high chamber current coming from?
The beam lifetime is short: 1.7 hours only PKR does not know why.
Even below a TOF-voltage of 1V the chamber does not go on

21:35 Call Nombres as an expert.
TOF = 0.7V Chamber trips slowly when the current exceeds 4 μA. That's not normal
TOF = 0.7 ID = 3.0 it just does it

21:55 Nord crash (Read 09) restart switch off TOF-MIP

22.25 Beams lost. — Short break.
Standard histogs for run 18101 show data in Z chamber plots but (as far as we know) Z chamber is OFF!

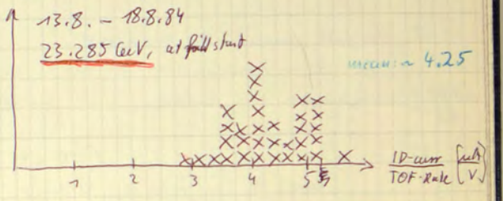
19/09/84
0:00 - 8:00 Mashimo + Petersen
0:05 new fill, but again high background TOF = 1.5V $I^+ = 3.80$ mA
0:43 TOF = 0.8V, but we cannot switch on the ID
1:16 TOF = 0.7V it just does it $I^+ = 2.70$ mA, ID = 3.1
2:32 JDAS Readout error 33 — Missing LAM branch 3 crate 5 : Z-chamber Part 2
JDAS " " 47 — MP-16 start pulse missing or T2 crate offline.
} error occurred several times
after a few minutes, same errors occurred.
4:00 new fill high background $I^+ = 4.00$ mA TOF = 1.8V
4:53 YSPY Error Run 18106 TOF TDC no hits = 26 → histogram check → ok.
7:00 new fill high background $I^+ = 3.70$ mA TOF = 2.5V
7:20 PKR tried to optimise the beams, but it does not help. They claim, that they cannot do any more.

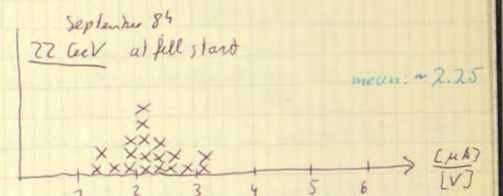
Processors ON/OFF N50	MIP	TOF	FANP	<L>	∫Ldt	∫Ldt Exp	IBM TAPE OUTPUT	AT Run ID (μA)	Start TOF (V)	ONLINE REJECTION MIPROC (T_1&T_2)	NORD-50 (T_1&T_2)	Σ Brahms	MH	F_{BEAM}	MAGNET FIELD	REMARKS

85

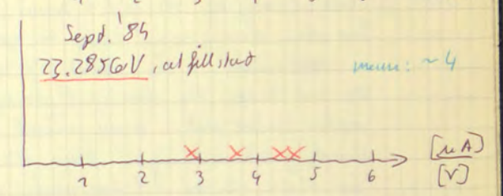
19.9.84 8:00 Middleton + Krado on shift

8:15 short break "Netzteil defekt"
4:00 magnet current set to 1500 Amps
11:00 Since 2 days people are complaining they cannot switch on the ID at full start.
Though the TOF-Rate looks reasonable (0.7-1.0) the I.D.-current per cell is more than 3.2 μA and causes a soft trip.
Some people might have the feeling, that the I.D. is not working properly (at least I heard that some times), so I investigated the problem.
The result is: 1.) The correlation between ID-current and Tof-Rate is different at 22 GeV and 23.285 GeV (ID-current nearly ×2 higher relative to TOF-Rate). This was also the case at highest energies in August.





2.) At the moment we reproduce the correlation $\frac{ID_{curr}}{TOF\,Rate}$ from August, but both are higher now. If one looks to the fills of Retro, the lifetime is very bad in the first 30-60 minutes. That's what comes into the I.D. (inner Rings) and doesn't reach (probably) the TOF.



see Bartels note

conclusions:
- TOF-Rate is a bad monitor at highest energies, because the low-energy background mainly hurts the I.D.
- The I.D. is working well (as good as in former times). For there is only TOF-Rate as monitor, we it's still essential to use the I.D. as main monitor for beam-conditions. Of course, PKR mostly cannot use it for optimising if conditions are too bad
- Until we have a better monitor (closer to the beam), e.g. the Vx-chamber, we have to live with that and force PKR to optimise.

S. Bethke

RUN	DATE	START	STOP	AT RUN START I⁺	AT RUN START I⁻	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL *10⁶	TØ REJ. *10⁶	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT2 $E_1 > 6$ GeV	T_2 BIT 17 $2T \cdot E_4 \cdot \geq 2TR$

Processors ON/OFF N50	MIP	TOF	FANP	<L>	∫Ldt	∫Ldt Exp	IBM TAPE OUTPUT	AT Run ID (μA)	Start TOF (V)	ONLINE REJECTION MIPROC (T_2)	NORD-50 ($T_1 \cdot T_2$)	Σ Brutto	MH	E_{BEAM}	MAGNET FIELD	REMARKS

19.09.84

Sigils comments on previous page agree with my observations when we had still the beam-pipe counters in - the reading on the TOF meter then was often independent of any fluctuations on the BP meter and of course the I.D. The TOF meter often showed steady readings whilst everything else jumped about. Doubt if this helps solve the problem. Is the VTX chamber foreseen as stated as a noise monitor for the I.D.?

HERE

Not in the near future! Rud
I didn't think it was!

3-58 magnet raised to ~6420 A.

19.09.84 St. Wagner + K. Ambros
16⁰⁰

17³⁰ During a test run (ID off but some pickup events were coming) the Nord hung on Level 9. This is strongly suspected to be concerned with the SETchamber events that span a record. Jan Olsson is investigating (in his office) and thinks he understands the problem. The old readout may be installed. Until then if any level 9 errors occur - note details & reload Nord. (see JDAS appendix)

18⁴⁰ old readout installed until problem above is solved. No hang-ups should occur HERE now... J.O.

18⁵⁰ LAMTEST run on Z-chamber crates with no problem

20⁰⁰ Short history of the last 4 hours:
Just when doing some tests to optimize the beams (with reduced ID-voltage, ID as monitor) a reed-relais in the ID high voltage safety chain burned & got a short circuit in the magnet coil. We had to open the box and to replace this magnet as well as some burned electronics in the motor control box. So we missed 4 hours of data taking, but finally succeeded repairing without breaking other things. Now HV works again.
Just then the new fill was ready and we started with reduced potential-voltage (-300V), which reduced ID-current by factor of ~2. (Such an operation should only be done by ID-experts!)
PKR managed to turn some screws and to reduce the background a little bit.
Now it is possible to run under full voltage with following conditions:
I^{+} ~3,7 mA
Tof-Rate ~0.85 V
ID-current ~2.8 μA
} 1 hour after new fill ready.
So it's a small improvement; may be that at the start of a new fill we still cannot switch on for ~30 min. Let's try it....
K. Ambros, H. Matsumura, S. Nedbal,

19.9.84

22⁴⁶ MISSING LAM BZC3 TOF1 counter
20/09/84
0⁰⁰ Finch & Kvelbiel on shift.
0:19 TOF NO HITS : GO
1:30 After ~15 minutes of new fill we risk turning of I.D. - its ok.
JETCH High current faulty part: 85/81 ~~can't filter~~ comes often on T.V.
2:24 JDAS 3 Missing LAM board 2 crate 3 ; TOF1 counters
3:28 During 'standard Histograms' on previous run message "ISPLAY SEARCHING FOR OLD RUN" appeared on TV above MICROS ... , message continued even after STD. HISTS had finished.
3:46 Lots of "IBM BUSY" messages
3:49 Slow ID trip
5:02 JDAS restarted to clear message (see entry at 3:28)
7:22 "JETCH HIGH CURRENT" - regular - 85/81/73
7:28 ID TRIP
7:32 Our background gets noise so I ring PKR, who say they will try what do something. - they do. -
7:34 Soft ID TRIP
7:37 Soft ID Trip
7:40 "
7:42 " " →
} TOF ~ 1.0 ID ~ 3.0 μA

7:47 Repeated attempts to turn on fail as Anode current exceed 3 μA TOF now < 1.0 V

8:00 Mills, Bethke on shift
ID-current 3.2 μA, holds only few seconds and trips again. PKR says it's impossible to make it better. They simply refuse to try...
Sometimes it works (3.2 μA), results: trigger-rate 15-32 kHz
(TOF: 0.9 V) dead-time 50-80 %
typical event: see next page
it's now more than 1 hour after new fill, $\dot{I}$ ~3 mA !!
hits per event: ~600 !
a lot of T2-triggers due to junk in ID. (see next page)

8:20 ID-current now 2.6 μA, TOF 0.85, we can run

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $*10^6$	TØ REJ. $*10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT2 $E_1 > 6$ GeV	T_2 BIT 17 $2T \cdot E_4 \cdot \geq 2TR$

10 = 3.2 μA
TOF = 0.5V

JADE ONLINE EVENT DISPLAY

08:12:14 20/09/1984

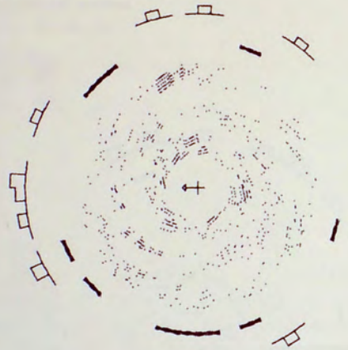
EXPT 24 RUN 18121 EV 1528

ACT Tiacpt Tipost T2bits
0623 0000008 0010003 07B

Field -4216 G Beam 23.285 GeV
Current e+ 3.22 mA e- 3.01 mA

HALO EVENT
** MIPROC T2-reject (but kept) **

Length= 4629
IDHITS= 843
ELGTOT= 202
MUHITS= 10
LGCYL= 111
LGCAPS= 0 91



FRONT



FRONT

EVENTS= 2352
UNFL= 0 OVFL= 0 HITS= 3806

TRIGGER BITS

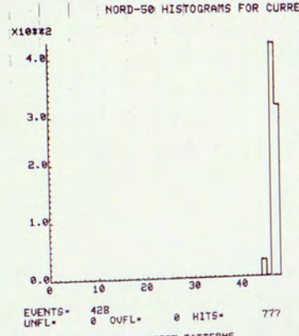
Processors ON/OFF N50	MIP	TOF	FANP	<L>	$\int Ldt$	$\int Ldt_{Exp}$	IBM TAPE OUTPUT	AT Run ID (μA)	Start TOF (V)	ONLINE REJECTION MIPROC (T_2)	NORD-50 ($T_1 4T_2$)	Σ Beating	MH	E_{BEAM}	MAGNET FIELD	REMARKS

8^{45} I submit 3 REFORM jobs. I did the same yesterday. It seems that people tend to forget about this!

During run # 18122 (about event 2000) realised that the J.O. trigger was in but the N-50 rejection for this trigger OFF (and Zorn trigger the other way round). Switched rejection of cosmic background for this trigger back on.

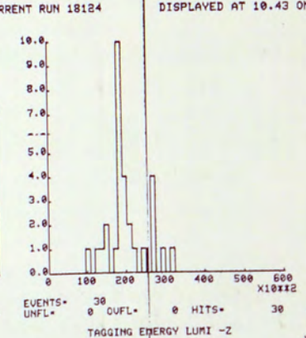
10^{30} New fill ready. Start optimization. ID switched on with reduced HV in order to give a reasonable monitor to PLCR. Beate is at PKR and serves as interface..
Start dummy-run: dead time 85%.
TOF 1.1
Trigger-rate: 50 Hz → all Tagging (E side)

NORD-50 HISTOGRAMS FOR CURRENT RUN 18124 DISPLAYED AT 10.43 ON 20/09/1984 MODE-ALL



EVENTS= 428
UNFL= 0 OVFL= 0 HITS= 777

TAGGING SYSTEM PATTERNS



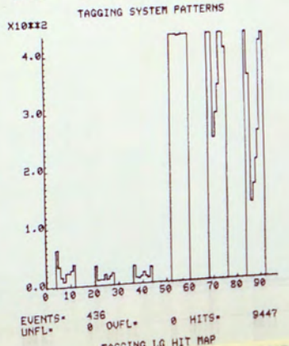
EVENTS= 30
UNFL= 0 OVFL= 0 HITS= 30

TAGGING ENERGY LUMI -Z

HISTOGRAM EMPTY

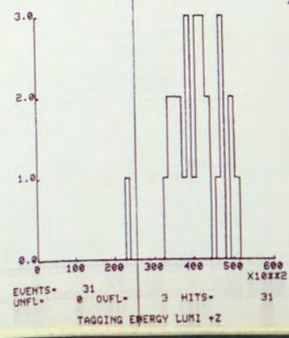
UNFL= 0 OVFL= 0 HITS= 0

TAGGING ENERGY TAGG -Z



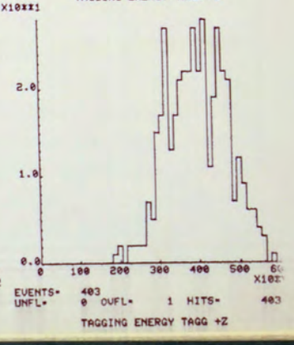
EVENTS= 436
UNFL= 0 OVFL= 0 HITS= 9447

TAGGING LG HIT MAP



EVENTS= 31
UNFL= 0 OVFL= 3 HITS= 31

TAGGING ENERGY LUMI +Z



EVENTS= 403
UNFL= 0 OVFL= 1 HITS= 403

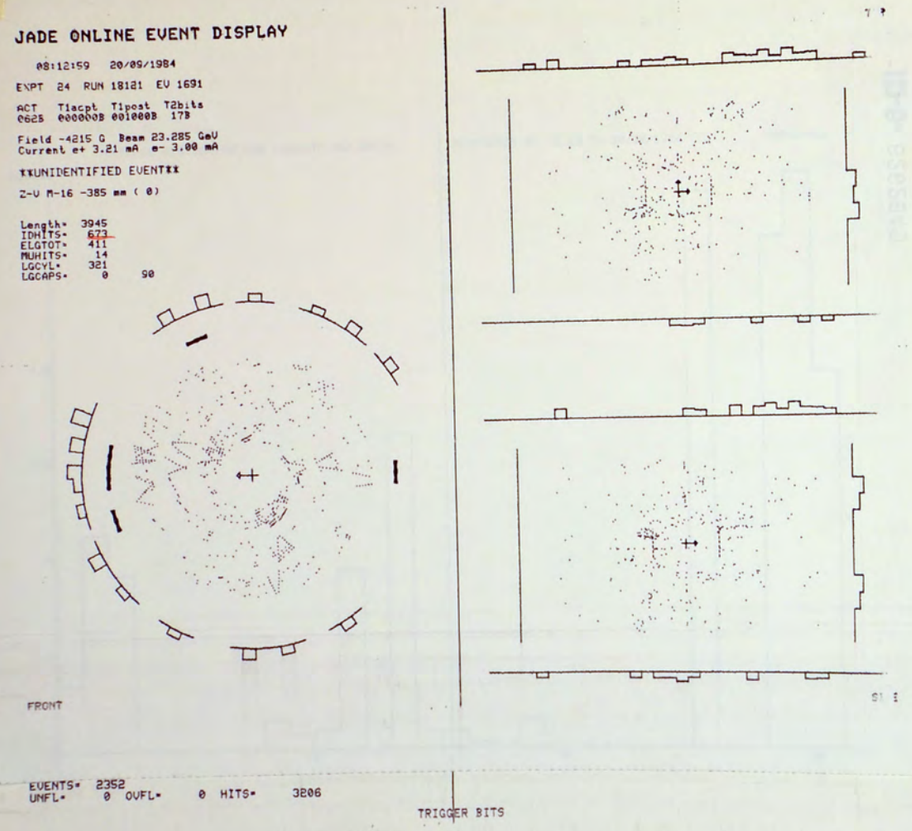
TAGGING ENERGY TAGG +Z

RUN | DA

BIT 17

4 • ≥2TR

ID-6- 62629

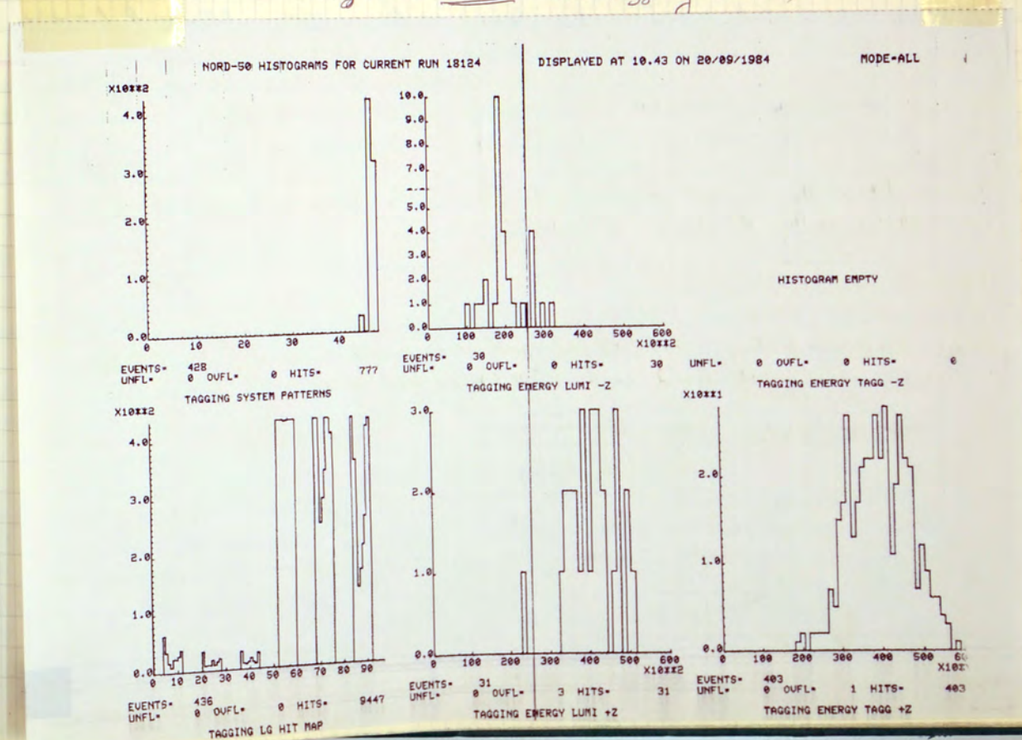


Processors ON/OFF				<L>	∫Ldt	∫Ldt Exp	IBM TAPE OUTPUT	AT Run	Start	ONLINE REJECTION		Σ Bhabha	MH	E BEAM	MAGNET FIELD	REMARKS
N50	MIP	TOF	FANP					ID (μA)	TOF (V)	MIPROC (T_2)	NORD-50 (T_1,T_2)					

8^{45} I submit 3 REFORM jobs. I did the same yesterday. It seems that people tend to forget about this!

During run # 18122 (about event 2000) realised that the J.O. trigger was in but the N-50 rejection for this trigger OFF (and Zorn trigger the other way round). Switched rejection of cosmic background for this trigger back on.

10^{30} New fill ready. Start optimization. ID switched on with reduced HV in order to give a reasonable monitor to PLCR. Beate is at PKR and serves as interface..
Start dummy-run: cloud driven 85%.
TOF 1.1
Trigger-rate: 50 Hz → all Tagging (+z side)

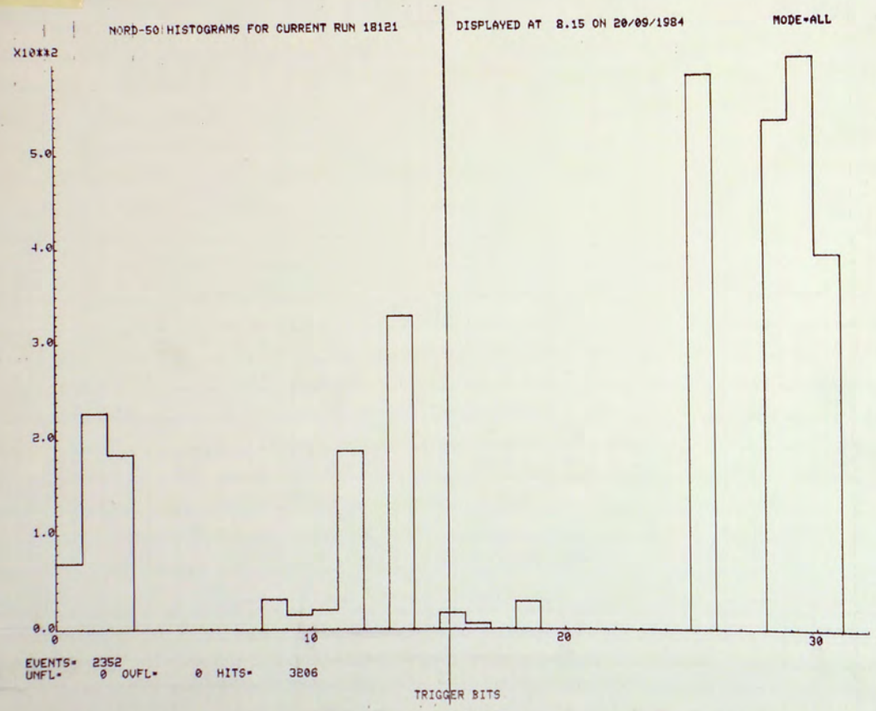


RUN | DA

BIT 17

4·32TR

ID-6- 6262940

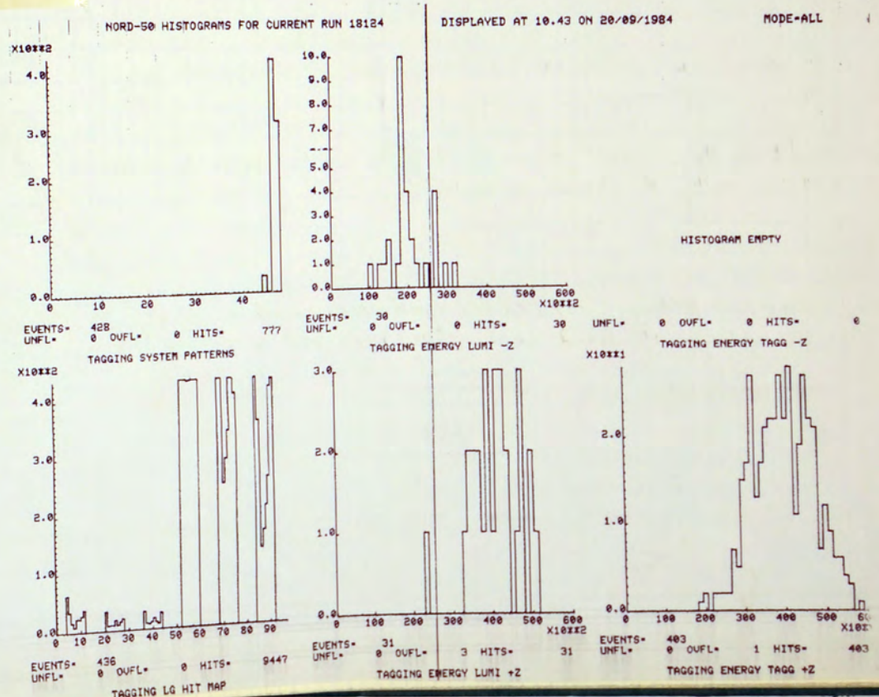


Processors ON/OFF				<L>	∫Ldt	∫Ldt Exp	IBM TAPE OUTPUT	AT Run	Start	ONLINE REJECTION		Σ Bunches	MH	E BEAM	MAGNET FIELD	REMARKS
N50	MIP	TOF	FANP					ID (μA)	TOF (V)	MIPROC (T_2)	NORD-50 ($T_1 4 T_2$)					

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During run # 18122 (about event 2000) realised that the J.O. trigger was in but the N-50 rejection for this trigger OFF (and Zorn trigger the other way round). Switched rejection of cosmic background for this trigger back on.

10^{30} New fill ready. Start optimization. ID switched on with reduced HV in order to give a reasonable monitor to PICR. Beate is at PKR and serves as interface..
Start dummy-run: dead time 85%.
TOF 1.1
Triger-rate: 50 Hz → all Tagging (E side)



RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL *10⁶	TØ REJ. *10⁶	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT 2 $E_1 > 6$ GeV	T_2 BIT 17 $2T \cdot E_4 \cdot \geq 2TR$

90 20.9.84

Run 18124 with Beate in PKR trying to tune. Dominant trigger was the T_2 acc involving the Taggins system and a track. Raw rate ~ 11 Hz with corresponding high dead time. This high T_2 trigger explains why the MIPROC reject % jumped up beams lost during optimising.

11:40 fill ready, ~~TOF~~ TOF = 0.9V, ID = 2.8 μA. Fine, the optimisation had some success. Deadtime ~10%, trigger rate ~ 3.3 Hz.

12:00 Alarm-box for air-condition control exchanged (looks more professional now). Stands on same location (near Rutherford-Terminal). There are now two alarms possible:
1.) lamp 1, no acoustic signal: Failure in air-condition cooling-system
2.) lamp 2 + acoustic signal: Temperature in hardware room (DL8) too high. (This is a major failure).
Actions to be taken are written down on Alarm-box. Please look at it. S.B.

12²⁹ In quick succession 4 missing LAH branch 2 crate 3 : TOF1 COUNTERS
the run continues - - -

12⁴⁰ J.O. modifies the read out program to hopefully cure the LEVEL 9 hangups. Start run 18126 with Z-chamber in readout!

13⁰⁰ Oh dear - a level 9 crash
13⁴⁵ old readout in again
14⁴⁰ Asked for a new filling, but PKR has synchrotron problems. We keep the old fill.
14³⁵ ~30 times missing LAH bo. 2 cr. 3 (TOF1). Cured itself!

16⁰⁰ Weber, Cartwright (CCR Hedgerow 16⁰⁰ – 17³⁰)

17⁴⁶ heard I.D. trip during run 18131 due to beam loss: anode current; reset; wait for new fill
19¹⁷ New fill has high currents, good lifetimes, TOF rate lower than last 4 start-of-fill readings — and we can't switch the ID on. Weber → PKR to persuade them to do something.
19²⁸ Second attempt to turn on ID lasts about 30 sec — which is 29.9 sec longer than last time!
19³⁴ Third time lucky, but several momentary JETCH HIGH CURRENT messages.
22⁴⁰ I.D. trip during run 18138 due to beagle current; reset and continue

Processors ON/OFF N50	MIP	TOF	FAMP	<L>	$\int$Ldt	$\int_{Exp}$Ldt	IBM TAPE OUTPUT	AT Run Start ID (μA)	AT Run Start TOF (V)	ONLINE REJECTION MIPROC (T_2)	ONLINE REJECTION NORD-50 ($T_1 \cdot T_2$)	$\lesssim$ Bunches	MH	E_{BEAM}	MAGNET FIELD	REMARKS

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20.9.84

23⁰⁰ After soft trip of ID followed by beam loss, notice anode current meter opposite. Problem finally traced to a hard trip (anode current) which must have occurred after the soft trip. On resetting the hard trip the meters are OK again.
23¹⁰ T = 17°
23²⁰ came in after call, but meanwhile everything looks ok. Made a cosmic-run for test (PKR says short break) and still find everything ok. Have no explanation of described effect. If it happens again, please look to errors set in the Rucksack and reset them. S.B.

0.00 Friday 21/9/84 / Hagemann / Loebinger

04.10. New beams and I.D. could be switched on immediately (but only just anode current = 3.0 μA).
04.40 Soft ID. trip — reset OK. (x2)
05.15 Impossible to view any histogs on Tektronix (LUN 34) "Too quick will need 20 secs etc".
During repeated attempts (and perhaps as a result of them) Nord hung at level 01.
Restarted NORD everything (including histogs on LUN 34) now O.K.
06.00 2x JDAS ERROR 51 (raise DL8 interrupt B6 C3).
06.20 JDAS ERROR 62 (AC 2099 TOF-1 Q,x missing stn = 8 subaddress = 0)
06.50 " " "
07.40 PETRA - restart 9.00 (Water Leak in LINAC and problems with transfer to PETRA).
(beams lost 2 mins before scheduled dump!)

8:00 Ambros, Kleinwort

12:40 New version of readout installed but Z-chamber removed. Please note any LEVEL 9 Nord crashes. HEM/5.0
13:10 Nord hang up (Level 1) (after WHO on LUN 34)
14:45 Hard trip

16⁰⁰ – Rieseberg + Yamada
(Ambros 16⁰⁰–17³⁵)

16⁵⁸ soft trip
17⁴⁶ Beams last. Short break. 18¹⁰ ~~Mag~~ PETRA magnets are switched on.
18⁴⁷ soft trip 18⁴⁰ New fill ready
19⁰² Run 18159 end 19⁰³ Run 18160 stopped because of missing Q,x TOF1, Station 8
H. Krelbiel moves unit a little out and in → 02
At each run start we get YPARA24: Crate 2, Channel 276 Pedestal is < 100, value 76 ÷ 78

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ. $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT 2 $E_1 > 6$ GeV	T_2 BIT 17 $2T \cdot E_4 \cdot \geq 2TR$
92															
18136	20/9/84	21 34	21 30	2.43	2.70	7.1	89	243	106	2.3	1.6	166	83	31	4
18137	"	21 39	22 11	2.39	2.66	6.1	1887	3479	1399	491	30	2508	1611	613	11
18138	"	22 39	22 47	4.10	4.11	11.0	297	745	389	77	8	388	621	90	25
18139	"	23.47	0.52	3.98	3.94	9.1	3755	8002	3525	977	88	4925	5193	1168	38
18140	21/9/84	0.52	2.00	3.28	3.29	8.0	4000	8001	3273	1041	83	5434	4186	1324	28
18141	"	2.00	3.08	2.66	2.74	6.4	4090	8002	3237	1064	68	5945	3454	1814	27
18142	"	3.09	3.41	2.19	2.30	5.7	1883	3436	1322	490	28	2613	1363	630	9
18143	"	4:10	5.10	3.78	3.78	11.1		7854	4010						
18144	"	517	6.23	2.66	2.96	7.1	3936	8002	3594	1024	73	5493	4081	1406	27
18145	"	6.24	7.30	1.91	2.36	6.1	3981	7436	3007	1036	63	5653	3053	1526	27
18146	"	9,50	10,45	3.58	3.63	8,7	3137	6856	3085	817	71	4166	4706	1086	29
18147	"	10,51	11,06	2,75	2,72	8,0	900	1862	826	234	19	1184	1088	305	4
18148	"								164						
18149	"					Short test runs			71						
18150	"														
18151	"	11:19	12:17	2.13	2.62	6.2	3475	6277	2377	904	56	4567	2708	1011	16
18152	"	12:49	13:10	3.62	3.63	8.8		2651	1190						
18153	"	13:18	14:28	3.36	3.36	7.5	3931	8002	3324	1023	77	5152	4513	1288	31
18154	"	14:29	15:05	2.81	2.81	7.3	~~4899~~	~~4899~~	1667						
18155	"	15:14	16:10	2.52	2.51	~~7.7~~		6237	2407						
18156	"														
18157	"	16 42	17:36	3.93	3.93	10.3	~~3134~~	8001	3706	815	84	5221	4994	1960	33
18158	"	17:37	17:46	3.27	3.25	8.0	515	1184	546	134	10.7	786	626	201	6
18159	"	18:44	19:02	3.88	3.96	12.7	878	2224	1056	229	29	1310	2039	470	13
18160	"	19:03	19:04	3.64	3.73	12,4	52	139	68	14	1.6	68	128	18	1
18161	"	19:07	20:10	3.59	3.69	9.0	3636	8001	4202	946	85	4951	5541	1321	26
18162	"	20:11	21:17	2.94	3.08	7.0	3932	8001	3442	1023	71	5607	3935	1541	28
18163	"	21:17	21:46	2.48	2.62	6.5	1655	3250	1334	431	28	2335	1478	567	17
18164	"	22:25	23:23	3.93	3.83	8.6	3489	8002	3696	908	78	5164	4742	1565	36
18165	"	23 24	0 29	3.10	3.20	7.1	3313	8001	3336	1020	72	5564	4192	1384	32
18166	22.9.84	0 30	01 41	2.50	2.71	6.3	4249	8002	3135	1105	69	5834	3687	1388	26
18167	"	01 41	02 01	2.11	2.31	5.7	~~2093~~ 1767	~~7552~~ 2093	859	303	17	1578	892	355	6
18168	"	2 28		3.95	3.95	Trm running but stopped test run by running FOR accidentally									
18170	"	2 56	3 56	3.40	3.57	13.1	3478	8002	4445	905	119	4600	8547	1268	40
18171	"	3 55		2.69	3.03	10.1	3265	8002	3403	850	86	4627	5954	1229	34

Processors ON/OFF N50	MIP	TOF	FAMP	<L>	$\int Ldt$	$\int Ldt_{Exp}$	IBM/TAPE	At Run Start ID (μA)	At Run Start TOF (V)	Online Rejection MIPROC (T_2)	Online Rejection N50 ($T_1 \cdot T_2$)	$\Sigma_{Buffers}$	MH	E_{Beam}	Magnet Field kG	REMARKS
																93
ON	ON	ON	OFF	1.01	0.09	378.66	IBM	1.8	0.49	29	52	2	0	23,285	4224	JO TEST RUN
"	"	"	"	0.49	0.93	379.59	"	1.8	0.48	44	65	3	0	"	4225	Beams dumped
"	"	"	"	1.41	0.42	380.01	"	2.9	0.88	48	49	0	0	"	4187	" lost
"	"	"	"	1.22	4.59	384.60	"	2.5	0.76	44	57	49	0	"	4206	
"	"	"	"	0.87	3.47	388.07	"	2.3	0.63	43	60	29	0	"	4234	
"	"	"	"	0.56	2.28	390.35	"	1.8	0.51	45	61	23	1	"	4203	
"	"	"	"	0.38	0.71	391.06	"	1.6	0.40	45	63	4	0	"	4180	Beams dumped
"	"	"	"	1.15	3.77	394.83	"	3.0	0.92					"	4179	Nord hang up no run sum.
"	"	"	"	0.63	2.47	397.30	"	2.3	0.65	39	56	20	1	"	4196	
"	"	"	"	0.36	1.42	398.72	"	1.8	0.43	38	61	11	3	"	4228	Beams lost
"	"	"	"	0,84	2.65	401.35	"	2,8	0,90	~~37~~	~~58~~	24	1	"	?	
"	"	"	"	0.54	0.48	401.83	"	2.6	0,75	37	58	4	1	"	4231	
"	"	"	"					2,2	0,55							Zet chamber on, hangup
"	"	"	"					"	"							" "
"	"	"	"					"	"							
"	"	"	"	0.41	1.42	403.25	"	2,0	0.45	42	64	16	0	"	4182	run as ANY-TEST.
"	"	"	"	1.30	1.28	404.53	"	2.4	0.75						4222	Nord hang up, new run num.
"	"	"	"	0.70	2.75	407.28	"	2.3	0.60	38	60	32	1	"	4212	
"	"	"	"		1,39	408.67	"	2.1	0.55	17	60					hangup 19
"	"	"	"	.55	1.84	410.51	"	1,9	0,45	17	61			"	4197	Z-chamber in readout, NORD hang up
					2.03	410.54										" " beamdump
"	"	"	"	1.29	4.04	414.58	"	3,0	0,84	38	55	38	1	"	4210	old readout again
"	"	"	"	1.23	0.64	415.22	"	2.4	0.65	42	55	9	0	"	4202	beams lost -
"	"	"	"	1.40	1.23	416.45	"	2.8	0.80	58	54	8	0	"	4196	runs stopped for TOF readout failures
"	"	"	"	1.53	0.08	416.53	"	3,0	0.78	56	57	2	0	"	4202	
"	"	"	"	1.01	3.67	420.20	"	3.0	0.80	48	49	31	1	"	4199	
"	"	"	"	0.74	2.90	423.10	"	2.0	0.63	44	58	28	2	"	4167	
"	"	"	"	0.58	0.95	424.05	"	1,8	0,53	43	60	15	0	"	4217	Beams dumped
"	"	"	"	1.25	4.38	428.43	"	2.8	1.1	36	55	39	0	"	4173	
"	"	"	"	0,73	2.88	431.31	"	2.0	0.75		58	30	1	"	4195	
"	"	"	"	0.60	2.53	433.84	"	1.7	0.55			14	3	"	4215	
"	"	"	"	0.37	0.43	434.27	"	1.4	0.45			2	0	"	4191	Beams dumped
"	"	"	"	~~0.70~~	0.90	435.17	"	3.1	1.3					"		Run 18168 junk
"	"	"	"	0.84	2.94	438.11	"	3.0	1.1	33	46	32	0	"	4224	
"	"	"	"	0.67	2.17	~~60.28~~ 440.28	"	2.6	0.76	46	47/59	16	3	"	4215	

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $*10^6$	TØ REJ. $*10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT2 E.>6GeV	T_2 BIT 17 $2T_0 E_4 \cdot \geq 2TR$

94 21.9.84

TOF Histograms : Reminder : Counter # 38 low in TOF MEAN TDC II since 16.8.84,
Counter # 14 disconnected since 17.9.84 (see page 78).

21:46 Run # 18163 stopped for refilling,
22:20 New fill ready. TOF rate higher than normal, but ID current just below threshold, 5 min later ~~down~~ down to 2.4μ
22:25 Magnet heat shield waterflow alarm. Reset
23:15 Std. histograms 02. Early timing spikes in ID; Segments 10 and 15 Ring 2, and Segment 23 Ring 3
This fill has a low ID background ← what does it mean? PWA

22nd September 84, 00:01 Schneehuhn, Feist
02:30 new fill ready, TOF 1.2V, ID = just below threshold, right after fill, soft ID trips
6:15 " started run 18173, high ID current ≈3 μA, soft trip

08.00 Junge & Loebinger.

10.05 Run 18175 gets going after several soft ID trips. ID current = 3.2 μA.
11.35 Partial beam loss → soft ID trip PKR dump remaining beams.
14.10 10 error messages: " ERROR 90 IN 34557 AT 35620 74 : FORTRAN RUNTIME ERROR
FORTRAN ERROR NO. 412 "
Appeared in printer console. This happened while I was looking at cross-section histog on LUN 34 (possibly related ?). Fault cleared itself.

16:00 K. Ambrus and H. Riesberg
16:15 Stop run (# 18179) for refilling
17:00 New fill with low currents (3.1 mA/beam)

z-chamber readout installed in old camac readout position, in order to test if the recent "rare" bug is due to this code. z-chamber included in readout pattern for standard data taking. J.O.

~17:10 At about 500 events in Run # 18180 we switch the z-chamber on.

17:45 JDAS ERROR 33 Missing LAM B3, C5 ; z-chamber part 2, and
" " 17 MP-16 start pulse missing or T_2 crate off line
18:06 Same errors.
18:17 " "
18:21 " "
18:41 " "
19:15 Stop for refill. z-chamber off.
19:44 new run
20:15 same errors ...

Processors ON/OFF N50	MIP	TOF	FAMP	<L>	∫Ldt	∫Ldt Exp	IBM TAPE OUTPUT	AT Run ID (μA)	Start TOF (V)	ONLINE REJECTION MIPROC (T_2)	ONLINE REJECTION NORD-50 (T_1 & T_2)	Σ Bhabha	MH	E_{BEAM}	MAGNET FIELD	REMARKS

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JADE ONLINE EVENT DISPLAY

17:18:34 22/09/1984

EXPT 24 RUN 18180 EV 1609

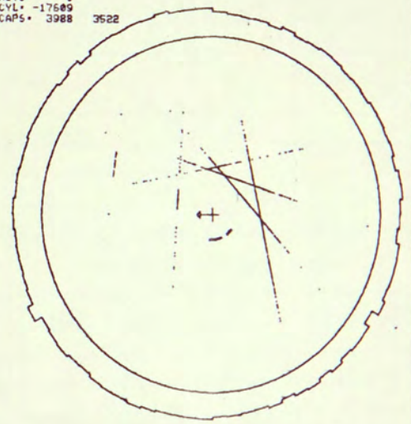
ACT Timcpt Tipost T2bits
0112 0200208 0000003 003

Field -4157.6 Beam 23.285 GeV
Current e+ 2.85 mA e- 2.85 mA

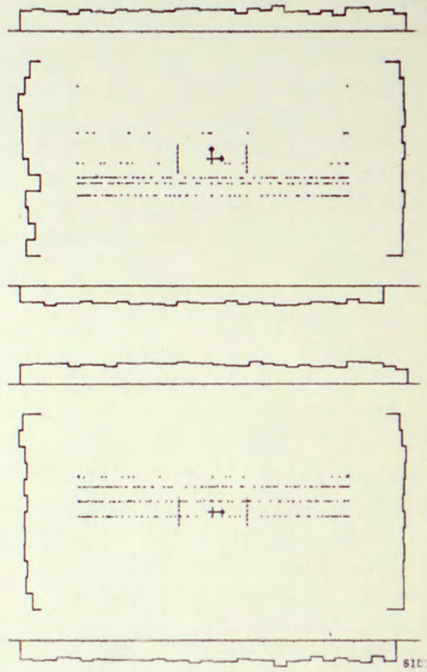
>>PART OF LONG EVENT<<
>>SUPER LONG EVENT<<

UNIDENTIFIED EVENT

Length= 6593
IDHits= 1338
ELGTOT=-10099
MUHITS= 0
LGCYL= -17689
LGCAPS= 3988 3522



FRONT



SIDE

Where this event was generated ?
5 wires fire:
More than 300 hits per wire !
Maximum drift time ~10 μsec !

Understood: Illegal hit numbers (like, 9, 10 or 11) mix up the whole readout R

19:40 New fill ready. Start run 18182 with z chamber
19:56 No triggers, Beep from teletype, TriggerBox & Accept event lamps on. It is a blocking of the Main console Off/On → OK
20:54 End of Run 18182. 17 times missing LAM in z-chamber DL8 (serie 236) Cleaning of contacts
21:04 End of Run 18183 Exchange Z-chamber DL8 Nr 6. Serie 236 out, Serie 268 in Magnet Heat Shield Waterflow Alarm (buzzer only) accepted twice.
22:32 Stop for refilling
No display possible. EXIT. After ~~reload~~ start-up hang up on level 3 or 7
Reload Nord

RUN	DATE	START	STOP	AT RUN START I+	AT RUN START I-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL *10^6	TØ REJ. *10^6	T1 ACC SUM	T2 ACC SUM	T1 BIT2 E1>6GeV	T2 BIT17 2T·E4·≥2TR
96															
~~18172~~	22.9	4.51	5.49	2.23	2.65	8.2	3430	7544	3004	893	73	4603	4992	1049	24
18173	"	6.15	7 19	3.95	3.90	16.8	2985	8002	3946	779	130	3883	10558	1029	30
18174	"	7 20	7 34	3.08	3.19	12.4	808	2084	926	210	26 ~~114~~	1072	2054	270	4
18175	"	07.46	11:02	3.88	3.86	10.6	3484	8002	3929	904	96	4093	7463	896	19
18176	"	11:01	11.36	3.07	3.07	9.3	1835	4491	1862	478	44	~~764~~	2882	981	12
18177	"	13.36	14.41	3.61	3.57	8.6	3744	8001	3395	974	83	4482	6140	936	27
18178	"	14.42	15.54	2.58	2.50	6.7	4307	8002	2933	1120	75	5210	5071	969	29
18179	"	15.54	16.16	2.06	1.98	6.1	1288	2352	915	335	21	1559	1370	303	7
18180	"	17:04	18.12	3.04	3.06	8.9	4059	8002	3295	1056	94	4840	5362	971	22
18181	"	18:13	19:17	2.34	2.32	8.5	3821	7596	2851	994	85	5143	4329	1395	32
18182	"	19:44	20.54	3.51	3.46	21.7	4134	~~8002~~ ~~4166~~	~~3442~~ ~~1707~~	1076	234	4534	5873	1014	23
18183	"	20:59	22:04	2.71	2.75	10.0	3917	8002	3098	1019	102	5243	4815	1287	21
18184	"	22:22	22:32	2.08	2.22	7.2	599	1130	429	156	11	741	663	131	4
18185	23/9	03 35	—	3.55	3.65	—	—	—	145	—					
18186	"	03 54	04 22	3.21	3.37	10.2	1572	3563	1440	409	41	1784	3096	331	12
18187	"	04.25	04.33	2.83	2.99	8.6	486	1035	421	126	10	570	772	105	4
18188	"	05 32	05 49	3.67	3.81	13.3	461	1128	~~5166~~	119	16	510	1128	104	3
18189	"	05 49	6.43	3.31	3.46	8.9	3162	6754	2787	822	73	3729	5075	726	21
18190	"	09 39	~~10.40~~ 3.20	~~3.20~~	3.20	7.7	4197	8001	3316	1093	84	4772	5427	926	25
18191	"	10 50	11 41	2.27	2.40	6.6	3008	5518	2099	783	52	3603	3459	680	12
18192	"	12 10	12 14	3.68	3.86	12.1	201	526	253	52	6	240	507	45	3
18193	"	12 33	12 40	3.14	3.29	9.1	347	828	339	90	8	427	613	85	5
18194	"	12 49	12 54	2.91	3.05	8.3	296	662	292	76	6	381	457	95	2
18195	"	14 58	16 05	3.82	3.98	10.0	3433	8002	3929	893	89	4444	6125	1050	26
18196	"	16 05	17 12	2.45	2.84	7.9	4006	8002	3151	1042	82	5186	4955	1126	21
18197	"	17 13	17 26	1.87	2.28	7.0	~~769~~ ~~1520~~	~~577~~ ~~1520~~	577	200	14	1013	890	190	4
18198	"	17 53	18 53	3.83	3.84	11.5	3423	8002	3619	890	102	4239	7241	872	23
18199	"	18 53	19 24	2.61	2.74	7.9	1797	3772	1473	467	37	2308	2448	472	15
18200	"	20 05	21 03	3.87	3.89	10.0	3531	8002	3620	919	92	4322	6401	912	24
18201	"	21 03	21 07	2.67	2.77	8.2	222	575	247	58	5	388	2991	65	1
18202	"	23 05	0 00	3.72	3.70	12.6	2665	5935	2612	693	87	2900	6769	566	27
18203	24/9/84	00 00	01.01	2.41	2.63	8.4	3232	6719	2687	841	71	3813	5116	740	16
18204	"	03 09	04 15	2.41	2.82	8.2	3869	8001	3420	1006	82	4518	5918	894	35
18205	"	04 16	5 15	2.11	2.61	7.2	3551	6940	2792	923	67	4382	4529	906	27

Processors ON/OFF N50	MIP	TOF	FAMP	<L>	∫Ldt	∫Ldt Exp	IBM/TAPE OUTPUT	AT Run ID (μA)	Start TOF (V)	ONLINE REJECTION MIPROC (T2)	NORD-50 (T1·T2)	Σ Blocking	MH	E BEAM	MAGNET FIELD	REMARKS
															97	
ON	ON	ON	OFF	0.46	1.57	441.85	IBM	2.2	0.61	44	62	13	0	23.285	4207	beams dumped
"	"	"	"	~~0.99~~	2.37	444.82	"	3.2	1.3		68	33	2	"	4197	
"	"	"	"	0.76	0.61	444.43	"	2.8	0.85		54	6	0	"	4193	beams lost
"	"	"	"	1.03	3.57	448.00	"	3.2	0.90	50	52	36	3	"	4226	
"	"	"	"	0.75	1.37	449.37	"	2.3	0.66	48	60	14	1	"	4226	Partially Beam lost Hen dumped
"	"	"	"	0.82	3.05	452.42	"	2.7	0.8	45	59	23	1	"	4197	
"	"	"	"	0.46	2.00	454.42	"	1.9	0.50	48	65	18	1	"	4216	
"	"	"	"	0.38	0.49	451.91	"	1.5	0.38	46	59	3	0	"	4228	Beams dumped
"	"	"	"	0.60	2.43	457.34	"	2.1	0.65	45	61	27	6	"	4200	with z-chamber
"	"	"	"	0.42	1.61	458.95	"	1.6	0.45	~~47~~	64	13	0	"	4175	Beams dumped
"	"	"	"	0.69	~~2.62~~ 2.85	461.80	"	2,6	0,74	~~44~~ 43	58	24	0	"	4172	with z-chamber
"	"	"	"	0.59	2.30	464.10	"	1.9	0.55	47	63	17	0	"	4227	
"	"	"	"	0.36	0.22	464.32	"	1.5	0.42	48	64	4	0	"	4221	Beams dumped
"	"	"	OFF	—	—		"	3.1	0.77	—	—	—	—	"	4197	NORD HANGS Z-CHAMBER ON
"	"	"	"	1.01	1.59	465.91	"	2.8	0.7	48	61	15	1	"	4202	
"	"	"	"	0.89	0.43	466.34	"	2.8	0.7	45	62	0	0	"	4220	BEAMS LOST
"	"	"	"	1.19	0.55	466.89	"	2.6	1.2	49	57	6	0	"	4207	STORM TO CHANGE D.S. Z-CHAMBER ON
"	"	"	"	0.89	3.02	469.91	"	2.4	0.7	44	60	30	2	"	4210	beams lost
"	"	"	"	0,65	2.62	472.53	"	2.5	0.75	44	64	26	1	"	4210	
"	"	"	"	0.41	1.22	473.75	"	~~1.8~~ 1.7	0.41	48	63	9	2	"	4210	beams dumped
"	"	"	"	1.37	0.40	474.15	"	2.6	0.75	50	57	4	2	"	4192	
"	"	"	"	0.85	0.40	474.55	"	2.4	0.68	40	64	4	0	"	"	see page 98
"	"	"	"	0.95	0.00	474.55	"	2.0	0.62	45	60	0	0	"	4202	" " "
"	"	"	"	0.88	3.03	477.08	"	2.9	1.5	46	52	29	2	"	4196	
"	"	"	"	0.53	2.11	479.19	"	~~1.9~~ 1.7	1.5	47	62	22	2	"	4176	Z-CHAMBER ON
"	"	"	"	0.43	0.33	479.52	"	~~0.4~~ 0.4	0.4	47	61	0	0	"	4225	beams dumped "
"	"	"	"	0.92	2.52	482.04	"	2.8	1.1	51	57	25	2	"	4222	1 MH = 1 Log print but data in dump! Z-CHAMBER ON
"	"	"	"	0.64	1.11	483.15	"	2.2	0.58	44	63	11	0	"	4223	Beams lost "
"	"	"	"	1.03	3.33	486.48	"	2.5	1.0	46	59	33	2	"	4205	" "
"	"	"	"	0.72	0.30	486.78	"	2.0	0.6	29	58	3	0	"	4195	Beam lost "
"	"	"	"	0.80	2.12	488.90	"	2.5	0.85	58	56	24	3	"	4218	STORM TO SWITCH Z-CHAMBER OFF "
"	"	"	"	0.47	1.51	490.41	"	2.8	0.65	47	~~58~~ 62	15	2	"	4203	beams dumped "
"	"	"	"	0.70	2.73	493.14	"	2.3	0.7	45	59	28	2	"	4199	
"	"	"	"	0.35	1.23	494.37	"	1.8	0.65	45	61	12	1	"	4199	beams dumped

RUN	DATE	START	STOP	AT RUN START I⁺	AT RUN START I⁻	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL *10⁶	TØ REJ. *10⁶	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT2 $E_1 > 6$ GeV	T_2 BIT 17 $2T \cdot E_4 \cdot \geq 2TR$

98 still 22.9.84

TOF #61 (channel 60) is low in MEAN TDC II and MEAN ADC
Display: We can get histograms from old runs, but not from the last, though it is in the hist. Works over OLD histogram.

23.9.84

0.00 Hedgecock and Kuhlen on shift
0^{35} START RUN 18185 — AFTER A SHORT PERIOD, NORD HANGS LEVEL 00/01?
Ran through procedure as listed in JDAS Operator Manual and eventually restart the system to enable ~~us~~ to start RUN 18186
Z-CHAMBER WIRE MAP — WIRES 37-40 MISSING. TPC CLEANING CONTACTS — WIRE MAP SEEMS TO LIFE BUT MEAN A+ & A− PERSISTS IN STAYING DOWN AT WIRES 33-40. IN THE MEANTIME, WE LOSE BEAM.
0^{530} RUN 18188 (Z CHAMBER) WIRES 32-40 MISSING — CHANGED DLS. DLS 345 OUT, 245 IN
RUN 18189 (Z-CHAMBER) WIRE 5x MISSING — CARRY ON RUNNING. BEAMS LOST DLS 268 OUT, 38 IN

0800 Takeshita, Weber on shift
0922 New fill ready, but we cannot reach max HV in Jet chamber while TOF ~0.8 V.
0^{540} After 8 times trg bits to switch ON ID, ~~to~~ we could start Run 18190
1214 ID trip during run 18192; stop ~~and restart~~ run for LG-test, while running up H.V.
1225 still trouble with L.G. system: CRATE 2 low ped; after some trials to fix it, Takeshita goes to Klapdenders room to get a spare microchip.
1233 in the meantime we start run 18193 even though 48 LG. channels are missing
1240 Stop run to change chips: no improvement. so we start another run with a whole LG. module missing, Take data while trying to get a new module
1348 We still have trouble with LG system: Maslinno + Takeshita trying to fix it → colcide
1430 beams dumped on request of other expts. in order to refill. LG.-trouble is fixed about 30 sec after beams have been dumped: bad luck!
1511 Sofl ID-trip during run 18195; reset and continue
1519

I (Takeshita) tried to change a bad ADC chip (cr=2, ch276) during "short break". It was not so simple to solve this problem, because We had to change 4 ADC chips and 2 control IC chips. It took about 1.5 hours. But finally just after beam dump we reached to the end, now we have no ADC chip (pedestal) error.

Processors ON/OFF N50	MIP	TOF	FANP	<L>	$\int$Ldt	$\int_{Exp}$Ldt	IBM TAPE OUTPUT	AT Run ID (μA)	Start TOF (V)	ONLINE REJECTION MIPROC (T_2)	NORD-50 (T_1 & T_2)	Σ Bhabha	MH	E_{BEAM}	MAGNET FIELD	REMARKS

23.9.84 99

1600 Cartwright + Komamiya
16^{05} New run started (18196) with Z-chamber ON
17^{02} YSPY — Trigger 2 o/f missing — 97
18^{19} ID soft trip
$19^{24}, 21^{07}$ ID hard trip — beams lost
2300 New beams ready ID Soft trip
2308 A genuine hadronic event — first one seen in scanning this shift.
2320 ID soft trip — PETRA "Background optimisation"
2321 " " " " " "
2322 "LUMINOSITY RUN" ID current now 3μA (before so-called optimisation, was 2.5μA)
2333 ID soft trip again

24/9/84 Ball, Klimwort
0000 Run 18203 in progress — many jet ch high current warnings but no trips.
0046 ID soft trip, some (1/4) of positrons lost. Lumi now very bad.
Problems with DESY septum so can't refill yet.

0100 Beams dumped.
0245 Finally (!) get a new fill, but with very bad background conditions.
0309 Needed 15 mins special optimisation for us before we could switch on ID without immediate trip.
0515 Beams dumped
0535 new fill ready. TOF rate too high to measure!
0600 still can't switch on. PKR still trying to optimise — suggest closing collimators a little. TASSO also in trouble.
0620 Get started at last. V. frequent JETCH high current warning but no trips.
0635 Several missing HATRS B6 C7. I.D soft trip.
0800 Bethke, Olsson
10^{06} Beams ready. Can switch on after collimators are in: TOF 0.9, ID 3.05
Some soft trips: TOF 0.85, ID >3.2 Optimization will reduced ID voltage ⇒ 0.7-2.2, Run
12^{45} next beam ready. After long optim.-time: TOF → 1V, but still too high LS.: ID > 4 μA.
Called PKR. He found a switch where he could even decrease our TOF rate to 0.9.
Switched on ID: 3.0 μA, and PKR immediately reduced background to 2.5 μA. Nice condition!
17^{35} Need hangup level 3 (Operation system)
1630 Television of readout in Ya Takahashi (B4,5) by new readout, other half (B7,6) by old. Tell any need q hangup to J. Olsen

RUN	DATE	START	STOP	AT RUN START I+	AT RUN START I-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL *10^6	TΦ REJ. *10^6	T4 ACC SUM	T2 ACC SUM	T1 BIT2 E1>6GeV	T2 BIT17 2T·E4·≥2TR
18206	24/1/84	06:20	07:18	2.79	2.91	16.7	3115	8002	3807	811	135	4028	10140	1138	24
18207	"	7:20	8:18	2.09	2.34	10.4	3488	8001	3359	908	94	4286	7107	919	19
18208	"	8:25	8:40	1.73	1.98	8.7	877	1880	726	228	20	1074	1398	185	1
18209	"	10:07	11:29	3.37	3.28	9.0	3730	8007	5229	970	88	4525	6157	930	38
18210	"	11:30	13:03	1.79	2.33	7.3	1943	3616	1959	506	37	2293	2292	437	"
18211	"	12:55	13:36	3.21	2.64			5750	3643						
18212	"	13:41	14:45	2.60	2.70	8.2	3859	8002	3102	1004	82	5014	5313	1146	23
18213	"	14:46	15:07	2.00	2.18	7.7	1241	2370	890	323	23	1536	1458	341	8
18214	"	15:48	16:09	3.77	3.76	13.5	601	1640	796	156	21	892	1500	319	6
18215	"	16:18	17:01	3.22	2.27	12.4	2111	5700	3664	549	68	3126	4733	998	22
18216	"	17:03	18:02	2.34	2.79	9.5	3529	8002	3114	918	87	4493	5832	889	20
18217	"	18:02	18:43	2.34	2.38	8.2	2409	5186	19767	626	51	3074	3331	602	12
18219	"	21:33	22:32	3.64	3.88	9.8	3550	8002	3441	923	91	4328	6333	976	33
18220	"	22:33	23:39	2.86	3.23	8.0	3980	8002	3093	1034	82	4778	5481 3020	968	13
18221	"	23:40	24:00	2.41	2.77	7.4	1187	2262	874	306	23	1391	1517	267	10
18222	25/1/84	1:03	1:59	4.02	4.02	13.5	3186	8001	3747	828	112	3897	8652	1076	26
18223	"	1:59	2:57	3.14	3.32	10.6	3426	8002	3388	891	94	4197	6774	1092	24
18224	"	2:57	3:24	2.62	2.88	8.7	1613	3632	1459	419	36	1936	2594	403	6
18225	"	3:57	5:06	3.89	4.05	13.1	3120	8002	4029	812	106	4007	7772	1079	33
18226	"	5:07	6:08	3.05	3.22	9.2	3506	8002	3283	912	84	4388	5944	973	34
18227	"	6:08	7:09	2.58	2.74	8.3	3626	8002	3131	944	78	4914	5095	1292	31
18228	"	7:10	7:18	2.23	2.38	7.6	284	604	233	74	5.6	352	401	86	0
18229	"	7:43	8:48	3.97	3.98	12.3	3200	8002	3471	833	102	3952	7833	902	33
18230	"	8:49	9:48	3.08	3.22	9.8	3557	8002	3304	926	82	4537	5644	914	33
18231	"	9:50	10:47	2.61	2.74	7.9	3394	6787	2893	884	70	4265	4402	888	23
18232	"	12:05	13:08	3.95	4.01	10.0	3367	8001	3347	876	87	4239	6158	1126	34
18233	"	13:08	14:19	3.15	3.25	8.3	3296	7136	2766	858	71	4301	4719	974	24
18234	"	14:21	14:36	2.63	2.74	8.4	903	1862	727	235	19	1146	1196	240	6
18235	"	18:08	19:15	3.75	4.25	9.7	3277	7166	3496	854	82	4166	6075	8589	34
18236	"	22:52	23:24	5.60	5.95	10.1	1859	4421	2284	483	49	2512	3375	555	27
18237	"	23:25	0:25	5.19	5.52	9.7	3447	8002	3822	897	87	4603	6200	1070	28
18238	26/1/84	0:26	1:26	4.50	4.80	9.1	3429	8001	3711	892	81	4956	5577	1420	33
18239	"	1:27	2:18	3.91	4.19	8.1	3061	6561	3072	796	64	4159	4530	919	22
18240	"	2:54	3:45	5.57	5.96	12.8	3040	8002	4025	791	102	4311	6368	1154	29

Processors ON/OFF N50	MIP	TOF	FAMP	<L>	∫Ldt	∫Ldt EXP	IBM TAPE OUTPUT	AT RUN ID (μA)	AT RUN Start TOF (V)	ONLINE REJECTION MIPROC (T2)	NORO-50 (T1&T2)	Σ BABHA	MH	E BEAM	MAGNET FIELD	REMARKS
ON	ON	ON	OFF	0.51	1.59	495.96	IBM	3.2	0.9			19	4	23.285	-4.209	
"	"	"	"	0.41	1.43	497.39	"	2.5	0.65		60	10	0	"	-4206	
"	"	"	"	0.24	0.21	497.60	"	2.2	0.6		63	1	1	"	-4216	Dump.
"	"	"	"	0.55	2.07	499.67	"	3.01	0.9		36	14	3	"	-4182	Z-chamb on from ev 1900
"	"	"	"	0.28	0.53	500.20	"	1.7	0.7		47	3	1	"	-4212	" on Dump.
"	"	"	"	0.89	2.17	502.37	"	2.5	0.9		37			"	-4167	Z-chamb on. L3 Hangup.
"	"	"	"	0.56	2.16	504.53	"	2.0	0.65		63	20	0	"	-4171	" "
"	"	"	"	0.35	0.43	504.96	"	1.6	0.50		63	6	0	"	-4225	dumped
"	"	"	"	0.89	0.53	505.49	"	2.9	0.9	54	53	8	1	"	-4202	
"	"	"	"	0.81	1.71	507.20	"	2.8	0.78	49	37	9	2	"	-4177	Z-chamber on
"	"	"	"	0.57	1.79	508.99	"	2.6	0.60	43	63	13	0	"	-4192	old N50 progr. "
"	"	"	"	0.42	1.01	510.00	"	2.3	0.52	40	64	8	0	"	-4197	beams lost "
"	"	"	"	0.83	2.94	512.94	"	3.0	0.8	46	59	28	2	"	-4186	Z-chamber on.
"	"	"	"	0.47	1.88	514.82	"	2.0	0.6	45	63	28	1	"	-4186	
"	"	"	"	0.31	0.37	515.19	"	1.8	0.55	47	63	3	0	"	-4256	
"	"	"	"	0.85	2.69	517.88	"	2.7	0.78	55	55	22	0	"	-4218	
"	"	"	"	0.58	2.00	519.88	"	2.9	0.83	47	59	11	3	"	-4278	
"	"	"	"	0.39	0.62	520.50	"	2.2	0.66	47	67	6	0	"	-4195	Beams dumped.
"	"	"	"	0.81	2.53	523.03	"	2.9	1.05	52	51	27	0	"	-4181	
"	"	"	"	0.60	2.72	525.75	"	2.4	0.77	43	61	27	0	"	-4212	
"	"	"	"	0.43	1.58	526.73	"	2.0	0.6	44	63	17	0	"	-4210	
"	"	"	"	0.45	0.13	526.86	"	1.8	0.51	45	65	0	0	"	-4208	Beams dumped
"	"	"	"	0.82	0.62	529.48	"	2.9	1.05	51	56	24	2	"	-4219	
"	"	"	"	0.62	2.21	531.69	"	2.3	0.75	43	60	23	0	"	-4198	
"	"	"	"	0.46	1.58	533.27	"	1.9	0.60	46	59	18	0	"	-4216	Z-chamber. Parallel cable pulled out - HEC hits
"	"	"	ON	0.85	2.86	536.13	"	2.6	0.75	44	60	37	1	"	-4192	
"	"	"	"	0.56	1.86	537.99	"	2.1	0.7	44	63	17	5	"	-4174	stopped to change to type
"	"	"	"	0.43	0.39	538.78	TAPE FM184	1.7	0.6	45	63	3	1	"	-4180	Z-chamber on. beam dumped
"	"	"	"	1.01	3.30	767.39 770.69	IBM	1.3	0.8	46	56	33	5	22.100	-4187	beams lost
"	"	"	"	2.46	4.57	775.26	"	1.8	1.0	47	50	51	2	"	-4206	
"	"	"	"	1.79	6.63	781.89	"	1.6	0.9	48	54	73	2	"	-4222	
"	"	"	"	1.36	15.72	787.61	"	1.5	0.8	49	55	63	2	"	-4187	
"	"	"	"	0.98	3.09	790.70	"	1.4	0.75	5038	54	34	1	"	-4187	Beam dumped for new fill
"	"	"	"	2.05	6.54	797.24	"	1.8	1.15	45	51	72	0		-4189	

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL *10⁶	TØ REJ. *10⁶	T_4 ACC SUM	T_2 ACC SUM	T_1 BIT 2 $E_t > 6$ GeV	T_2 BIT 17 $2T \cdot E_t \cdot \geq 2TR$

Processors ON/OFF N50	MIP	TOF	FAMP	<L>	∫Ldt	∫Ldt Exp	IBM TAPE OUTPUT	AT Run ID (μA)	Start TOF (V)	ONLINE REJECTION MIPROC (T_2)	NORD-50 ($T_1 \cdot T_2$)	Σ Bhabha	MH	E_{BEAM}	MAGNET FIELD	REMARKS

24.9.84

16.00 Hedgecock
16.45 Narodna, (Foster here late! My flight did not arrive until after start of shift - sigh!)
22.54 Missing Lam brand 2 crate 3 : TOF 1 counters
23.47 Asked for new filling at midnight.
PKR agrees, but after dumping they will first do some measurements on a ~~pedal~~ power supply that has been giving problems.

Background situation: Around 20.00 an orbit correction was done. After that the background at the beginning of the filling was just tolerable: TOF 0.8 V, ID: ~3 μA (no trip).
We asked to optimize any way: 1 bump in N W (here) improved the ID current to 2.4 μA without deteriorating Tasso mud.
Before this particular bump had never shown any effect.

25/9/84, 0:00 Marhino + Bethke enjoying night-shift

1.00 Beams ready.
1.55 JADAS Readout error 33 Missing LAM branch 2 crate 5 : Leadglass ADCs
2.55 After some ~10-20 minutes optimising (new fill), PKR manages to go from TOF = 1.05, ID = 3.0 to TOF 0.9, ID ~2.5. One has to ask them for fine-tuning when ID is on and stays on for some time.
8.07 Where is the new shift?? Under way 7.5. Sorry
8.12 Spitzer, Peterson
11.32 FAMP was turned ON
From run #18231 onwards the Nord-50 PATREC ID R1&R2 hit cut-off raised from 360 to 400 hits HEH
This should slightly increase the rejection rate. Can do this with current backgrounds.

14.25 Asking for new fill at new energy : 22.1 GeV

New version of Nord-50 program installed. It has one extra histogram for debugging purposes. HEH
16:00 Zauribaiuen, Warming on shift
17:33 new fill ready, but background is horrible (as expected for first fill after energy change)
17:50 PKR is still optimizing, backgrd, orbit looks horrible, Celle and Mark J can run, Celle has less backgrd than at 23.285 GeV, Tasso and JADE cannot run at present
18:00 IBM is working again

1039.4
885.5
1924.9

25.9.84

18:07 backgrd improved somewhat, TOF Rak now 1.4, ID current now 2.3 μA, deadtime ~13%
19:10 JETCH tripped. FAULTY PART 73 Beams lost soon afterwards
20:50 "Short break" due to vakuum problems
23:22 → Switch on Z-Vertex-Recor at N50 again, since backgrd is low now
→ no effect on deadtime at 3.5 kHz raw trigger rate

26.9.84

00 00 FOSTER + BECKER here.
00.07 ID soft trip — OK.
01.26 " " " OK.
02:15 all experiment agree for new fill :- beams dumped.
02 50 New fill established TOF rate ~ 1.15 I-D current ~1.8. seems OK. → start run 18240
03 00 JADAS error 33 - Missing LAM branch 6 crate 4 : T-D Ring 3
03 21 " " 44 DMA TIMEOUT branch 2 crate 1 : Latches.
04 20 Again error 33 + error 44. Then Error 45. Power restart cures problem?
4.40 "No events..." - Stop and Start Run again (Dead time ~100 %) Run 18242 aborted
7.07 YSPY : TOF TDC no hits : 4 - histograms ok.
07:24 Beams lost. I/D trip.

8.00 Stephens + Krehbiel on Shift.

9.34 Run started
Paper jammed in Gould Plotter during histograms
9.25 End Run.
Histogram show peak in end cap lead glass and we have an excessive number of end cap bhabhas. Krehbiel spoke to Yamada who will find an expert.

10.15 I.D. trip reset OK.

Run 18249 - Z-chamber turned on from about event # 4500. HEH

13.40 I.D. trip reset OK.
19.15 Everything starts again. Beams up, but partly lost

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $*10^6$	TØ REJ. $*10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT 2 $E_1>6$ GeV	T_2 BIT 17 $2T\cdot E_4\cdot \geq 2TR$
104															
18241	26.9.84	3:45	4:40	5.24	5.24	11.7	3252	8002	4000	846	99	4551	6239	1149	33
18242															
18243	"	04:45	05:44	4.52	4.52	9.0	3522	8002	4034	916	83	4880	5920	1124	38
18244	"	5:44	6:10	3.94	3.94	8.6	1472	3321	1504	383	33	2081	2274	438	21
18245	"	0704	07 26	5.32	4.28	11.0	1326	3715	1672	345	38	2574	2038	1305	17
18246	"	8.34	9.25	5.92	5.89	12.0	3040	8002	4319	791	95	4551	5976	1031	35
18247	"	9.26	10.21	5.15	5.13	12.2	3081	8002	4117	802	98	4534	6041	1053	30
18248	"	10.21	11.19	4.37	4.41	10.0	3473	8002	4021	888	88.9	4855	5748	1112	37
18249	"	11.19	12.02	3.77	3.82	9.6	2507	5691	2779	652	63	3600	3806	815	18
18250	"	13.27	14:07	6.15	6.24	15.6	1252	3481	1869	325	50	1966	2507	486	24
18251	"	15.14	no	signifi	cant	data		127	67			4823			
18252	"	15.24	16:20	4.70	3.52	11	3312	8001	3902	862	95	4807	5554	1002	30
18253	"	16.20	16.30				1446	1446	709						
18254	"	16:35	17:31	3.93	4.68	10	3367	8002	3568	877	88	5059	5288	1285	31
18255	"	17:31	18:02	3.40	4.09	9	1821	4168	1881	474	43	2616	2712	601	11
18256	"	19.42	20:37	4.95	5.75	11	3292	8002	4116	857	94	4786	5583	1055	26
18257	"	20:37	21:38	4.28	5.02	9.7	3608	8002	3829	939	92	5033	5458	1121	28
18258	"	21:38	22:27	3.66	4.33	84	2887	6033	2690	751	63	4079	3830	820	28
18259	27.9.84	23:10	0:04	6.08	5.64	18.6	2827	8002	4176	761	142	4381	5981	1140	40
18260	"	0:06	0:57	5.24	4.85	14.0	3027	8001	4018	787	111	4529	6043	1117	26
18261	"	0:57	1:52	4.58	4.22	10.4	3248	8001	3717	845	88	4723	5683	1160	26
18262	"	1.52	2;48	3.89	3.22	80	3355	8001	3488	872	78	5044	5212	1374	21
18263	"	3:21	4:10	6.10	6.03	24.9	2896	8002	4269	753	187	4286	6220	1233	31
64,65	missing	due to	NORD	error.											
18266	"	4:30	5:18	5.81	4.86	15.8	2864	8002	4257	771	122	4489	5870	1155	28
18267	"	5:20	6:15	4.35	4.31	11.5	3270	8002	3578	850	88	4668	5661	1145	28
18268	"	6:19	7:14	3.73	3.72	7.9	3311	7189	3147	862	68	4823	4431	1013	24
18269	"	10 47	11:44	6.05	6.13	14.8	2909	8002	4561	758	112	4597	5716	1037	33
18270	"	11 44	1279	4.52	5.19	9.9	3252	8002	4004	847	84	4846	5606	1100	28
18271	"	12 40	13:43	3.60	4.42	8.0	3742	8001	3711	975	78	5275	5190	1186	31
18272	"	13:43	13:53	2.88	3.77	7.3	552	1180	533	144	10	803	673	163	39
18273	"			5.72	5.96			95	58						
18274	"	14 33	15:22	5.86	5.64	16.8	2915	8002	4301	759	127	4665	5759	1222	37
18275	"	15:23	16.16	5.05	4.87	21.8	3160	8001	3945	823	179	4876	5416	1467	22
18276	"	16.17	17,12	4.34	4.18	9.8	3333	8002	3845	867	85	4974	5505	1167	17

Processors ON/OFF N50	MIP	TOF	FAMP	<L>	$\int L dt$	$\int L dt_{Exp.}$	IBM/TAPE OUTPUT	AT RUN START ID (μA)	AT RUN START TOF (V)	ON-LINE REJECTION MIPROC (T_2)	ON-LINE REJECTION NORD-50 (T_1+T_2)	$\sum$ Bhabha	MH	E_{Beam}	MAG. FIELD	REMARKS
105																
ON	ON	ON	ON	1.64	5.27	802.51	IBM	1.7	1.1	48	51	58	0	22.1	-4187	
"	"	"	"	1.33	5.17	807.68	"	1.5	0.9	50	57	57	2	"	-4222	no data
"	"	"	"	1.01	1.09	807.77	"	1.4	0.8	43	56	12	2	"	-4205	beams lost
"	"	"	"	1.38	1.45	809.22	"	1.6	0.8	48	56	16	0	"	-4231	beams lost
"	"	"	"	3.21	10.89	820.11	"	1.8	0.9	46	47	120	0	"	4210	} Possibly noisy
"	"	"	"	2.74	7.17	827.28	"	1.8	0.95	46	51	79	1	"	4177	} Endcap counters
"	"	"	"	2.00	6.84	834.12	"	1.6	0.88	48	57	63	0	"	4227	Schmitt ON after event 1000
"	"	"	"	1.70	4.27	838.39	"	1.4	0.75	49	52	48	1	"	4161	beam dumped.
"	"	"	"	3.91	4.89	843.28	"	1.9	0.9	44	48	62	1	"	4226	Schmitt on event #1000 Beams lost
										-25% (!)						Nord 50 crash.
"	"	"	"	2.96	9.81	853.09	"	1.8	0.76	46	53	104	4	"		ZORD Trigger On
					1.50	854.59	"	1.6	0.75		51			4	4202	L3 hung up
"	"	"	OFF	2.24	4.54	862.13		1.6	0.75	47	57	78	2	"	-4193	
"	"	"	OFF	1.79	3.26	865.39	"	1.7	0.68	46	56	46	0	"	-4174	
"	"	"	ON	3.12	10.26	875.65	"	1.7	0.70	46	50	102	6	"	-4231	
"	"	"	"	2.40	8.65	884.30	"	1.7	0.70	49	64	94	2	"	-4217	
"	"	"	"	1.80	5.20	889.50	"	1.2	0.55	52	57	76	0	"	-4196	
"	"	"	"	3.28	9.61	899.11	"	2.0	0.95	43	49	117	2	"	-4206	
"	"	"	"	2.83	8.56	907.67	"	2.0	1.10	46	51	86	1	"	-4210	
"	"	"	"	2.18	7.13	914.80	"	1.9	1.00	46	55	68	2	"	-4231	
"	"	"	"	1.65	5.52	920.32	"	1.85	0.85	47	58	69	2	"	-4177	beams dumped
"	"	"	"	3.38	9.79	930.11	"	2.3	1.2	44	48	122	4	"	-4185	
															-476	
"	"	"	"	2.85	8.45	938.56	"	2.0	1.1	45	48	105	3	"	-4176	
"	"	"	"	1.72	5.61	944.17	"	1.9	1.0	44	57	68	0	"	-4180	
"	"	"	"	1.48	4.90	949.07	"	1.35	0.65	50	58	47	3	"	-4192	beams dumped.
"	"	"	OFF	4.03	10.17	959.24	"	1.9	0.80	45	44	112	5	"	-4228	Nur beam
"	"	"	"	2.67	8.69	967.93	"	1.6	0.85	47	51	95	0	"	-4228	
"	"	"	ON	1.82	6.79	974.72	"	1.4	0.70	51	55	74	2	"	-4177	
"	"	"	"	1.56	1.00	975.72	"	1.2	0.56	49	56	11	0	"	-4186	
								2.0	1.10						-4186	Beam ? hung up
"	"	"	OFF	3.75	11.35	987.07	"	2.0	1.10	46	47	125	8	"	-4179	2-chamber ON 14:35
"	"	"	OFF	2.65	8.39	995.46	"	1.8	1.00	46	52	91	3	"	-4179	
"	"	"	OFF	2.06	6.87	1002.33	"	1.5	0.75	43	53	62	4	"	4191	
								1.4	0.7						4199	

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $*10^6$	TØ REJ. $*10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT 2 $E_1 > 6$ GeV	T_2 BIT 17 $2T \cdot E_4 \cdot \geq 2TR$

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16[00] Felst + Heinzelmann

16[30] Nord hang up Level 3

23[54] Soft Trip ID - 04

27.9.84

0:00 Yamada, Schmidt on shift.

4:30 LG pedestal data could not be read. YPARA 52.
Checked CAMAC contact etc. it did not help.
NORD restarted although it looked running. The operation cured the problem.
2 Runs were skipped. 18264, 18265 do not exist. (If any, only LG pedestals)

0:850 FOSTER + SCHNEEKLOTH HERE

0 8 44 Short-break announced. - Peter Magnet.

0:9:54 Injection starts

10.47 new fill ready, started run 18269

10 58 ID trip

11 03 " , occurred when positron beam dropped from 5.5→4.5 mA! TOF = 0,9 V, $I_{ID} \simeq 2.0\,\mu A$, dead time 15%, background looks fine

11 25 Soft ID trip reset.

12 40 start RUN 18271, FAMP switched on again

13 450 We wait for new fill (all exit agree).

14 27 Level 9 hang up (95 event in 58 out) see following note by Ulsan
(should but with printout to localize error) O.)

14.35 Z-chamber switched ON

15.45 Bartel, Naroska

19.00 New fill.

20:30 NSO hang up NSO busy abort NSO restart

28.9.84

000 Stephens & Kado on shift

00:04 Run ended - DOWN

00:02 beams dumped.

00:05 get bleep from L.G. Unit at top of rack 5 showed 2 greens and red "Spannungsausfall" bottom of rack 6 no light at all both reset o.k.

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Nords hangup ~~reset~~ restart OK.

I.D. alarm reset OK

DESY-wide power failure
magnet alarm - cannot get any response from MKK.
↳ Pump failure → zero current.
Also error 37 IOX error address 50224; Level (Dec): 1

Phone PKR to contact MKK. They tell us they have severe problems - we are unlikely to get anymore beam tonight and MKK are unlikely to have time to come to our magnet for a long time!!

So we try to get Jan Olsson to sort out IOX error.

Jan O. unable to cure the problem over the phone - will get some sleep and come in later.

Jan O called in at 6 a.m.

P.K.R says PIA broken DESY broken and small fire in 10kV DESY supply + other more minor faults!!

08[00] R. Marshall + B. Naroska on shift

Restart not before 10 a.m. Net result of power failure, in CAMAC system (CCA) broken. (B7:C5)

9.45 Magnet on
LG HV set
T2 working
ID on
Camac errors removed Everything seems ok.

10.59 Restart not before 17.00
They have to change a 10kV cell (?12) which normally takes 8 hours.

15.08 Restart ca 15,00
Note: T1 ACCEPT DISCONNECTED!

Processors ON/OFF N50	MIP	TOF	FAMP	<L>	$\int Ldt$	$\int Ldt \cdot \varepsilon_{Exp}$	IBM TAPE OUTPUT	AT RUN ID (μA)	Start TOF (V)	ONLINE REJECTION MIPROC (T_2)	NORD-50 (T_1 & T_2)	$\leq$ Bunches	MH	E_{BEAM}	MAGNET FIELD	REMARKS

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ. $\times 10^6$	T_4 ACC SUM	T_2 ACC SUM	T_1 BIT 2 $E_1 > 6$ GeV	T_2 BIT 17 $2T \cdot E_4 \cdot \geq 2TR$
18277	27/9	17:13	18:02	3.73	3.59	8.7	2897	6444	3006	754	66	4243	4150	1038	26
18278	"	20:30	20:32	5.77	5.82	10.3	88	289	151						
18279	"	20:38	21:28	5.65	5.70	13.4	3027	8002	4200	788	105	4624	5836	1085	19
18280	"	21:29	22:24	4.88	4.94	10.4	3259	8002	3971	848	88	4869	2934	1257	23
18281	"	22:25	23:24	4.19	4.26	8.7	3547	8001	3716	923	80	5133	5405	1157	25
18282	28 "	23:25	0:05	3.59	3.27	7.8	2373	4806	2463	617	48	3161	3120	747	15
18283	28/9	12.15						9835	2969						
18284		14.30													
18287	30/9							5595	1815						
18293	"	14:53	14:59	5.53	5.43	21.9	329	883	444	85	19	463	659	142	4
18295	"	15:05	15:41	5.30	5.21	18.0	5552	4163	2168	428	77	2181	3366	771	33
18299	"	19:05	19:07	5.45	5.62	51.4	109	231	141	28.4	14.6	123	134	34	3
18302	"	19:23	19:25	5.15	5.32	68.1	113	183	112	29.4	20.0	95	82	33	1
18303	"	19:39	20:23	4.26	4.42	15.6	2613	6889	3644	679	105	3966	4985	1137	32
18304	"	21:04	21:58	5.69	6.02	30.4	3087	7958	4513	802	244	4182	6178	1329	53
18305	"	21:53	22:50	4.71	5.05	18.5	3043	8002	4157	751	146	4471	6040	1448	53
18306	"	22.50	23:18	4.01	4.32	11.8	1659	4279	2178	431	50	2608	3030	737	22
18311	"	23:23	0:26	3.63	3.93	10.0	3288	7813	3922	855	86	4814	5438	1375	51
18314	1.10.	3:08	4:02	5.17	5.77	18.9	3066	8002	4461	797	150	4493	5951	1215	54
18316	"	4:03	4:56	4.34	4.89	12.4	3140	8002	4093	817	101	4813	5823	1391	44
18318	"	4:58	5:55	3.69	4.19	9.1	3425	8001	3819	892	91	5113	5241	1460	43
18319	"	5:56	6:58	3.13	3.57	7.8	3722	8002	3481	970	76	5337	4994	1382	26
18320	"	6 59		2.64	304	6.9	3610	7259	3040	940	65	4990	4286	1199	34
18321	"	22.50	22.58	5.93	5.94	16.0	738	1318	738	118	19	765	886	216	7
18322	"	23:04	0 00	5.72	5.77	11.6	3051	8002	4179	794	92	4885	5033	1349	33
18323	2.10	0:00	0.01	5.13	5.19	10.0	358	940	451	93	9	577	595	181	0
18324	"	1.02	1:37	6.33	6.42	26.1	1865	5128	2738	485	127	2718	3736	872	31
18325	"	4.04	5:08	5.46	5.57	35.0	2693	7355	4234	700	245	3832	5818	321	56
18326	"	5:28	6:34	4.73	4.84	27.3	2921	8002	4950	761	208	4321	6343	1753	58
18327	"	6:35	6:57	4.15	4.04	17.7	1290	3681	1958	336	60	2408	2716	855	32
18328	"	7:02	7:31	3.97	3.87	10.6	1087	2878	1438	283	30	1838	1865	675	18
18329	"	8:18	9:14	6.76	5.77	33.2	2877	8001	4760	749	249	4235	6127	1590	62
18330	"	9:14	10:03	5.09	5.12	26.2	2889	8002	4359	751	197	4408	5937	1643	55
18331	"	10 05	10 40	4.61	4.64	19.8	2120	6039	3126	552	109	3549	4087	1385	30

Processors ON/OFF N50	MIP	TOF	FAMP	<L>	$\int Ldt$	$\int Ldt$ Exp	IBM/TAPE OUTPUT	AT Run ID (μA)	Start TOF (V)	ONLINE REJECTION MIPROC (T_2)	NORD-50 ($T_1 \cdot T_2$)	Σ Events	MH	E_{BEAM}	MAGNET FIELD	REMARKS
ON	ON	ON	off	1.80	5.21	1007.54	IBM	?	?			49	65	3	22.1	4199 dump, z-ch off.
"	"	"	"	2.60	0.23	1007.77	"	2.0	0.8				3	0		4192 N50 - hangup
"	"	"	"	3.55	10.74	1018.51	"	1.8	0.9	46	49	117	0	22.1		4217 z- on
"	"	"	ON	2.65	8.63	1027.14	"	1.6	0.7	48	52	104	2	"		4220 "
"	"	"	"	2.31	8.20	1035.34	"	1.5	0.5	50	55	74	2	"		4185
"	"	"		1.71	4.05	1039.39	"	1.5	0.5	51	50	52	1	"		Beams dumped - coil Rod breaks out !!
																COSMICS
																z chambers on
																COSMICS
"	"	"	"	0	0.54	1039.93	"	1.8	1.3	41	52	6	1	"		4180 TDAS err. 33 - stop
"	"	"	"		4.63	1044.56	"	1.8	1.2	46	50	51	1	"		4181 beams dumped
"	"	OFF	"	1.88	0.20	1044.76	"	2.0	1.2	33	47	6	0	"		? TOF A99 error, TOF error
"	"	OFF	OFF	1.86	0.21	1044.97	"	?	?	13	55	3	0	"		? TOF wrong length errors
"	"	ON	OFF	2.63	6.88	1051.85	"	1.8	1.0	45	54	54	3	"		4158 beams lost
"	"	ON	OFF	2.52	7.78	1059.63	"	1.8	1.2	43	45	100	2	"		4175
"	"	"	"	2.07	6.30	1065.93	"	1.8	1.2	45	43	75	1	"		4188
"	"	"	OFF	1.76	2.92	1068.85	"	1.6	1.2	49	52	22	2	"		?
"	"	"	ON	1.36	4.48	1073.33	"	0.9 1.5	0.95	48	51	40	1	"		4168 FAMP ON beams dumped
"	"	"	"	2.65	8.12	1081.45	"	1.8	1.2	46	46	75	1	"		4183 4184 4187 4183 -"-
"	"	"	"	2.12	6.67	1088.12	"	1.6	0.95	47	50	76	2	"		-"-
"	"	"	"	1.54	5.28	1093.40	"	1.4	0.80	48	54	62	0	"		-"-
"	"	"	"	1.15	4.29	1097.69	"	1.2	0.65	50	58	45	1	"		4191 -"-
"	"	"	"	0.84	3.05	1100.74	"	1.0	0.50	51	59	40	1	"		4164
"	"	"	OFF	3.70	1.68	1102.42	"	1.8	0.90	41	46	13	0	"		?
"	"	"	OFF	2.66	8.12	1110.54	"	1.8	0.65	44	50	106	3	"		4177
"	"	"	"	2.34	0.89	1111.38	"	1.6	0.58	45	54	13	0	"		4168
"	"	"	"	2.92	5.48	1116.82	"	2.0	0.85	41	49	52	2	"		4192 beams lost
"	"	"	"	1.62	4.37	1121.19	"	2.2/1.9	1.3/1.7	44	44	45	1	"		4168
"	"	"	"	1.36	3.96	1125.15	"	1.7	1.7	46	39	98	2	"		4187
"	"	"	"	1.23	1.58	1126.73	"	1.4	1.4	47	48	16	1	"		4194
"	"	"	"	1.37	1.69	1128.22	"	1.3	1.3	49	52	21	0	"		4218
"	"	"	"	2.44	6.63	1134.85	"	2.0	1.4	43	49	73	3	"		4180
"	"	"	"	2.28	6.58	1141.43	"	1.8	1.3	49	47	54	5	"		4192 Z-CHAMBER ON
"	"	"	"	2.15	5.45	1146.88	"	1.8	1.3	43	50	60	0	"		4175 " "
																STOPPED TO Reload Nord

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $*10^6$	TØ REJ. $*10^6$	T_4 ACC SUM	T_2 ACC SUM	T_1 BIT 2 $E_1 > 6$ GeV	T_2 BIT 17 $2T \cdot E_4 \cdot \geq 2TR$

Processors ON/OFF N50	MIP	TOF	FAMP	<L>	$\int Ldt$	$\int Ldt_{Exp}$	IBM TAPE OUTPUT	AT Run ID (μA)	Start TOF (V)	ONLINE REJECTION MIPROC (T_2)	NORD-50 ($T_1 \cdot T_2$)	$\leq$ Bunches	MH	E_{BEAM}	MAGNET FIELD	REMARKS

110 28.9.84

15.25 Tasso had problems with their liquid Argon (possibly a leak).
They have now finished. And Petra also seems to be more or less ready.

T1 Accept connected again.
Everything should be ok for data taking

Z-chamber is on

I

16.20 Junge & Mashimo on shift

20:30 PETRA-Monitor shows 'Injection' since 17:00 but no currents; PKR said they still have problems with the synchrotron and PETRA.

20:50 'BREAK' again

22:00 PETRA cannot get a new fill tonight because of a faulty magnet power supply of the synchrotron; PKR needs experts to fix the problem; the experts could arrive ca. 02:00; repair will take ca. 4 hours ⇒ PKR and experiments decided to fix the problem tomorrow while PETRA is down because of the 'open door day'; RESTART will be on 29/09 ca. 20:00
~~HKK~~-people switched off our magnet; we switched off the FADC-crate (after calling H. Kado)
night-shift people are informed to watch the temperature 3 or 4 times the night;
day-shift people have to come both tomorrow ca. 0800 ~ 09.00 (W. Bartel decided)

23:30 all done; Temperature now is 15.8 °C; one more shift without Lumi finished.

29/09/84

0:20 Temperature in hardware-room: 14.1°C W. Ambrus
2:40 " " 18.0°C
4:20 " " 16.4°C
5:30 " " 16.0°C Laurikainen
8:00 " " 15.9°C Takeshita

8.00 Cartwright & Takeshita standing guard against the tourists!
11.20 Temperature in hardware room 16.2°C
11.30 Interlock Left broken Reg
13:45 Temp. 16.7°C
14.55 Temperature 16.8°C

29.9.84

111

16.00 H. Mills & C. Bowdery & 20 visitors on shift

17.00 Number tourists dropped to 1 or 2. Disc regeneration and backup in progress.

17.30 Last (?) tourist leaves
19.45 PKR say that in 1-1½ hrs they will want our magnet ON.

Every chair in this counting room is kaputt.

Beate says that she expects up to three TOF high voltages to be wrong. If this is the case do NOT call her. However if ALL are wrong .....

30/9 00.00 Ambrus, Olsson
03.00 Magnet on, for injection start. CAMAC-clock and computer set back to 2 o'clock. End of the summer! ← what summer?
Previously, system regenerated, to accomodate an increase in RT-common
In testruns, TOF2 processor gave no response. After interchanging the AC2099's in B2:C3-4, both work!
We cannot get ID pulsers runs working. Has anything been changed in the vertex. work on friday?

7.00 Becker, Ramcke

10.00 Run 18285 started - ended ? (stopped)
(9.00) 18286 started - ended (reason ?)
call to Krehbiel, beams lost (10.15)

10.00 ~~Start~~ Reload TOF MIPROCS, START COSMIC RUN ALL WORKS FINE.
In case run stops after a few events and Console prints:
TOF1 OR 2 WRONG RESPONSE you better switch off the TOF MIPROCS and run without them!! (F15, F9).
They are not necessary for running.
Checked TOF Voltages: Somebody seems to have raised the 3 channels I had painfully changed to higher efficiency. So no errors any more.

12.10 TOF Miproc switched off Byte = 373 (dec)
Start Run → TOF Bank wrong (~~too long~~) (JADS-Error 56)
Call to B. Naroska
FernDiagnose: Camac crate 4. Modul (unten) muß gewechselt werden
B. Naroska informs Krehbiel

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL *10⁶	TØ REJ. *10⁶	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT 2 $E_1 > 6$ GeV	T_2 BIT 17 $2T \cdot E_4 \cdot \geq 2TR$


```
JADE EVENT PRINT-OUT AT 12.25.12 ON 30/09/1984     DECIMAL FORMAT   EVENT     3 LENGTH  484

JDAS HEADER :-    484   128     3

HEADER     BANK     32767     1     0     0     0     0     0    18     2     0
     5       25        12       30        9     1984       24    18293        3      128    28800        0        0     2967        1        0        0        0     1296
  5156     5552         0        0        0        1    22100    -4182    22100      499     6650      319      343     1323

LATCHES    BANK     32767     2     0     0     0     0     0    14     2     0
     0        0         0        0        0        0        0                    0        0        0       30        0        0        0       15       68        0
     0        0         0        0        0        0

TRIGGER 1  BANK     32767     3     0     0     0     0     0     5     2     0
    17        0         0        0     8192        0        0

TOF CNTRS  BANK     32767     8     0     0     0     0     0     0     3     0
    22        7        27        8       17       32       30       30       24       20       32       26        0     1       29       38       42       31       64       94
    33       30        30       27       35        0     2        9       11        9       13       10       13       13       16       14        5       10       15        0     3
    17       14        19       17       17       16       17       16       15       18       15        0     4      22       16       18       20       14       16       12
    12       17        18       18        5     0     1293      532      457      332      383     4017     4017     4017        0     3998     3992     3992     3992     3992     39
  3992     3992        2     0     3976     3976     3976     3976     3976     3976     3976     3976        3     0     2191     2191     2191     2192     2191     2191     2191     21
     0     4     3997     3997     3997     3997     3997     3997     3997     3997        5     0                0        0        0        0     3965     3965     3965        6     0     39
  3990     3990     3990     3990     3990     3990     3990        2     0     4007     4007     4007     4008     4007     4007     4007     4007        0     0     4014     4013     40
  4013     4013     4013     4013     4013        5     0     3977     3977     3977     3977     3977     3977     3977     3977        6     0     3959     3959     3959     3959     39
  3959     3959     3959        1     0     3978     3978     3978     3978     3978     3978     3978     3978     3978        1     2     0     3974     3974     3974     3974     39
  3974        3     0     3983     3983     3983     3983     3985     3983     3983     3983        10     0     3977     3977     3977     3977     3977     3977     3977     3977     45
  3986     3986     3986     3986     3986     3986     3986     3986        10     0        20       21       18       19       22       23       19       26       16       16
    22        1     0       51       54       73       33       87      135       61       51       59       60       51       55        2     0     3983     3983     3983     3983     39
  3983     3983     3983        1     0        0     4059     4058     4058     4058     4058     4058     4058     4058        3     0     3987     3987     3987     3987     3987     39
  3987     3987        4     0     4003     4002     4002     4002     4002     4002     4002     4002        5     0        0        0        0        0     3986     3986     3986     39
     6     0     3989     3989     3989     3989     3989     3989     3989        5     0     1093      557      349      457     3963     3963     3963     3963        8     0
    17       18        24       28       14       21       28       18       29       22       16        1     0     1108        1        1        1        1        1        1
     1        1         1        1        2     0      138       69       64       57       65       53       45       50        1        1        1        1        3     0     3985     39
  3985     3985     3985     3985     3985     3985        1     0     3953     3953     3953     3953     3953     3953     3953     3953        2     0     3990     3990     3990     39
  3990     3990     3990     3990        3     0     3995     3995     3995     3995     3995     3995     3995     3995                                                              4
```

← Wrong TOF Bank

30.9.84

13.22 Waiting for Krehbiel!

Bei TOF Miproc: ~~OAT~~ OFF JDAS-Error 56 - wrong length (373) once about every 70-20 evt.
This is strange, a phone call to Olsson revealed that the proper length is 564 octal which is ~~377~~ 372 decimal. Thus the DMA adds one bad word. With A99 - reloaded and NORD restarted and on things seem to work well. We decide to run in this fashion. TOC-Test programs show no faults (Missing Q, X) in TOF System. But now "Senderausfall," Beams lost, ID hard trip. No TOC exchanged. Looks as if the No-A99-DMA transfer got a hickup in between. Krehbiel

Run # 18288 - 293 - Junk

14.50 Start Data taking
14.54 HV error TOF MF 53 /30,31 - see comment on page 111 - acknowledge
15.00 JDAS error 33 : Missing LAM for. 2 cr. 3 : TOF1 counters (cables back 2)
15.06 HV error TOF MF 53 / 30,31 - acknowledge
15.21 I.D. Soft trip
15.28 YSPY error : Trigger 1 Output missing - Histograms o.k.
15.33 I.D. soft trip
15.40 Energie änderung : 22.138 (for 3 minutes) - Run stopped for this time

Processors ON/OFF N50	MIP	TOF	FAMP	<L>	$\int Ldt$	$\int Ldt_{Exp}$	IBM TAPE OUTPUT	AT RUN ID (μA)	START TOF (V)	ONLINE REJECTION MIPROC (T_2)	NORD-50 ($T_1 \cdot T_2$)	Σ Beating	MH	E BEAM	MAGNET FIELD	REMARKS:

30.9.84

15.45 Run 18294/95 Lumi=0 → Rack 9 crate 2 reset ~~TOF~~

16:00 Bowdery & Dittrich

Start Track

18:30 Beams again
19:20 Problem with TOF MIPROC ~~at~~ 2'ed Event. ; TOF - Off also Problem. TOF-bank wrong length (~~after~~ 30 Evts.)
Called Olsson
20:20 Beams lost
21:60 Data Taking again TOF Miproc Problem "so far solved"

1.10.84

0:00 Schneekloth und Warming on shift
0:12 ID trip - spark alarm R117
3:05 new fill ready, tried to start run, TOF MIPROC no response, switched crate off, on, reloaded Miproc
3:08 started run 18314 after reloading TOF pproc (button F11)
3:20 YSPY reported trigger 1 output 56 low, trigger 1 input 107 also low
found bad connection in cabling of channel 25 of BGO-logic (branch 7, 2nd crate from bottom + branch 6 " " " ")
4:04 started run 18316 after switching off/on crate with TOF pproc 1 and reloading TOF pproc
[run 18315 had ended after 2 events with AC2099 wrong response 000010]
4:57 same as before with runs 18317 (abended) / 18318
5:30 Phone call from CELLO: PLUTO foresees problems for next fills, so week-end shutdown at 9:00
~~7:00~~ 8:00 beams dumped, called MKK to reduce magnet current to 1500A
8:21 magnet down (1500A)

8:45
8:00 H. Mills & J. Hagemann on shift

89 C3 A2 controller taken out and contacts cleaned. New test runs with TOF processors run without problem. TOF processor 7 (C3) taken to Masbender for repair of broken LED. J.O.

12:30 Herr Seidel to break cryo interlock for access.

RUN	DATE	START	STOP	AT RUN START I⁺	AT RUN START I⁻	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL *10⁶	TØ REJ. *10⁶	T₁ ACC SUM	T₂ ACC SUM	T₁ BIT2 E₁>6GeV	T₂ BIT 17 2T₀E₄·≥2TR

16⁰⁰ Hellenbrand + Meinke on shift (still no beams)

19⁰⁰ First success in reading out a vtx ch processor in the JADAS readout system !

20⁰⁰ Hellenbrand is replaced by Komamiya

22⁰⁰ magnet current found to be 0A , (previous shift crew claimed 1500A)

22¹⁵ magnet reset to 6500 A

22⁵⁵ HV error MFR 53, channel 30, 31 : we follow the instruction on page 112 and 111 and just acknowledge

22⁵⁸ ID trip

23⁰⁶ ID Soft trip

23²² "

23³⁶ HV error MFR 15 no response

2. 10. 84

Matsumura Petersen on shift

4:03 new fill ready high TOF Rate and high deadtime

4:15 ID soft trip. reason : PKR optimizes for TASSO

4.23 continue the run. PKR says that they have problems to make orbit corrections. Problem can be solved probably not before daytime.

4:30 ID soft trip

5:10 Temperature alarm : we phoned Kontrolltechnik (5555) the compressor which runs on "automatic" stops running immidiately after starting they interchanged the two compressors, one from "manual" to "automatic" and the other from "automatic" to "manual".

6:00 T2 input missing : 5, 13, 21, 29, 37, 45, 109, 125, 141, 157, 173, 189

T2 output missing : 13, 29, 45, 61, 77, 93, 109, 125, 141, 157, 173, 189

TOF and ID look o.k. we phoned Kirchhoff ! He claimes that it might be a bit error in the readout of T2 and that it does not affect the data taking

8⁰⁰ Casewright, Kawagoe on shift

8²⁵ ID soft trip during "background optimization". Probably caused by TOF-rate which is now typically 1.5 - 2 V. Deadtime is 30-40% — comparable (!) with best fill.

Processors ON/OFF N50	MIP	TOF	FANP	<L>	∫Ldt	∫Ldt · Exp	IBM TAPE OUTPUT	AT Run ID (μA)	Start TOF (V)	ONLINE REJECTION MIPROC (T₂)	NORD-50 (T₁&T₂)	Σ Beabtg	MH	E BEAM	MAGNET FIELD	REMARKS

It was so! PIOSLOT in Branch 3, Crate 1 showed Bit 14 always zero! That is just the Bit of the missing T2 entries, if one deciphers the old listings in the folder "T2-Trigger." Exchanging of the Crate-Controller cured things. Note for data evaluation ! The Primary Trigger efficiency was not affected, except that the MIPROC.16 in its T2 checks also missed the bits. There may have been some T3 bits missing as well. Kleinhiel

8¹⁵ There is an error in the LG HV — SUPPLY/MAINFRAME IS NO RESPONSE. This has been happening for some time (last 10 runs?) judging by system console output. Kawagoe is investigating. Also YRARA 24 PED CR 2 CH 276 IS < 100 : VALUE (ranging, ~50) has been happening repetedly.

8³⁸ ID soft trip. Trigger rate 4 Hz Deadtime 35% ID current still 2μA, TOF-rate ~1.6V.

8⁵⁶ ID soft trip. TOF-rate now 3.5V. Phone PKR — they say that some vacuum pumps are off, hence bad background. Meantime the TOF goes back to 1.4V and we switch on again. Deadtime is sometimes as low as 10% but mostly up to >50%. Integrated so far this run 34%.

9¹⁰ JADAS readout error 46 - MPIG analysis incomplete YY=1

9¹⁴ Run 18329 — 27 "z-ch >400 hits" — but z-ch was not on. This will have to be looked at. SCC

10⁴⁰ ID hard trip — SPARK ALARM. Komamiya called. He resets it.

10⁵⁰ Funny things happening in Nord, consistent with system partially overwritten. STOPPED run ok and reloaded. Problems melted away. (HEH)

11³⁰ CELLO call to say TASSO request 1hr access after this fill.

A1 - Crate - Controller swapped. Module from top of this page : Failure could not be reproduced. Most likely bad dataway contact. Contacts cleaned. Reinserted into Branch 4 Cr 6 (Rack 10 2nd from top.) Tests o.k.

Observe that ~~between~~ runs after run 18295 and before 18305 the bunchmarker (prepulse) histogram ~~changed~~ to all entries in overflow and have remained so ever since.

14³⁵ ID hard trip — partial beam loss. Beams clumped. z-ch anode current very high when switched off! ~~switched~~

15⁵⁰ New fill — TOF >10V !! Later settle down to 1.5V. ID ramp up & trips within 1 minute or so (due to TOF). Try again — this time we get the run started OK.

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ. $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT 2 $E_1 > 6$ GeV	T_2 BIT 17 $2T \cdot E_4 \cdot \geq 2TR$
18332	2/10/84	10^{58}	11 48	4.16	4.20	12.5	2983	8002	4403	776	97	4927	5826 ~~7028~~	1770	45
18333	"	11 49	12^{01}	3.80	3.83	17.7	683	1634	732	178	31	1009	~~7004~~	370	6
18334	"	14^{21}	14^{36}	5.85	5.83	20.6	764	2452	1417	199	41	1225	1990	389	13
18335	"	15 59	16 50	5.12	5.34	19.8	2476	8002	4464	644	128	4381	6152	1391	45
18336	"	16 51	17 01	4.68	4.90	22.4	562	1844	1025	146	33	982	1363	345	8
18337	"	17 11	17 54	4.53	4.74	20.4	2562	8002	4406	657	134	4499	6067	1715	59
18338	"	17 55	17 59	4.21	4.42	17.9	241	692	345	55	9	361	433	117	4
18339	"	18 04	18 52	4.14	4.34	14.3	2742	8002	4613	714	102	4719	5740	1691	59
18340	"	18 53	19 06	3.82	4.02	11.1	743	2069	1050	193	21	1273	1386	420	6
18341	"	19 11	19 36	3.72	3.91	12.0	887	2490	1271	231	28	1567	1574	526	13
18342	"	19 36	20 1	3.57	3.76	10.9	1478	4038	1972	384	41	2516	2565	803	29
18343	"	20 08	20 38	3.40	3.58	11.9	1349	3459	1880	351	42	2117	2286	672	22
18344	"	21 47	22 38	5.65	5.58	29.7	2376	8002	4643	618	183	3909	7058	1417	49
18345	"	22 39	23 26	5.05	5.00	29.9	2758	8002	4520	717	214	4254	6335	1491	54
18346	"	23 27	0 13	4.58	4.53	17.4	2607	8002	4363	677	118	4427	6038	1552	35
18347	3/10/84	0 16	1 27	4.16	4.12	12.2	2852	8002	4089	742	90	4614	5773	1550	54
18348	"	1 27	1 31	3.65	3.62	11.6	158	508	250	41	5	297	383	80	3
18349	"									628					
18350	"	2 13	2 53	~~5.83~~	5.77	20.1	2416	8001	4580	426	126	4329	6256	~~1574~~ 1521	60
18351	"	2 54	3 36	4.82	4.87	16.4	2543	8002	4345	661	109	4317	6253	1491	55
18352	"	3 37	4 21	4.43	4.48	14.8	2615	8002	4320	680	100	4458	5894	1525	39
18353	"	4 22	5 07	4.07	4.13	12.9	2701	8002	4196	703	90	4621	5671	1525	45
18354	"	5 07	5 45	3.51	3.56	11.6	2233	6235	3149	580	67	3669	4392	1112	40
18355	"	6 55	7 49	5.66	4.97	19.9	2523	8002	4451	656	130	4084	6613	1279	61
18356	"	7 50	8 34	5.11	4.47	15.3	2606	8002	4351	678	104	4314	6025	1338	39
18357	"	8 34	8 56	4.72	4.10	13.8	976	2942	1524	254	35	1635	2127	520	17
18358	"	8 56	9 50	4.49	3.72	13.2	1823	4948	2499	474	63	2735	3656	787	38
18359	"	9 54	10 07	4.04	3.05	13.0	722	1819	863	188	24	1009	1235	278	16
18360	"	10^{08}	10^{49}	3.95	2.97	10.5	2180	5430	2512	567	60	3127	3673	858	23
18361	"		NO		events										
18362	"	15 13	15 31	4.94	4.87	18.2	1053	5001	5001	274	50	2136	2691	941	23
18363	"	15 33	16 05	4.79	4.71	16.1	~~1674~~ 1674	6001	6001	441	71	3421	4294	1429	40
18364	"	16 08	16 52	4.55	4.48	15.7	2614	8002	4320	681	107	4303	6318	1605	49
18365	"	16^{53}	17 44	4.25	4.18	12.9	3029	8001	4319	789	102	4497	5976	1439	61
18366	"	17 45	18^{20}	3.91	3.85	10.5	2674	6833	3428	647	73	4079	4627	1167	41

Processors ON/OFF N50	MIP	TOF	FAMP	<L>	$\int Ldt$	$\int Ldt_{Exp}$	IBM/TAPE OUTPUT	AT RUN START ID (μA)	AT RUN START TOF (V)	ONLINE REJECTION MIPROC (T_2)	ONLINE REJECTION NOR-50 ($T_1 \cdot T_2$)	Σ Bhabha	MH	E_{BEAM}	MAGNET FIELD (RUN START)	REMARKS
ON	ON	ON	OFF	1.82	6.26	1153.14	IBM	1.5	1.0	46	46	69	1	22.100	4177	Z-CH ON
"	"	"	"	1.56	1.06	1159.20	"	1.4	0.87	45	57	9	0	"	4186	" beams dumped
"	"	"	"	2.96	2.26	1156.46	"	2.1	1.3	44	44	28	3	"	4172	Z-CH ON beams lost
"	"	"	"	2.15	5.32	1161.78	"	2.2	0.9	46	46	57	6	"	4187	Z-CH ON
"	"	"	"	1.81	~~1.07~~ 1.04	1162.82	"	1.9	1.1	42	46	18	0	"	4197	"
"	"	"	"	1.77	4.46	1167.28	"	1.9	1.1	46	46	53	2	"	4198	"
"	"	"	"	1.56	0.83	1167.61	"	1.8	1.1	40	53	0	0	"	4167	"
"	"	"	"	1.66	4.56	1172.17	"	1.8	1.2	47	44	52	8	"	4165	"
"	"	"	"	1.57	1.17	1173.34	"	1.8	0.8	47	51	12	0	"	4164	" run stopped because "NO TRIGGERS"
"	"	"	"	1.53	1.35	1174.69	"	1.8	0.8	46	51	14	1	"	4171	" run stopped because "NO TRIGGERS"
"	"	"	"	1.46	2.16	1176.85	"	1.7	0.8	45	53	15	0	"	4165	" run stopped because "NO TRIGGERS"
"	"	"	"	1.17	1.58	1178.43	"	1.3	0.6	46	47	21	1	"	4161	" beams dumped
"	"	"	"	2.56	6.08	1184.51	"	2.3	1.8	46	44	63	6	"	4184	Z-ch on for last part of run
"	"	"	ON	2.07	5.70	1190.21	"	2.0	1.2	44	45	61	2	"	4186	Z-ch on
"	"	"	"	1.93	5.04	1195.25	"	1.9	1.1	45	47	42	3	"	4175	"
"	"	"	"	1.65	4.71	1199.96	"	1.8	1.0	45	50	59	2	"	4174	Z-ch. OFF
"	"	"	"	1.75	0.28	1200.24	"			40	54	1	1	"	4177	" beams dumped
"	"	"	"	~~0.00~~ 0.00	~~0.00~~ 0.00	1200.24	"	2.2	1.5					~~22.1~~ 22.100		No events. Immediate ID trip
"	"	"	"	2.44	5.89	1206.13	"	2.2	1.4	44	44	~~36~~ 64	3	22.1	4172	Z ch OFF
"	"	"	"	2.31	5.88	1212.01	"	2.0	1.3	45	47	55	6	22.1	4181	"
"	"	"	"	2.00	5.22	1217.23	"	1.8	1.1	44	47	44	1	"	4190	"
"	"	"	"	1.67	4.51	1221.74	"	1.7	1.1	44	49	57	4	"	4153	"
"	"	"	"	1.36	3.04	1224.78	"	1.6	1.0	45	51	28	1	"	4178	" beams dumped
"	"	"	"	2.61	6.59	1231.37	"	2.2	1.7	45	46	65	2	22.100	4.195	Z-ch off
"	"	"	"	2.46	6.40	1237.77	"	2.1	1.1	43	51	71	1	"	4175?	" "
"	"	"	"	2.34	2.28	1240.05	"	2.01	0.89	43	56	30	2(?)	"	4175?	Klystron trip(?) [Energy changed]
"	"	"	"	1.61	2.93	1242.98	"	2.0	0.85	44	54	29	1	"	4175	Z ch on
"	"	"	"	1.35	0.97	1243.95	"	2.0	0.7	39	55	8	3(?)	"	4173	Run dropped due to no triggers
"	"	"	"	1.31	2.09	1246.04	"	2.0	0.7	42	56	23	3	"	~~4174~~ 4169	beams dumped [Z ch off at end]
"	"	"	"	2.25	2.37	1248.41	IBM+TAPE FILL 139	2.2	1.5	0	0	24	4(?)	"	?	Z chamber on NO MIPROC or N50 analysis (for both)
"	"	"	"	1.75	2.97	1251.38	IBM+TAPE FILL 184	2.1	1.4	45	0	40	5	"	4186	No N50 analysis but TRIG-16 on
"	"	"	"	1.60	4.18	1255.56	IBM	2.0	1.4	46	48	41	3	"	4202	Rejections on as normal
"	"	"	"	1.61	4.89	1260.45	"	1.9	1.3	45	48	62	4	"	4186	
"	"	"	"	1.53	4.10	1264.55	"	1.8	0.8	45	51	36	5	"	4172	

RUN	DATE	START	STOP	AT RUN START	DEAD TIME	TIME (sec)	RECORDS IN	RECORDS OUT	ALL *10⁶	TØ REJ.	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT 2	T_2 BIT 17

→ 16⁰⁰ Rietsch & Middleton.
19¹⁰ "NO TRIGGERS..." - stopped run & started new run.
19³⁵ " " " " " " " "
21³⁵ new fill ready.
21⁵⁰ fragment soft ID trips ... PKR have optimized again & can't do any more ... we'll have to be patient!
22²⁰ Z-chamber off until about event #5000 of 18344 because of the soft ID trips ... Z-chamber now on.
23²⁰ old histograms since run #18333 do not appear to have been saved on disk ... comments HEM please? or disk.

23²⁵ IF TEMPERATURE near DL8's 718°C then switch off FADC's of vertex chamber.

3.10
→ 0.00 Lawrikainen / Kuhlen on shift
0.13 Z-chamber switched off with the end of run 18346
0.36 ID-trip: spark in ring 1 cell 7
1.30 HV WRONG & mainframe 53 ch 30, 31
HV Read error & VVOLTS detected error in Leadfass HV Distributor 14 } occurs frequently (2-3 times / hour, all night through)
3.35 YSPY detected error MUON CRATE MISSING FAULTY PART: 13 Reset → OK
4.26 JOBS readout error 46 MP-16 online sequence YY=1
4.50 Temperature stable at 17°C
7.02 after a short time of running with a new fill, the TOF-rate showed spikes and the inner detector tripped twice (soft). Run paused and PKR asked for optimization
7.10 TOF rate now stable at 1.3 V, dead time 20%

→ 8.00 Hellenbrand & Bowdery on shift

8.56 PETRA energy changed slightly for a few minutes – probably due to a klystron tripping and the automatic system coming into operation to keep the beams stored. Slow ID trip occurred. Run paused

9.20 Run paused because of PETRA energy change again.

When are we going to have some decent chairs in the control room? This year ☐ Next year ☐ Never ☐ Tick correct box.

Processors ON/OFF				< L >	∫Ldt	∫Ldt Exr	IBM TAPE OUTPUT	AT Run ID (μA)	Start TOF (V)	ONLINE REJECTION MIPROC (T_2)	ONLINE REJECTION NORD-50 (T_1+T_2)	≤ Bunches	MH	E BEAM	MAGNET FIELD	REMARKS
N50	MIP	TOF	FAMP													

10:00 Z chamber ON Run 18359 event ~1300

Error messages on the console: status
HV wrong for TOF - not an error
HV read error LG MF15 - cause unknown, HV is OK } ignore all these errors still
PED error - cause unknown

12:00 Temperature alarm. Quick look into compressor room revealed: someone was at work but had left it for lunch, one compressor was switched off. We called Schult. After 10 minutes someone arrived (Schult + 2 crew members). T wanted downward.
12:40 Control room is getting too hot now.

13:05 Our TSO terminal is taken away and replaced by a new Raytheon model. It cannot yet be used until it is connected to a different controller. The new keyboard will allow us to edit TEX files now!
13:20 Somebody changed the filters of the air conditioning unit.
13:45 Two other people are working at the air conditioning unit
temperature alarm every 10 minutes temperature in hardware room 19.5° C
14:15 A third man has joined the other two
compressor 7 is working again
temperature in hardware room decreasing 18.5° C
17.7° C
14:25

Runs # 18362 & 3 to IBM and tape as test data for future N-50 improvements.
Data is of course perfectly usable on IBM. HEM

For reasons unknown the histograms are not being saved on the disk since Run 18333. Cannot be dealt with now as too much to do - such as typing in for second time in 4 weeks an IBM data set that was lost & despite backups could not be restored.

16⁰⁰ ~~Gebrochlott~~ & Middleton.
18²⁰ JOBS READOUT ERROR US - MP-16 analysis incomplete; YY=1
18³⁰ stopped run ~~18365~~ 18366, Vertex chamber test runs
19¹⁹ started run 18367
21⁴⁵ "NO TRIGGERS..." message ... solved by stopping run & starting new run
Z-chamber on ~~soon~~ after new fill for run 18367
21⁵⁵ ID ~~soft trip~~

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 BIT2 $E_1 > 6$ GeV	T_2 BIT 17 $2T_0 E_4 \cdot \geq 2$ TR
18367	3.10	19 19	19 56	3.39	3.34	9.2	2126	4986	2304	553	51	3140	3211	897	25
18368	"	21.06	21:43	5.52	5.63	23.6	1703	5363	3045	443	104	2689	4393	803	24
18369	"	21.44	22.30	5.12	5.24	23.8	2626	8002	4625	683	162	3907	7261	1260	46
18370	"	22.31	23:19	4.65	4.77	18.3	2618	8002	4179	681	125	4035	6752	1205	53
18371	"	23 19	0 10	4.23	4.35	18.6	2910	8001	4119	757	141	4172	6430	1205	47
18372	4.1084	0 13	0 40	3.84	3.95	16.5	1599	4265	2079	416	69	2287	3266	648	29
18373	"	1 31	2 18	6.04	5.85	34.5	2844	8002	4632	740	255	3903	6976	1256	42
18374	//	2 19	3 08	5.43	5.25	28.9	2812	8002	4403	732	211	3934	6751	1251	52
18375	"	3 08	3 58	4.89	4.73	16.3	2661	8002	4190	692	113	4342	5942	1353	46
18376	"	3 58	4 46	4.40	4.26	13.5	2839	8002	3960	738	99	4496	5695	1318	33
18377	"	4 46	5 36	4.03	3.90	10.8	2972	8002	3871	773	84	4680	5491	1437	36
18378	"	5 36	6 17	3.69	3.34	10.1	2454	6148	3053	638	64	3622	4272	1040	40
18379	"	7 10	7 27	5.58	5.59	40.6	303	1018	640	79	32	409	1425	144	7
18380	"	8 46	8 14	5.48	5.51	27.5	2191	6852	3524	571	157	3235	6359	1088	33
18381	"	15.45	16.22	5.42	5.03	14.0	2093	5859	3234	545	76	3275	4199	910	22
18382	"	16:31	17:27	4.98	4.92	10.2	3393	8002	3490	858	87	4627	5589	1185	36
18384	"	17 30	18 17	4.50	4.16	9.8	2888	6674	3745	752	73	4032	4408	994	29
18385	"	18:27	19 02	4.10	3.78	8.8	2115	4818	2177	551	48	2987	3003	751	15
18386	"	19:13	19.35	3.82	3.51	8.2	1262 ~~2788~~	~~2788~~	1195	329	27	1717	1838	395	18
18387	"	19 44	20:31	3.64	3.34	7.7	2737	5783	2502	712	55	3837	3450	911	32
18388	"	22:50	22:51	5.83	5.70	15.3	38	160	100	10	1	66	102	20	1
18389	"	23:40	00:27	5.80	6.10	18.1	2539	8001	4492	661	119	4071	6310	1141	49
18390	05/10/84	00:27	01:11	5.28	5.57	16.7	2633	8002	4319	685	114	4119	6260	1177	36
18391	"	01:11	01:59	4.84	5.12	13.1	2806	8002	4156	729	95	4474	6092	1288	43
18392	"	01:59	02:49	4.42	4.68	11.1	2971	8001	4292	773	86	4452	5553	1206	40
18393	"	02:47	03:44	4.04	4.29	9.3	3277	8002	3703	852	99	4815	5224	1140	27
18394	"	03:44	04:02	3.66	3.90	9.6	1033	2371	1095	269	26	1467	1474	328	10
18395	"	04:45	05:31	5.63	5.99	16.1	2744	8002	4198	774	115	3824	6708	1237	52
18396	"	05:31	06:24	5.12	5.47	14.9	2748	8002	4123	715	106	4079	6295	1215	47
18397	"	06:24	07:14	4.61	4.93	11.9	2727	8002	4077	762	91	4549	5723	1272	51
18398	"	07:13	8:07	4.17	4.50	10.2	3149	8002	3856	819	83	4713	5908	1209	45
18399	"	8:07	8:35	3.80	4.10	10.4	1543	3760	1760	402	42	2321	2946	580	21
18400	"	9:11	10:09	5.54	4.54	11.8	3108	8002	4059	809	95	4375	5928	1124	28
18401	"	10:09	10:35	5.07	4.17	12	952	2311	1101	248	30	1313	1563	354	12
18402	"	10:32	11:19	4.87	3.99	9.7	3416	8002	3557	889	86	4930	5114	1136	31
18403	} dummy														
18404															

PROCESSORS ON/OFF N50	MIP	TOF	FAMP	<L>	$\int L dt$	$\int L dt$ Exp	IBM/TAPE OUTPUT	AT RUN START ID (μA)	AT RUN START TOF (V)	ONLINE REJECTION MIPROC (T_2)	ONLINE REJECTION NORD-50 ($T_1 T_2$)	Σ Events	MH	E_{Beam}	$\lvert\vec{B}\rvert$ = MH	MAGNET FIELD	REMARKS
ON	ON	ON	ON	1.13	2.40	1266.95	IBM	1.4	0.67	46	55	28	2	22.100	4174		beams dumped
"	"	"	"	2.87	4.90	1271.85	"	2.5	1.4	44	45	49	3	"	4172		No Z-chamber from displaced due to NO TRIGGERS.
"	"	"	"	2.58	6.77	1278.62	"	2.3	1.2	47	44	81	5	"	4187		Z-ch ON.
"	"	"	"	2.33	6.09	1284.71	"	2.5	1.2	45	49	61	4	"	4185		" "
"	"	"	"	2.02	5.89	1290.60	"	2.4	1.0	44	50	68	3	"	4166		" "
"	"	"	"	1.77	3.63	1294.23	"	2.3	1.0	43	53	40	2	"	4187		Z-ch ~~OFF~~. Beams lost
"	"	"	"	2.60	7.39	1301.62	"	2.6	1.5	45	44	77	7	"	4201		
"	"	"	"	2.40	6.76	1308.38	"	2.4	1.2	44	47	70	3	"	4200		
"	"	"	"	2.23	5.54	1314.32	"	2.1	1.0	42	43	70	1	"	4209		
"	"	"	"	1.96	5.57	1319.89	"	2.0	1.0	42	52	66	2	"	4196		
"	"	"	"	1.82	5.40	1325.29	"	1.9	0.9	43	53	49	3	"	4193		
"	"	"	"	1.42	3.49	1328.78	"	1.7	0.8	44	52	44	1	"	4177		Beams dumped
"	"	"	"	1.05	0.32	1329.10	"	3.2	2.0	62	40	8	0	"	4175		Beams lost
"	"	"	"	2.28	5.36	1334.46	"	2.6	1.8	47	44	59	8	"	4174		Beams lost Z-ch ON ~~NOISY~~ switched
"	"	"	OFF	3.00	6.29	1340.75	"	2.1	1.3	44	49	56	6	"	4224		
"	"	"	"	2.29	7.54	1348.29	"	1.8	0.6	43	52	85	5	"	4215		18383 junk
"	"	"	"	1.34	5.31	1353.60	"	1.7	0.6	44	54	81	4	"	4207		
"	"	"	"	1.60	3.38	1356.98	"	1.6	0.5	44	57	26	4	"	4163		
"	"	"	"	1.56	1.97	1358.95	"	1.5	0.5	46	58	20	1	"	4197		
"	"	"	"	1.25	3.42	1362.37	"	1.4	0.45	48	58	43	0	"	4215		
"	"	"	"	3.14	0.12	1362.49	"	2.2	1.3	25	42	2	0	"	4196		beams lost
"	"	"	"	3.13	7.94	1370.43	"	2.1	1.2	42	45	69	4	"	4217		
"	"	"	"	2.63	6.92	1377.35	"	2.0	0.9	42	47	59	3	"	4183		
"	"	"	"	2.35	6.59	1383.94	"	1.8	0.82	45	50	73	4	"	4183		
"	"	"	"	2.01	5.98	1389.92	"	1.7	0.78	42	48	75	3	"	4200		
"	"	"	"	1.93	6.33	1396.25	"	1.6	0.6	43	55	63	1	"	4190		
"	"	"	"	1.71	1.77	1398.02	"	1.6	0.52	43	55	17	1	"	4180		beams dumped
"	"	"	"	?	3.90	1406.92	"	2.2	1.2	42	49	98	5	"	4215		MFR 63 Pooled completely
"	"	"	"	1.83	5.08	1412.00	"	2.0	0.9	42	50	56	4	"	4179		MFR 63 Pooled temporarily
"	"	"	"	2.10	6.15	1418.15	"	1.8	0.8	44	51	73	3	"	4222		
"	"	"	"	2.03	6.50	1424.65	"	1.6	0.7	43	53	70	3	"	4199		
"	"	"	"	1.54	2.45	1427.00	"	1.45	0.6	45	55	29	1	"	4196		beams dumped — lost
"	"	"	"	2.04	6.35	1433.35	"	1.8	1.0	43	51	80	2	"	4212		
"	"	"	"	2.30	2.19	1435.54	"	1.6	0.6	44	54	21	4	"	4191		Zähler alter als 900
"	"	"	"	1.88	6.43	1441.97	"	1.6	0.5	44	57	82	4	"	4190		

RUN	DATE	START	STOP	AT RUN START I+	AT RUN START I−	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL ×10⁶	TØ REJ. ×10⁶	T_4 ACC SUM	T_2 ACC SUM	T_1 BIT 2	T_2 BIT 17

Processors ON/OFF N50	MIP	TOF	FAMP	<L>	$\int$Ldt	$\int_{Ext}$Ldt	IBM TAPE OUTPUT	AT Run ID (μA)	Start TOF (V)	ONLINE REJECTION MIPROC (T_2)	ONLINE REJECTION NORD-50 ($T_1 T_2$)	$\leq$ Bhabha	MH	F_{BEAM}	MAGNET FIELD	REMARKS:

22⁰⁵ JDAS READOUT ERROR 33 – missing LAM branch 2 crate 4 : TOF2 counters.

0⁰⁰ Takeshita + Komamiya

0¹⁰ Z-chamber ~~off~~.

0⁴⁰ Beams lost → ID trip

1⁵⁰ No trigger → data taking paused / continued → O.K.
High trigger rate (corrected) and high dead time is due to "IBM busy".

2⁴⁵ ID soft trip

3¹⁹ JDAS READOUT ERROR MISSING LAM BR=2 CR=4 : TOF2 counters

" No trigger → pause / continue → O.K.

3³⁰ Soft ID trip

3⁵⁶ "

4²⁰ JDAS READOUT ERROR 45 – MP-16 analysis incomplete: YY=1

4²¹ " 46 " " out of sequence: YY=1

4³⁰ " 45 – MP-16 analysis incomplete: YY=1

7⁰⁰ New beams ready TOF rate ~ 2. ID cannot be switched on.
asked PKR to optimize the background.

7¹⁰ No improvement!, we switched on ID, ID current ~ 3 TOF rate still ~ 2

7¹¹ soft ID trip we asked PKR for beam optimization

7¹⁵ TAG HV DOWN — RESET (MFR61)

7²⁵ Beams lost → ID trip
'Short break' on TV

8⁰⁰ Becker & Cartwright (until/unless Tim Greenshaw turns up)

8³⁶ HV error : TOF MF 53 30 131 – ignore

8⁴⁰ JDAS error 45 – MP analysis incomplete : YY=1

8⁴⁰ HV error : TOF MF 53 30 131

9¹² z-ch off, because we are about to dump beam (we – JADE – have a water leak)

9¹² ID hard trip – beams lost

9¹⁴ Water-leak (JADE) – PETRA OFF / magnet off
The leak occurred underneath the magnet + z on the beat shield / beam pipe cooling circuit Seidel & Nahnhauer will be able to fix it.

10¹⁵ Water leak is fixed – but now there are problems with DESY, so still no beam.

14⁰⁰ Test runs for Vertexchamber-readout

15.45 Start Data taking

15.50 Soft I.D. trip

16⁰⁰ Motzumma, Feist on shift

17 07 TOF TOC No Hit

17:29 ID Soft Trip

17⁴⁰ : Several trigger hang ups / cure: Pause then continue | In case of trigger hangups: Please check level. At least whether White Event Lamp was on. Koch

23:45 Wire # 1057 Oscillated fro V34 Card exchanged but same effect. Ma

05/10/84 Heidt / Zinge on shift

01:09 JDAS READOUT ERROR 45 – MP-16 analysis incomplete ; YY = 1

02:10 YVOLTS : ERROR IN ~~CRATE~~ HV-SYSTEM, SUPPLY/MAINFRAME = 15
LG SYSTEM HV CONTR : NO RESPONSE
} But looks seem to look OK.

02:28 JDAS READOUT ERROR 45 – MP-16 analysis incomplete ; YY = 1

02:30 " " " 46 – MP-16 out of sequence ; YY = 1

02:35 YVOLTS : (look at 02:10)

02:37 JDAS READOUT ERROR 46 – MP-16 ~~out of analysis~~ out of sequence ; YY = 1

+ " " " 45 – MP-16 analysis incomplete ; YY = 1

04:46 YVOLTS : ERROR IN HV-SYSTEM, Supply/Mainframe 15
LG SYSTEM HV CONTR ; NO RESPONSE
} appeared in the same way as before

04:48 YVOLTS : TAG – MFR 63 CHAN 0 – 710 HV down ; RESET HV via JDAS ⇒ CHANNEL ... DOES NOT REQUIRE RESETTING ! ; local check of HV of MFR 63 ⇒ everything is OK.

05:31 no Limi in Run summary ⇒ MFR 63 must have failed completely ; Reset after start of run 18396

05:50 Z-chamber ON

06:05 JDAS READOUT ERROR 33 – Missing LAM branch 3 crate 2 : Muon Chambers

06:13 Z-chamber OFF because of 'ERROR'-LED of Control Interface

07:30 the Error Message: ' YVOLTS : ERROR IN HV-SYSTEM, SUPPLY/MAINFRAME = 15
LG SYSTEM HV CONTR ; NO RESPONSE
YVOLTS : LG DISTRIBUTOR 14 PRIMARY HV = 1981 SHOULD BE = 1970
appeared ~ once per run after run start ! ; should be checked by LG-experts.

8:10 Petersen, Spitzer

8:08 "No trigger." chose after run start. PAUSE, CONTINUE helped

9:19 to happen again in the next run

10:04 "JDAS READOUT ERROR 45" – MP-16 analysis incomplete; YY=1 Jan at 10²⁵

10:16 Z-chamber on

10:27 Run stopped Kleinwort want to test Vertexchamber readout

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 BIT2 $E_1 > 6$ GeV	T_2 BIT 17 $2T \cdot E_4 \geq 2$ TR
18405	5.10.84	11:46	11:44	4.29	3.41	8.2	137	744	153	36	3	210	183	47	6
18406	"	13:15	13:30	5.50	5.81	21.4	829	2495	1416	216	46	1225	1937	345	15
18407	"	13:30	13:38	5.35	5.65	14.2	408	1247	652	106	15	655	844	160	7
18408	"	13:43	13:53	5.22	5.52	10.9	579	1645	829	151	16	899	1141	231	9
9-10 Dump															
18411	"	15:09	15:34	5.18	5.43	14.3	1457	3941	1996	379	54	2127	2796	549	17
18412	"	15:36	16:28	4.90	5.14	11.1	3096	8001	3833	805	89	4585	5542	1145	07
18413	"	16:28	17:18	4.42	4.65	8.5	2604	6300	2928	677	64	3759	4209	804	27
18414	"	17:18	18:17	4.02	4.24	10.2	3525	7755	3378	918	43	4822	5038	1113	34
18415	"	19:17	20:09	5.41	5.48	11.3	3078	8002	3666	800	90	4211	6186	981	33
18416	"	20:09	20:59	4.99	5.05	11.9	2964	8001	3747	770	91	4325	5923	1118	26
18417	"	21:09	22:02	4.48	4.55	10.1	3165	8002	3538	822	82	4490	5616	1152	29
18418	"	22:03	23:00	4.07	4.14	9.1	3388	8002	3499	881	80	4786	5985	1315	34
18419	"	23:01	23:59	3.69	3.77	9.7	3485	8002	3338	902	88	4621	5638	1184	32
18420	6.10.84	1:00	0:40	3.39	3.47	9.4	2351	5377	2435	612	57	3031	3787	684	22
18421	"	2:36	3:32	5.42	5.27	12.2	2980	8002	4076	775	94	4309	5820	991	22
18422	"	3:32	4:26	4.88	4.74	10.6	3185	8002	3760	828	88	4402	5687	1017	25
18423	"	4:26	5:21	4.42	4.29	9.6	3300	8001	3574	858	83	4622	5843	1083	36
18424	"	5:22	6:22	4.00	3.88	10.4	3610	8002	3425	938	98	4736	5255	1082	22
18425	"	6:22	6:44	3.61	3.50	27.9	1250	2144	892	325	90	1311	1334	297	8
18426	"	7:58	8:48	5.16	5.15	11.9	2965	8002	4091	771	91	4347	5832	1057	36
18427	"	8:49	9:43	4.69	4.68	10.4	3219	8002	3779	838	87	4622	5552	1167	34
18428	"	9:44	10:44	4.24	4.23	8.9	3490	8002	3638	907	81	4852	5297	1180	33
18429	"	10:45	11:41	3.81	3.87	8.8	3298	7398	3587	858	76	4599	4694	1172	33
18430	"	12:16	12:26	5.86	5.37	15.6	587	1739	891	152	23	879	1384	274	13
18431	"	12:28	12:43	5.73	5.24	16.8	877	2389	1172	228	38	7270	1771	379	7
18432	"	12:46	13:35	5.54	5.07	17.2	2927	8002	3754	761	84	4407	5701	1228	2244
18433	"	13:36	14:27	5.04	4.59	10.8	2753	7099	3353	716	77	4041	5000	1055	34
18434	"	14:33	15:26	4.51	4.09	9.6	3188	8002	3963	829	80	4960	5036	1505	29
18437	"	17:14	17:18	5.73	5.75	17.2	242	756	392	63	11	356	698	114	5
18438	"	17:20	17:40	5.68	5.70	13.4	1162	3224	1656	303	41	1638	2756	456	12
18439	"	17:41	18:03	5.48	5.50	13.3	1282	3552	1672	334	44	1852	2734	541	22
18440	"	19:09	19:59	5.48	5.35	14.2	2985	8001	4247	776	111	4401	5814	1138	31
18441	"	19:59	20:50	4.94	4.82	11.0	3046	8002	3870	793	87	4637	5558	1209	39

Processors ON/OFF N50	MIP	TOF	FAMP	<L>	$\int Ldt$	$\int Ldt_{Exp}$	IBM TAPE OUTPUT	AT RUN START ID (μA)	AT RUN START TOF (V)	ONLINE REJECTION MIPROC (T_2)	ONLINE REJECTION NORD-50 ($T_1 T_2$)	Σ BHABHA	MH	E_{BEAM}	MAGNET FIELD	REMARKS
ON	ON	ON	OFF	2.57	0.35	1442.32	IBM	1.6	1.0	37	59	4	0	22.100	4194	beams dumped
"	"	"	ON	2.56	2.12	1444.44	"	2.0	0.8	40	45	22	3	"	4184	FAMP ON with pattern rec
"	"	"	OFF	3.01	1.23	1445.67	"	1.9	0.75	36	50	9	1	"	4189	
"	"	"	ON	2.97	1.72	1447.39	"	1.9	0.75	39	51	12	0	"	4192	FAMP on with pattern rec
								2.0	0.9						4196	
"	"	"	OFF	2.88	4.19	1451.58	"	2.0	0.9	40	51	48	0	"	4203	
"	"	"	OFF	0.68	8.08	1459.86	"	1.8	0.65	42	63	81	5	"	4207	
"	"	"	"	2.24	5.83	1464.69	"	?	?	43	55	62	1	"	4191	
"	"	"	"	1.77	6.24	1470.93	"	1.6	0.45	42 ~~28~~	45 ~~43~~	58	5	"	4192	beams disappeared
"	"	"	"	1.63	5.01	1475.94	"	2.0	0.7	43	56	57	2	"	?	Z-ch off
"	"	"	"	0.10	6.23	1482.07	"	2.0	0.7	~~47~~	55	59	0	"	4213	"
"	"	"	"	1.72	5.45	1487.72	"	2.0	0.65	41	57	68	3	"	4183	"
"	"	"	"	1.52	5.13	1492.85	"	2.0	0.6	43	58	46	0	"	4205	"
"	"	"	"	0.89	3.11	1495.96	"	1.8	0.55	44	60	23	2	"	4188	"
"	"	"	"	0.91	2.14	1498.10	"	2.0	0.7	41	56	29	4	"	4190	Z-ch on beams dumped
"	"	"	"	2.94	8.75	1506.85	"	2.1	0.9	41	51	91	3	4	4170	"
"	"	"	"	2.42	7.70	1514.55	"	2.0	0.7	40	54	88	5	"	4169	"
"	"	"	"	2.16	7.14	1521.69	"	2.0	0.6	41	57	78	4	"	4184	"
"	"	"	"	1.74	6.29	1527.98	"	1.9	0.5	42	59	70	7	"	4183	"
"	"	"	"	1.26	1.50	1529.48	"	1.8	0.5	43	60	17	1	"	4168	beams dumped
"	"	"	"	2.72	8.07	1537.55	"	2.0	1.1	42	~~60~~ 57?!	71	3	"	4217	
"	"	"	"	2.27	7.71	1545.66	"	1.8	0.8	43	55	81	3	"		
"	"	"	"	1.73	6.02	1560.68	"	1.65	0.65	44	52 Plotter ~~64~~	2	"	"	4	
"	"	"	"	1.55	5.12	1565.80	"	1.6	0.56	44	53	48	2	"	4199	Beams dumped
"	"	"	"	2.58	1.52	1567.32	"	2.3	1.1	44	53	14	1	"	4184	N50 Busy
"	"	"	"	2.67	2.29	1569.61	"	2.2	1.0	39	53	29	7	"		Camac confusion
"	"	"	"	2.18	6.39	1576.00	"	2.1	0.7	41	55	66	4	"	4189	
"	"	"	"	2.85	6.48	1582.48	"	2.0	0.7	42	54	53	6	"	4187	
"	"	"	"	2.05	6.53	1589.01	"	1.9	0.6	43	59	79	1	"	4177	
"	"	"	"	1.16	0.28	1589.29	"	2.2?	1.1?	48	51	2	0	"	?	
"	"	"	"	1.21	1.40	1590.69	"	2.2?	1.1?	46	50	16	1	"	?	No triggers. JDAS jammed
"	"	"	"	1.33	1.71	1592.40	"	2.1	0.95	42	55	16	4?	"	4178	Beams dumped (Bad beam!)
"	"	"	"	2.90	8.67	1601.07	"	2.2	0.85	43	49	91	1	"	4167	Z chamber on
"	"	"	"	2.73	8.30	1609.37	"	1.9	0.75	43	53	89	5?	"	4218	" "
								1.7	0.65						4198	

RUN	DATE	START	STOP	AT RUN START I⁺	AT RUN START I⁻	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL *10⁶	TØ REJ. *10⁶	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT 2 $E_1 > 6$ GeV	T_2 BIT 17 $2T \cdot E_4 \cdot \geq 2$TR	Processors ON/OFF N50	MIP	TOF	FAMP	<L>	$\int$Ldt	$\int_{Exp}$Ldt	IBM TAPE OUTPUT	AT Run ID (μA)	Start TOF (V)	ONLINE REJECTION MIPROC (T_2)	ONLINE REJECTION NORD-50 ($T_1 T_2$)	≤ Beabg	MH	F_{BEAM}	MAGNET FIELD	REMARKS
1126																																

11^{35} Current start run. For runs 18403,4 : JDAS READOUT ERROR 53 – System crate watchdog flag on PARM=00000
Run starts without writing to IBM.

12^{25} ID: Wire # 1057 . Left preamplifier gives no signals, but, as observed since yesterday, a very high noise rate, also without beam and without High Voltage. Preamplifier voltage off/on → no change
If the error doesn't disappear by itself, we have to disconnect this channel to have the hit and the amplitude of the right side undisturbed
Reg

13:15 new fill FAMP Pattern recognition on!
IBM Online-Tel Error check 2 after 500 events
JDAS Readout error 45 – MP 16

15:00 try to start run. get watchdog error 00000 we call for Olsson
the error disappears without finding why.

16:00 W. Bartel & G. Hughes.

16 28 Start # 18413.

17:13. No triggers ? Set Std Histo ; Pause/Continue no effect.
Stopping & Restart
17:30 Std. Histograms
TOF TDC II channel ~ 13 dead already since quite some time } no action
TOF Mean ADC channel ~ 13 almost dead also since some time } taken
22:00 The Gold plotter goes crazy if you want to get a page after the run summary has been plotted. You have to switch off and on again the mains.
23:?0 PHR cannot fill, we continue with the old one

6.10.84

0^{00} Kienzlmann & Stobbeler on shift.
2-chamber on.
2^{35} at last, we have a new fill ready.
6^{35} trigger hangup – level 1, solved by pause/continue.
6^{55} JDAS READOUT ERROR 33 – Missing LAM branch 6 crate 6 : I7 ring 3. DL8 #182 Konversion Lamp on touching DL8 ⇒ o.k.

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8^{00} Krehbiel / Hill on shift.
8^{50} Soon after new run start we get "NO TRIGGERS" Pause/~~Cont~~ Continue cures this.
10^{30} IBM Step-and-go traffic
11. No triggers. White Lamp on. Cured by Pause-Continue
With increasing frequency JDAS Error 46 MP-16 out of sequence.
11.40 Beams dumped.
12.10 Beams up again. Feature in T2-Input Histogram is under investigation. However it should not affect the overall efficiency greatly thus it does not justify stopping of data taking.
12^{27} N50 BUSY
Message on System Console "EXTERNAL STOP AT 123020" N50!
ABORT-N50 – restart OK.
Two cards in T2 trigger path changed. No difference! (Clean up postponed.

14^{20} ID TRIP
15^{00} ~~#~~ YSPY message: TOF TDC 0 60 no hits. Scope checking showed that actually counter 61 (0, ±1 ~~eff~~ uncertainty of histogramming) has a low pulse height, and a fluctuating ~~lo~~ hi-discrim. output rate. Some gaps in ~~hist~~ TOF-histograms, (not down to bottom), but not in Trigger T1 input.
The YSPY message did not ~~re~~ occur again, so we leave the problem to Naroska.
15.25 Attempts (3!) to start a run failed with Error 53, Watchdog flag. Error during LG Ped run.
~~Olsson~~ We called Olsson for help in his office. He will hurry.

16:00 Hughes & Bowdery on shift

18:00 Beams dumped due to bad bunches ⇒ low luminosity

7-10-84 0^{00} CARTWRIGHT & S. WAGNER ON SHIFT.

NOTE: Old histograms from run 18437 (6/10/84, ended 17^{19}) are stored on disk – ie problem mentioned on p 119 seems to have fixed itself.

1^{32} JDAS readout error 33 – missing LAM from crate 2 = TOF 2 ctrs
1^{42} " " " 60 – T2-trig bank wrong length = 9 (dec)
1^{46} " " " 46 – MP-16 out of sequence : YY=1
1^{52} No TRIGGERS – white light on – PAUSE/CONTINUE fixes it
2^{01} " " " "

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 BIT2 $E_1 > 6$ GeV	T_2 BIT 17 $2T_0 E_{1,2} > 2$ TR
18442	6-10-84	20:51	21:48	4.43	4.32	11.9	3399	8002	4107	883	104	4915	5215	1204	80
18443	"	21:48	22:14	3.95	3.84	9.4	1420	3364	1518	385	36	2087	2147	547	5
18444	~~22:14~~	22:14	22:22	3.76	3.65	8.2	432	1002	459	112	9	638	598	159	4
18445	"	22:23	23:02	3.70	3.59	8.2	2292	951	948	596	48	3146	3113	803	6
18446	7-10-84	1:11	1:59	5.76	5.78	22.0	2885	8002	4891	737	162	3857	7012	1012	55
18447	"	1:59	2:46	5.23	5.25	17.2	2765	8002	4187	719	124	4073	6658	1175	40
18448	"	2:46	3:36	4.73	4.75	15.7	2947	8001	3946	767	120	4163	6302	1123	49
18449	"	3:36	4:27	4.25	4.27	12.6	3033	8002	3871	789	100	4303	6119	1154	46
18450	"	4:27	5:20	3.83	3.85	10.8	3137	7780	3680	816	88	4393	5502	1126	40
18451	"	5:53	6:43	5.53	5.47	21.5	2678	8001	4217	696	150	3778	8039	1121	42
18452	"	6:43	7:29	4.94	4.89	19.0	2733	8002	4322	711	135	3887	7511	1171	60
18453	"	7:29	8:19	4.46	4.41	15.8	2949	8002	3982	767	121	4017	6881	1076	37
18454	"	8:20						see ~~for~~ page 130							
18455	"	9:07	9:45	3.40	3.37	11.1	2265	5506	2523	589	65	3004	4212	766	20
18456	"	12:14	13:05	5.48	3.66	13.3	3027	8002	4146	787	105	4188	6262	1206	50
18457	"	13:05	14:01	5.05	3.33	10.1	3359	8002	3686	874	88	4419	6028	1126	46
18458	"	14:02	14:05	4.61	3.00	9.2	104	313	147	27	2	173	172	36	1
18459	"	14:43	15:21	5.74	5.27	15.2	2154	6335	3437	560	85	3232	4991	861	47
18460	"	15:26	16:16	6.23	4.79	13.0	2935	8002	4071	763	99	4362	5990	1217	47
18461	"	16:16	16:33	4.70	4.28	10.7	~~2624~~ 2746 2027	~~4015~~	1019	195	21	1123	1384	307	11
18462	"	16:34	16:59	4.52	4.12	9.9	1464	3682	1743	381	375	2119	2555	531	27
18463	"														
18464	"	17:38	18:12	3.96	3.60	8.5	2000	4502	2134	521	94	2763	2904	690	21
18465	"	18:13	18:35	3.71	3.37	8.9	1334	2960	1311	347	31	1853	1941	458	11
18466	"	19:22	19:36	5.82	5.66	25.8	522	1592	878	136	35	715	1452	190	7
18467	"	19:37	19:41	5.62	5.64	42.6	181	510	269	47	20	247	390	62	3
18468	"	23:26				STOP	after	44	Events						
~~18469~~	"	~~23:35~~	0:29	4.86	4.60										
18469	"	23:35	0:29	4.86	4.60	10.5	3235	8001	3972	841	88	4349	5901	996	37
18470	8.10.84	0:30	1:29	4.41	4.16	10.3	3489	8001	3769	907	94	4552	5721	1088	35
18471	"	1:29	2:29	3.98	3.75	8.9	3595	8001	3501	925	83	4792	5454	1316	27
18472	"	2:30	2:32	3.6	3.39	7.9	147	329	140	37	3	178	208	38	0
18473	"	3:56	4:45	5.71	5.22	20.6	2766	8002	4424	718	148	4051	8491	982	38
18474	"	4:46	5:42	5.11	5.21	21.5	3003	8002	4071	791	167	3819	7444	1006	32

Processors ON/OFF N50	MIP	TOF	FAMP	<L>	$\int L dt$	$\int L dt$ EXP	IBM TAPE OUTPUT	Run start ID (μA)	Run start TOF (V)	Online Rejection MIPROC (T_2)	Online Rejection N50 (T_1+T_2)	Σ Bhabha	MH	E_{beam}	Magnet Field	Remarks
ON	ON	ON	OFF	2.21	7.53	1616.90	IBM	1.65	0.65	45	50	58	2	23.100	4173	2 ch on
"	"	"	"		2.53	1619.43	"	1.55	0.58	44	56	34	3	"	4174	"
"	"	"	ON	1.59	0.69	1620.12	F4193			45	56	8	0	"	4169	FAMP pattern recognition
"	"	"	OFF	1.58	3.62	1623.74	IBM	1.40	0.50	46	56	34	4	"	4177	Beams dumped
"	"	"	"	2.69	6.45	1630.19	"	2.2	1.2	45	47	71	5	"	4176	At last 3 MH were good.
"	"	"	"	2.66	6.72	1636.91	"	2.2	1.2	44	49	74	3	"	4198	"
"	"	"	"	2.36	5.72	1642.63	"	2.2	1.0	43	52	63	3	"	4190	"
"	"	"	"	2.00	6.08	1648.71	"	2.2	0.85	43	53	64	4	"	4206	MH all junk
"	"	"	"	1.56	6.08	1654.79	"	1.9	0.85	43	54	67	4	"	4184	Beams dumped
"	"	"	"	2.55	6.83	1661.62	"	2.6	1.3	51	49	65	9	"	4225	
"	"	"	"	2.27	6.54	1668.16	"	2.5	1.3	49	48	72	5	"	4191	
"	"	"	"	2.02	5.72	1668.88	"	2.4	1.1	46	52	63	2	"	4192	
							"	2.2	1.1					"	4220	no run summary (Trouble stopped because NORD-50)
"	"	"	"	1.42	2.81	1671.69	"	2.1	0.9	44	57	33	1	"	4209	
"	"	"	"	1.89	5.73	1677.42	"	2.0	1.9	44	50	42	3	"	4186	2 ch on
"	"	"	"	1.48	4.72	1682.14	"	1.9	1.0	44	57	52	4	"	4221	"
"	"	"	"	1.33	0.00	1682.14	"	"	"	31	56	0	0	"	4181	beams dumped for refill
"	"	"	"	2.82	7.44	1689.58	"	2.2	1.25	43	54	82	4	"	4180	stopped because error 89
"	"	"	"	2.59	7.59	1697.17	"	2.0	0.95	43	51	87	5	"	4224	after event # ~ 65000 2 ch switched off
"	"	"	"	2.33	1.74	1698.91	"	1.8	0.85	41	51	17	0	"	4215	stopped because "Notaus"
"	"	"	"	2.10	3.07	1701.98	"	1.8	0.8	43	54	64	2	"	4208	stopped for test System reset Ignore, junk
"	"	"	"				"									
"	"	"	"	1.59	3.17	1705.15	"	1.6	0.65	44	54	37	1	"	4211	
"	"	"	Fampl o.k.	1.45	1.93	1707.08	"			47	57	24	1	"	4191	Beam dumped ~~stopped~~
"	"	"	"	2.24	1.17	1708.25	"	~~2.4~~ 1.9	~~1.4~~ 1.0	44	47	14	0	"	4183	FAMP pattern recognition lost ~~stopped~~ Beam ~~dumped~~
"	"	"	OFF	1.76	0.32	1708.57	"			39	50	6	0	"		
							"	1.9	0.85							
			OFF				"	1.9	0.85							2 ch on after ev # 5470
"	"	"	OFF	2.23	7.20	1715.77	"	1.9	0.85	43	52	75	3	"		
"	"	"	"	1.79	6.23	1722.00	"	1.8	0.79	46	54	69	3	"	4213	"
"	"	"	"	1.4	5.02	1727.02	"	1.6	0.72	45	58	44	3	"	4222	"
"	"	"	"	1.33	0.2	1727.22	"	1.4	0.6	37	61	8	0	"	4221	Beam dumped
"	"	"	"	2.91	8.05	1735.27	"	2.6	1.6	54	47	18	5	"	4212	
"	"	"	"	2.39	7.15	1742.42	"	2.4	1.4	47	51	68	4	"	"	

RUN	DATE	START	STOP	AT RUN START I⁺	AT RUN START I⁻	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL *10⁶	TØ REJ. *10⁶	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT2 E>6GeV	T_2 BIT 17 2T₀ E_L · 2TR
18465	18/10	15:15	17:40	1.5	1.5	0.0	8100	1.2	1.2	0.0	0.0	0.0	0.0	0.0	0.0
18466	18/10	17:40	19:40	1.5	1.5	0.0	7200	1.2	1.2	0.0	0.0	0.0	0.0	0.0	0.0
18467	18/10	19:40	23:25	1.5	1.5	0.0	13500	2.2	2.2	0.0	0.0	0.0	0.0	0.0	0.0
18468	18/10	23:25	0:10	1.5	1.5	0.0	2700	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0
18469	19/10	0:10	0:24	1.5	1.5	0.0	840	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
18470	19/10	0:24	4:53	1.5	1.5	0.0	17340	2.8	2.8	0.0	0.0	0.0	0.0	0.0	0.0
18471	19/10	4:53	5:20	1.5	1.5	0.0	1620	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0

Processors ON/OFF N50	MIP	TOF	FAMP	<L>	$\int$Ldt	$\int_{Exr}$Ldt ·	IBM TAPE OUTPUT	AT Run ID (μA)	Start TOF (V)	ONLINE REJECTION MIPROC (T_2)	NORD-50 (T_1·T_2)	≤ Bhabha	MH	F BEAM	MAGNET FIELD	REMARKS
ON	ON	ON	ON	0.0	0.0	0.0	ON	1.5	1.5	0.0	0.0	0.0				
ON	ON	ON	ON	0.0	0.0	0.0	ON	1.5	1.5	0.0	0.0	0.0				
ON	ON	ON	ON	0.0	0.0	0.0	ON	1.5	1.5	0.0	0.0	0.0				
ON	ON	ON	ON	0.0	0.0	0.0	ON	1.5	1.5	0.0	0.0	0.0				
ON	ON	ON	ON	0.0	0.0	0.0	ON	1.5	1.5	0.0	0.0	0.0				
ON	ON	ON	ON	0.0	0.0	0.0	ON	1.5	1.5	0.0	0.0	0.0				
ON	ON	ON	ON	0.0	0.0	0.0	ON	1.5	1.5	0.0	0.0	0.0				

2⁵⁰ Repeated "IBM Busy" messages on colour TV with consequent high deadtime.

3¹⁵ IDAS readout error 45 – MP-16 analysis incomplete ; YY=1
3¹⁸ " " " " " " " "
4²² Another hangup in data taking fixed by PAUSE/CONTINUE
4⁴⁰ Ditto.
4⁵² IDAS readout error 45 – MP-16 analysis incomplete ; YY=1
6⁰¹ " " " " " " " "
7¹⁰ " " " 33 – Missing LAM br 2 cr 3 : TOF1 cts
7¹⁸ " " " 45 – MP-16 analysis incomplete ; YY=1
7⁴⁹ " " " 46 – MP-16 out of sequence : YY=1

8.00 Middleton, Weber on shift

8.38 "no triggers" ; pause/continue fixes it
9:05 100% dead time. Stop run 18454 ; reload NORD ; No run summary (n.b. Nord hung at level 1).

GOULD platter sometimes sticks

9²² IDAS READOUT ERROR 45 – MP-16 analysis incomplete ; YY=1
12¹⁵ new pill ready.
12¹⁷ IDAS READOUT ERROR 45 – MP-16 analysis incomplete ; YY=1
12²⁰ Z-chamber on.
13:38 Error message 2) HV wrong : LG voltages of some channels wrong by ≤ 10 Volts ; acknowledge and continue
14·55 YSPY : TETC DL8's giving no response : 89.
15⁰¹ " " " " " "
15¹⁶ IDAS Readout error 33 – missing LAM branch 2 crate 4 : TOF2 counters.
15²⁰ run paused while DL8 89 is investigated . cleaning contacts cures the problem J.S./J.O.

16⁰⁰ Kawagoe + Komamiya
R Middleton switched off the Z-chamber
16³⁰ No trigger → "PAUSE/CONTINUE" does not help → start new run : looks OK.
16⁵⁰ System seems corrupt : LOGON/password followed by "No such file name". At end of run job message "Xscct file cannot be updated". Rebuild file same message "No such file name." And finally reloading Nord proves impossible ⇒ Regenerate system. ← who rebuilt system? the shift crew?

17⁴⁰ After System regenerate, the nominal value of Mag field is -4850 Please change Howard! Missing LAM Br:C4 Not worth it.
R18465 FAMP on, with one "SLAVE" off (This one has a hardware problem); No error from the online check program occured.
19:20 Soft ID trip
19:30 No trigger → "pause/continue" cures it. ⊛
R18466 FAMP on, with extended (back) program. This produced the online check error 2, as before. This is then the real source of error.
19⁴⁰ Beams lost due to thunder lightning ≤≤

⊛ TO HOWARD
"No trigger" is probably due to interference between "data taking" and "event display". I don't believe this one. It happens when event display not active too as well.

23:25 Tried to start RUN 18468 with FAMP
"NO TRIGGERS" shortly after FAMP was switched ON ‖ It seems that NORD could not take events back from FAMP. PL 11:30
so we took DATA without FAMP
YPARA 19 "T2-TRIGGER CONSTANTS not written" since RUN 18468

8/10/84 0⁰⁰ H. Mills & G Dietrich on shift

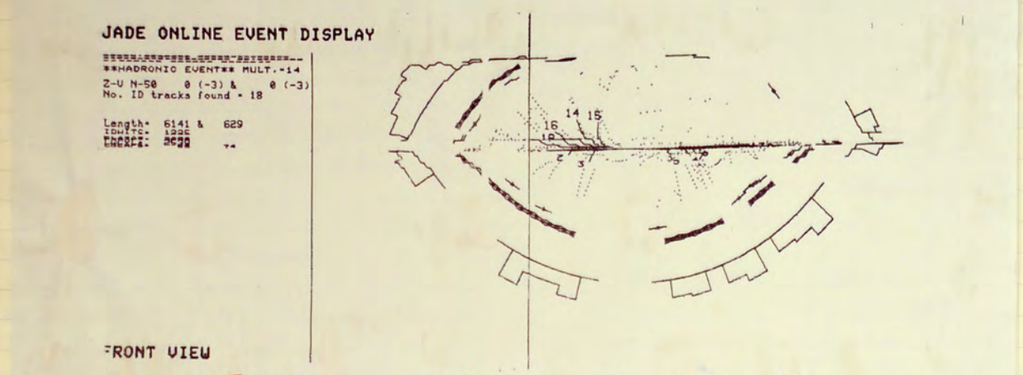
0¹⁰ Z chamber turned on run 18469 event 5970 r.
Message seen on console - YPARA: T2 trigger constants not written runs 18468 & 9. Found control bit switched off under DETECTOR-CNTRL. Looks as if testers had turned it off and forgot it.

0²⁴ Run 18470 start - Aron crate is missing. Would not reset from camac crate. The label on the module saying crate is reset does not work has gone. Despite this had to go to pit & reset-OK. Either this should be made to work OR the label restored since I think there is a risk of lots of whole runs with this crate missing as most shift crews will give up & not go to pit.

4⁵³ Very high dead time due to IBM link busy for large periods over 5 mins
IBM ops disclaim all knowledge.
5⁰⁰ IDAS Readout Error 45 MP-16 analysis incomplete YY=1
5¹⁰ " " 33 Missing Lam branch 2 crate 4 TOF2 counters

5²⁰. Two REFORM jobs submitted.

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ. $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT 2 $E_1 > 6$ GeV	T_2 BIT 17 $2T \cdot E_4 \cdot \geq 2TR$



JADE - Collapsing Muon Filter?

08:00 8 Oct 84 Hughes
8:43 fill complete, z chamber on, Start Run 18478
9:13 1B Trip.

13:20 FAMP ON with Pattern recognition, without hitmap in FAMP bank, in Slices 2 and 3 : a R 18482 (confirmation of R 18415 test)

13:00 New YPARA (with VTAC-Readout) installed C.K.

13:55 Watchdog flag ON } + Iox errors on tele { Probably caused by "others" accessing CAMAC
13:58 " " " }

14:08 Beam 10 nA

16^00 HEDGECOCK & LAURIKAINEN
16^10 IBM BUSY APPEARS ON SCREEN. - PAUSE RUN, CALL FSF - STOP RUN
16^20 START RUN 18486 TO TAPE - IBM (HANG TO RELOAD).
Reload what? Nord? IBM?

18^30 first nurses in reading all 8 VTAC-Crates
21^00 Run 18484 - NO TRIGGERS APPEARS - WHITE LAMP IN TRIGGER PANEL ON PAUSE/CONTINUE ON H. KREHBIEL'S INSTRUCTION!

Processors ON/OFF N50	MIP	TOF	FAMP	<L>	$\int Ldt$	$\int Ldt_{Exr}$	IBM TAPE OUTPUT	AT Run ID (μA)	Start TOF (V)	ONLINE REJECTION MIPROC (T_2)	NORD-50 ($T_1 \cdot T_2$)	$\leq$ Bhabha	MH	F BEAM	MAGNET FIELD	REMARKS

22.00 NORD HARNUP CRATE 1-3 18M-BUSY light flashing consistently
22.22 JDAS READOUT CRATE 45 MP-16 analysis incomplete YY=1
22.50 " " ERROR 46-MP-16 OUT OF SEQUENCE YY1.
22.52 " " " 45-MP-16 ANALYSIS INCOMPLETE. YY1.
23 05 ID SOFT TRIP. TWICE
23 25 " " THIRD TIME
23 40 PETRA has transmitter problems, so we stop run and wait until energy back to 22.0
Energy 21.118 for ~200 first (gem) events of next run

09/10/84

0.00 Ambrus, Hagemann

0:01 JDAS Readout Error 33 - missing LAM branch 2 crate 4 : TOF2 counters
" " " 46 - MP16 out of sequence : YY=1
0:06 " " " 45 - MP16 analysis incomplete : YY = 1
0:26 " " " " " " " 4
1:01 RUN STOPPED, Z-CHAMBER off (for new fill)
1:31 NEW FILL, RUN STARTED, Z-CHAMBER ON
1:43 JDAS Readout Error 45 - MP16 analysis incomplete : YY = 1
2:04 " " " " " " " " " "
2:10 " " " 33 - missing LAM branch 2 crate 3 : TOF1 counters
4:07 " " " 33 - " " " 2 crate 4 : TOF2 "
5:10 Z-Chamber off (beams dumped)
7:20 Z-Chamber on, Run started
7:21 JDAS Readout Error 45 - MP16 analysis incomplete; YY=1

8:00 Bartel & Greenshaw
8:45 Observe negative interference between data taking and event displays. After selecting and displaying an event data taking stopped. 'Pause' - 'Continue' cured the problem.
9:00 Not possible to start stbl. histograms: 'Too quick...' Though the days were operated with large time intervals. Wait for Howard
9:29 JDAS readout error 33 Missing LAM br. 2 cr. 3 TOF1 counter.
10:00 V. Marsburden repaired the faulted platter. Now it looks ok

RUN	DATE	START	STOP	AT RUN START I⁺	AT RUN START I⁻	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL ×10⁶	TØ REJ. ×10⁶	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT 2 $E_1 > 6$ GeV	T_2 BIT 17 $2T \cdot E_4 \cdot 22TR$	Processors ON/OFF N50	MIP	TOF	FAMP	<L>	$\int Ldt$	$\int Ldt_{Exp}$	IBM TAPE OUTPUT	AT Run Start ID (μA)	AT Run Start TOF (V)	ONLINE REJECTION MIPROC (T_2)	ONLINE REJECTION NORD-50 ($T_1 \& T_2$)	Σ Beamtube	MH	E_{beam}	MAGNET FIELD	REMARKS
18475	8/10/84	5.43	6.33	4.45	4.56	13.3	3025	8002	3809	787	104	6096	6603	1160	40	ON	ON	ON	OFF	2.00	6.06	1748.48	IBM			44	54	59	6	22.100	4217	MH = cosmic shower rate! zchon
18476	"	6.34	7.30	3.94	4.10	10.6	3328	8002	3756	866	92	4339	5972	1161	28	"	"	"	"	1.69	5.62	1754.10	"	2.0	0.8	43	55	80	2	"	4196	"
18477	"	7:31	8:02	3.55	3.65	9.2	1850	4108	1853	482	44	2424	2810	557	18	"	"	"	"	1.63	3.01	1757.11	"	1.8	0.7	44	56	39	1	"	4171	Beams dumped "
18478	"	8:44	9:42	5.32	5.29	12.8	3065	8002	3943	798	102	4140	6232	948	34	"	"	"	"	2.77	8.49	1765.60	"	2.1	0.85	43	53	81	3	"	4187	"
18479	"	9:43	10:39	4.66	4.35	11.3	3288	8002	3581	856	97	4335	5791	979	33	"	"	"	"	2.32	7.61	1773.21	"	2.0	0.70	40	57	81	8	"	4167	"
18480	"	10:40	11:40	4.12	3.84	9.0	3534	8002	3596	936	84	4689	5251	1023	25 (?)	"	"	"	"	1.91	6.85	1780.06	"	2.0	0.55	40	56	70	5	"	4176	"
18481	"	11:51	12:33	3.65	3.39	7.8	3019	6589	2692	801	62	4175	3935	1036	30	"	"	"	"	1.61	5.95	1785.01	"	1.8	0.55	43	61	46	2	"	4184	beam dumped "
18482	"	13:20	13:58	5.27	5.28	14.5	2081	5220	2556	592	72	2860	3879	696	26	"	"	"	ON	2.69	5.60	1790.61	"	2.4	.70	43	52	57	2	"	4190	FAMP pulse recognition "
18483	"	14:06	14:01	4.76	4.76	11.3	45	151	69	11	1.3	62	81	18	0	"	"	"	"	2.22	0.10	1790.71	"			34	58	3	0	"	4195	" beam Cut "
18484	"	14:57	15:38	4.95	5.42	13.3	3014	8001	3784	785	104	4177	6412	952	31	"	"	"	OFF	2.78	8.38	1799.09	"	2.2	0.7	44	54	95	1	"	4176	"
18485	"	15 40	16 12	4.39	4.79	11.0	1874	4754	2169	488	537	2566	3515	605	26	"	"	"	"	2.58	4.83	1803.92	"	2.4	0.6	41	56	57	0	"	4183	IBM ERROR "
18486	"	16 22	17 14	4.01	4.39	9.5	3372	8002	3481	878	88	4613	5433	1170	25	"	"	"	"	1.90	6.40	1810.32	FH-205	2.3	0.82	44	58	78	2	"	4196	"
18487	"	17 22	17 32	3.49	3.85	8.8	605	1362	567	158	14	806	897	167	2	"	"	"	"	1.85	1.12	1811.44	IBM	2.1	0.94	43	60	9	1	"	4173	BEAMS LOST. "
18488	"	19:58	20:00				77	201	95										ON									0			TEST RUN WITH FAMP Pulses.
18489	"	20:00	20 21	4.93	4.77	9.7	1192	3071	1463	310	30	1645	2185	381	10	"	"	"	OFF	2.30	2.74	1814.18	IBM	2.0	0.6	38	54	41	1	"	4200	Beams lost
18490																								2.3	1.0							/ green, only LG pedestal.
18491	"	20 58	21 41	6.10	6.35	26.4	2532	8002	4216	660	174	3705	7064	1347	39	"	"	"	off	2.27	5.75	1819.43	"	2.3	1.0	43	49	60	4	----	4198	E-CHAMBER ON
18492	"	21 41	22.03	5.47	5.69	30.2		2506	1353							"	"	"	"	2.29	1.91	1821.84	"	2.3	1.0	26	46			"	4189	NORD M.C. SUMPER UP-UP —·—
18493	"	22 10	22.53	5.05	5.26	14.4	2795	8002	4030	728	105	4016	6430	1154	46	"	"	"	"	2.50	6.98	1828.82	"	2.1	0.8	42	51	68	2	"	4203	"
18494	"	22:58	23:39	4.44	4.64	11.2	1905	4950	2298	496	56	2711	3579	672	18	"	"	"	"	1.99	3.60	1832.62	"	2.0	0.8	41	55	30	1	"	4248	"
18495	"	23:45	0:44	3.90	4.08	9.4	3537	8002	3539	920	87	4687	5579	1139	37	"	"	"	"	1.42	5.01	1887.63	"	2.0	0.7	44	57	67	7	"	4204	"
18496	9/10/84	0:44	1:03	3.41	3.58	8.5	1009	2305	956	239	22	1363	1469	339	10	"	"	"	"	1.24	1.25	1838.88	"	1.8	0.58	40	60	13	1	"	4174	beams dumped "
18497	"	1:33	2:23	5.73	5.63	19.5	2825	8002	4096	735	143	3819	8368	1008	35	"	"	"	"	2.46	6.95	1845.83	"	2.4	0.8	53	51	76	5	"	4197	Z-chamber on
18498	"	2.24	3 13	5.04	4.95	14.0	2929	8001	3798	762	107	4087	6907	1066	38	"	"	"	"	2.12	6.20	1852.03	"	2.6	0.9	47	54	68	2	"	4174	"
18499	"	3:14	4:07	4.42	4.35	11.6	3165	8001	3599	824	96	4265	6153	1110	45	"	"	"	"	1.72	5.45	1857.48	"	2.4	0.8	43	57	59	3	"	4172	"
18500	"	4:08	5:06	3.89	3.83	9.4	3469	8001	3344	902	84	4649	5593	1091	36	"	"	"	"	1.37	4.75	1862.23	"	2.1	0.65	39	60	47	2	"	4161	beams dumped "
18501	"	7:17	8:10	5.20	4.99	11.7	3187	8001	4014	829	967	4305	6000	1033	37	"	"	"	"	2.27	7.25	1869.48	"	2.0	1.0	57	51	47	2	"	4179	"
18502		8:10		4.69	4.99	10.2	3373	8002	3868	884	89.5	4472	5846	1163	35	"	"	"	"	2.11	7.12	1876.60	"	1.9	0.74	37	53	65	2	"	4173	"
18503	"	9.08	10:06	4.19	4.00	9.2	3476	8002 6998	3638	805	83.2	4813	5448	1162	34	"	"	"	"	1.67	5.82	1882.42	"	1.8	0.65	35	56	79	7	"	4183	"
18504	"	10:07	11:06	3.73	3.56	9.2	3357	3359	3164	874	80.6	4364	4507	1074	22	"	"	"	"	1.37	4.59	1887.01	"	1.6	0.55	36	56	61	3	"	4161	beam dumped "
18505	"	12:22	13:03	5.35	5.24	10.1	2405	5780	2740	626	63.2	3338	3941	750	27	"	"	"	"	2.47	5.45	1892.96	F220A1	2.0	0.70	42	54	84	3	"	4168	TAPE "
18506	"	13:04	16:01	4.88	4.78	9.2	3400	8001	3369	885	81.0	4674	5497	1147	25	"	"	"	"	2.09	7.10	1900.06	IBM	1.8	0.64	43	59	89	2	"	4168	"
18507	"	14:01	15:08	4.29	4.14	10.6	3570	8001	3586	930	98.6	4767	5518	1281	29	"	"	"	"	1.73	6.17	1906.23	"	1.8	0.48	45	57	77	8	"	4180	"
18508	"	15:08	16.01	3.66	3.56	8.3	3163	6670	2909	823	68.3	4434	4356	1146	23	"	"	"	"	1.45	4.57	1910.80	"	1.6	0.68	42	59	46	1	"	4190	beams dumped "

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $*10^6$	TØ REJ. $*10^6$	T_4 ACC SUM	T_2 ACC SUM	T_1 BIT 2 E > 6 GeV	T_2 BIT 17 2 T. E. · 2 TR

Processors ON/OFF N60	MIP	TOF	FAMP	<L>	$\int$ Ldt	$\int_{Exr}$ Ldt	IBM TAPE OUTPUT	AT Run ID (μA)	Start TOF (V)	ONLINE REJECTION MIPROC (T_2)	NORD-50 ($T_1 \cdot T_2$)	Σ Bhabha	MH	F_{BEAM}	MAGNET FIELD	REMARKS

10:10 Std. histograms found disappeared without human interference
10:15 2 holes in the TOF - hit map #60 and #69 discriminators give output signal touching the TDC- and ADC- cables caused the fault.
10:45 Std. histograms ok
11:00 JDAS readout error 45 MP-16 analysis incomplete YY=1 ~~I-BD down~~
11:06 Z chamber switched off for beam dump.
12:00 IBM down until ~ 13[00] went to tape. Z chamber on again
14:47 JDAS readout error 33 Missing LAM br. 2 cr. 3 TOF1 counters.
15:04 ———— " ————
16:00 Daniell & Sondorp on shift.

20:40 Mu chamber 523 found to have bad connection to digitizer. Partially solved. During next ejection period, I will improve the connection. C.B.
21:00 Cello call to suggest a new filling.

10/10/84

00:00 Takeshita & Chin on shift

00:00 → short break
2:06 Befor starting Run 18513, we switched ON HV of Z-chamber. (Beam current intensities - down)
2:12 Soft trip
3:06 Beams lost - Z chamber off.
4:10 IBM ERROR 53 — We stopped Run 18514
Start RUN 18515 writing data onto MT (F22B64)
4:35 During Run 18515, beam energy changed (22,100 → 22,115) and part of beams are ~~lost~~ dumped.
6:50 CAMAC crate (Br2. Cr7) makes very big noise from power-unit.
We exchanged it. to LG ADC #3
7:20 Short Break.

8[00] Cartwright & Krabbiel
8:15 Petra has problems with a magnet system (control circuit not functioning)
10[10] "Short break"
11[50] JDAS task "YTEXT" updated (HEM) YPARA also updated C.K/J.O.
12[40] Injection again
13[55] Beams lost - ID hard trip.

16:00 Dieckmann / Jünge
17:55 Z-chamber ON
18:08 Inner-Detector-Trip because of partially beam loss; Z-chamber current ~ 4 μA ⇒ switched OFF
18:21 —"— —"— —"— —"— ; TOF-rate > 10V
18:52 Z-chambers ON
19:22 " OFF
22:52 IBM down for ~ 10 min. (IBM-ERROR 54)
22:55 Run-summary 18522: 'Forward counter MEAN TDC'; 2 channels missing; FC-experts should check it
—"— —"— 'LG Hit Map ENDCAPS'; 2 channels hot; LG-experts —"—

11.10.84 00:00 H Kado & D'Darnell on shift.
01:42 At last we have beams!
03:05 "Short Break"

8[00] Ambrus + Lauri Kainen
9:09 new run started
9:17 Z-chamber ON
11:40 Beams lost, Z-chamber remains ON ~10 minutes after DOWN. I could not find the power switch (forgot what HEM had told me)
12:45 LG crate 75 bin 104 short-circuit, plugged off
13:22 JDAS READOUT ERROR 33: Missing LAM branch 5 crate 7; I.D. RING 1
DLB #43 (wire 344-354) exchanged
14:53 spark-alarm TR1
15:30 ID-trip (beams lost)

16:00 H. Mills & L. Becker on shift
Gould plotter found to be in terrible state. I cleaned head with fluid and this bought some significant improvement which may not last long.

11:05 Beams ready but very high background ~ 10V on TOF meter! PKR cannot adjust since their meter is on limits. All other expts Ok. Via telephone PKR lower it to 4V at which point their meter springs into life.

18.01 JDAS Readout err 46, 47, 53 stop runs - MIPROC time out etc. PAUSE/continue recovers for a few events but comes again. STOP run. New run starts Ok

RUN	DATE	START	STOP	AT RUN START I⁺	AT RUN START I⁻	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL ×10⁶	TØ REJ. ×10⁶	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT 2 $E_1 > 6$ GeV	T_2 BIT 17 $2T_2 \cdot E_4 \cdot \geq 2TR$
18509	9/10/84	18:21	19:16	5.52	6.08	15.6	2777	8002	4157	723	113	4265	5797	1272	34
18510	"	19:16	20:11	4.57	4.34	9.6	3307	8002	3639	861	83	4804	5312	1310	42
18511	"	20:11	21:12	3.92	3.72	8.3	3580	7621	3445	932	78	4768	4802	1144	27
18512	"	21:46	21:53	5.45	5.44	14.7	376	1086	542	98	14	566	787	139	4
18513	10/10/84	02:05	03:06	4.73	3.72	9.0	3320	7079	3344	863	77	4286	4789	912	33
18514	"	03:42	4:05	3.93	4.40	9.9	1286	3178	1504	334	33	1796	2128	372	12
18515	"	04:11	4:34	3.71	4.18	8.3	1292	2859	1322	336	28	1786	1800	388	9
18516	"	17.46	18:48	4.83	4.75	19.6	3367	7160	3347	878	172	4244	4888	903	31
18517	"	19:07	19:16	3.48	2.69	11.8	531	966	409	138	16	617	580	129	2
18519	"	19:23	19:24	3.39	2.61	6.0	52	157	64	13	1	26	51	10	1
18520	"	20:23	20:27	5.19	5.18	38.9	186	633	374	48	19	205	352	33	6
18521	"	20:28	20:40	5.13	4.94	16.2	704	1875	984	183	29	1002	1448	239	11
13522	"	21.43	22:47	5.22	5.19	17.2	3063	8002	4113	797	137	4111	6670	1105	43
18523	"	22:47	22:53	4.60	4.57	20.5	253	693	357	66	14	331	524	80	2
18524	"	23:10	23.38	4.39	4.36	12.5	1633	4261	2013	424	53	2264	3289	615	30
18525	11/10/84	1:46	1:54	5.41	5.09	16.3	447	1301	708	116	17	638	1088	160	14
18526	"	9:06	No	EVENTS											
18527	"	9:09	9:31	4.56	4.58	14.4	1292	3349	1652	336	?	1723	2784	467	24
18528	"														
18529	"	11:18	11:41	3.68	3.68	10.5	1202	2720	1305	313	33	1584	1958	408	17
18530	"	13:19	13:29	4.72	3.96	14.4	595	1659	851	155	22	974	1230	312	12
18531	"	14:37	15:32	3.98	3.77	9.2	2891	6767	3178	752	69	3949	4676	987	35
18532	"												Junk - Read		
18533	"	17.23	18:04	4.53	4.55	13.7	2398	5953	2815	622	85	3251	4368	782	21
18534	"	18:04	18:38	4.07	4.11	10.6	1880	4714	2218	515	54	2787	3103	657	21
18535	"	19:19	20:09	5.05	4.97	14.6	3025	8002	4127	796	114	4391	5988	1145	56
18536	"	20:09	21:10	4.31	4.30	10.5	3430	8002	3767	892	94	4765	5403	1215	39
18537	"	21.10	21:23	3.71	3.62	8.5	673	1515	718	175	15	937	951	270	9
18538	"	21:57	22:47	5.06	5.18	16.5	2957	8002	4030	770	120	4147	6921	515	37
18539	"	22:48	23:43	4.29	4.39	11.2	3278	8002	3673	852	95	4505	5870	1146	45
18540	"	23:43	0:43	3.62	3.72		3543	8002	3589	921	86	4791	5302	1230	36
18541	12/10/84	0:43	0:44	7.03	3.14			56	33						
~~18542~~															
~~18543~~															

RUN	DATE	START	STOP	PROCESSORS ON/OFF N50	MIP	TOF	FAMP	<L>	∫Ldt	∫Ldt Exp	IBM/TAPE OUTPUT	AT RUN START ID (μA)	AT RUN START TOF (V)	ONLINE REJECTION MIPROC (T_2)	ONLINE REJECTION NORD50 ($T_1 \cdot T_2$)	$\Sigma_{Shutter}$	MH	E_{Beam}	MAGNET FIELD	REMARKS
18509	9/10/84	18:21	19:16	ON	ON	ON	OFF	3.38	9.38	1910.80 1920.18	IBM	2.0	0.9	40	50	110	9	22.100	-4194	z-chamber on from the beginning!
18510	"	19:16	20:11	ON	ON	ON	ON	2.49	8.22	1928.40	"	1.9	0.6	40	56	96	1	22.100	-4181	
18511	"	20:11	21:12	"	"	"	"	1.72	6.16	1934.56	"	1.8	0.5	41	56	60	5	"	-4167	Beam dumped.
18512	"	21:46	21:53	"	"	"	"	3.04	1.14	1935.70	"	2.2	0.9	40	52	13	0	"	4181	Beams lost
18513	10/10/84	02:05	03:06	"	"	"	"	1.93	6 ~~40~~	1942 ~~1942~~ 10	"	1.5	0.8	46	54	67	3	22.100	4176	Z-ch ON - beams lost
18514	"	03:42	4:05	"	"	"	"	2.51	3.23	1945.33	"	1.6	0.9	41	55	25	1	22.100	4185	Z-ch ON - IBM down!!
18515	"	04:11	4:34	"	"	"	"	2.35	3.04	1948.37	(F22604) TAPE	1.5	0.55	44	55	32	2	"	4174	Writing To Tape, beams dump!
18516	"	17.46	18:48	"	"	"	"	1.95	6.56	1954.93	"	1.9	1.0	45	55	74	3	"	4206	
18517	"	19:07	19:16	"	"	"	"	1.21	0.64		F22502	?	?							Vertex ch. test data.
18519	"	19:23	19:24	"	"	"	"	0.83	0.04	1954.97	IBM	?	?	-25	66	0	0	"	4165	Run 18518 Junk
18520	"	20:23	20:27	OFF	OFF	OFF	OFF	2.08	0.39	1955.36	IBM	2.2	1.2	-10	44	3	1	"	4174	~~Vertex ch.~~ Z-ch. ON
18521	"	20:28	20:40	ON	ON	ON	OFF	3.17	2.23	1957.59	"	2.2	1.2	44	49	22	1	"	4178	Z-ch. ON Beam lost
13522	"	21.43	22:47	"	"	"	"	2.45	7.50	1965.09	"	2.2	1.2	45	50	42	3	"	4168	Z-ch. ON
18523	"	22:47	22:53	"	"	"	"	2.11	0.53	1965.62	"	2.2	1.0	36	51	5	1	"	4173	Z-ch. ON
18524	"	23:10	23.38	"	"	"	"	1.95	3.18	1968.80	"	2.1	0.95	43	54	33	0	"		Z-ch. ON Beam lost
18525	11/10/84	1:46	1:54	"	"	"	"	3.53	3.53 ~~1.58~~	1970.38	"	2.2	1	44	48	11	0	22.100	4159	Beams lost
18526	"	9:06	No	~~EVENTS~~				~~1.49~~	~~1.53~~	1972.45	"			?	~~53~~	~~42~~	?	"	~~4188~~	
18527	"	9:09	9:31	"	"	"	1	1.49	1.93	19.72.25	"	2.1	1.0	?	53	?	3	"	4188	
18528	"																			Test data vertex ch., without Tagging
18529	"	11:18	11:41	"	"	"	ON	1.37	1.65	1973.90	"			47	55	13	1	"		Beam lost
18530	"	13:19	13:29	ON	"	"	"	2.06	1.23	1975.13	"	1.8	1.75	49	51	24	1	"	4196	
18531	"	14:37	15:32	"	"	"	"	1.41	4.07	1979.20	"	?	?	44	56	42	0	"	4202	beams lost
18532	"			Out	Failed							3.0	1.0							
18533	"	17.23	18:04	"	"	"	"	2.53	6.12	1985.37	"	2.1	1.2	42	54	68	0	"	4177	Z-CH ON
18534	"	18:04	18:38	"	"	"	"	2.18	4.18	1989.55	"	2.0	0.75	42	54	46	2	"	4202	spks err-stop "
18535	"	19:19	20:09	"	"	"	"	2.73	8.25	1997.80	"	2.1	1.20	44	50	104	4 (2 units)	"	4180	beams lost Z-OFF
18536	"	20:09	21:10	"	"	"	"	1.97	7.35	2005.15	"	1.9	0.90	44	54	81	2	"	4181	Z-ch on
18537	"	21.10	21:23	"	"	"	"	1.55	0.73	2005.88		1.6	0.65	44	54	8	1	"	4165	beams lost " OFF
18538	"	21:57	22:47	"	"	"	"	2.71	9.35	2015.43	"	2.4	1.7	58	51	103	3	"	4193	Z-ch ON
18539	"	22:48	23:43	"	"	"	"	2.04	4.54	2019.97	"	2.1	1.2	44	56	50	2	"	4206	
18540	"	23:43	0:43	"	"	"	"	1.50	5.32	2025.29	"	1.9	0.7	44	58	45	5	"	4200	
18541	12/10/84	0:43	0:44	"	"	"	"	0.00	0.00	2025.29	"									Beam dumped.
~~18542~~																				
~~18543~~																				

RUN	DATE	START	STOP	AT RUN START I+	AT RUN START I-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL *10^6	TØ REJ. *10^6	T1 ACC SUM	T2 ACC SUM	T1 BIT2 E1>6GeV	T2 BIT17 2To E4*>2TR

20^12 ID trip (anode current) No obvious mis-behaviour of TOF rates

20^41 HV read error MF 15

21^10 " " " " "

21^20 Soft I.D. trip

22^55 JDAS readout err. 46

Following repeated trouble with the Gould plotter I changed the Toner bottle. It is not clear that this helps much though. If the heads are wiped with a cloth or tissue the next few copies are usually OK. The IBM centre expert should be requested to have a look. (EEL)

23^08 JDAS readout error 45

12.10.84 0^00 Olsson and Kawagoe on shift. (Krokbords advice...)

0130 Now fill, bad conditions => 10 V on TOF We switch off ½ of the input to TOF rate meter, so that PKR can optimize → OK, but at limit. Z-ch at 2 µA (limit) so we don't run with z-ch at this run (18542)

Note that z-ch now incorporated in YSPY regular checks. If off, YSPY will fall after a while

18544: µ-ch Cr 13 could only be reset locally

450 This fill is very bad, all optimisation with no success, best underground here ~2V. Other experiments are in good shape. Collimator did not bring improvement, on the contrary. Operators at PKR seem to have problem with TOF rate meter, they claim it is at maximum already at 5V. Do they have the same as us? No; theirs shows about 2× more. Maximum scale in PKR = 6 Volts ≙ 3V here. Finally, after reduction of currents to ~4.8 mA we are able to run at maximum of ID

µ Crate 2 found missing: Crate is dead 30A fuse is burnt, including socket. Experts will repair after 8 o'clock (!)

800 Ramcke & Takeshita

910 From TV "Energie-Änderung" → 22.125 GeV Run paused

912 " back to 22.100 Run continued

954 We changed one of the Muon crate down stairs.

Gould plotter problems:- The fault seems to be the paper in that it is rather old. Not much point in ordering a lot of paper now so that it lies here all winter but for next running something must be done (HEAD)

Processors ON/OFF N50	MIP	TOF	FAMP	<L>	∫Ldt	∫Ldt Exp	IBM TAPE OUTPUT	AT Run ID (µA)	Start TOF (V)	ONLINE REJECTION MIPROG (T2)	NORD-50 (T1&T2)	& Blushing	MH	E BEAM	MAGNET FIELD	REMARKS

12^30 The Nord disc has been backed up and also the :SYMB files copied to tape. HH

14^25 We started Run 18554 with Vertex-chamber writing data on MT.
Missing LAM branch 4 crate 4. ID Ring 2 : Che had many.

15^00 Run 18555 stopped after some 10 triger (noisy Readout ? others selected)
Run 18556 with VTXC on MT

15^13 DL8 69 endangered (missing Lam) A.D.

1600 Naroska Komamiya

16.12 z-chamber on at in the middle of run 18557 (~4500 event)

16 30 missing LAM br=2 cr=4 TOF 2 counters

17.20 JDAS RO ERROR 46 MP-16 out of sequence 44=1

19 00 Beams ready

19 05 Soft ID trip / Z chamber on

22.51 New filling ready. Quite noisy: dead time ~30%, jet4 high current all the time.
Complained to PKR, they promised to do "something".

23.37 For the second time run summary was only printed after switching off and on the power on the Gould plotter. Beware: You might miss the end of the run, if you are not staring at the display!! // NOTE V

23.50 Missing Lam branch 5 crate 6
Also MP-16 incomplete readout on average once per run.

13.10.84
00:00 (Bowdery) a Chris On shift
00:15 ↳ yet to appear — car broken down!! ← Hardware error, no postmortem dump!
↳ Missing LAM branch 5 crate 6.
00:32 Run Summary Sheet PRINTED O.Key This time!!
00:37 Chris Bowdery Telephone. → he is on his way by public transport!
01:00 Chris Bowdery arrives - Hurrah!!
01:18 Beams dumped. Z-chamber off.
01:45 Short break.
02 45 New Filly ready.

RUN	DATE	START	STOP	AT RUN START I⁺	AT RUN START I⁻	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL ×10⁶	TØ REJ. ×10⁶	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT2 $E_1 > 6$ GeV	T_2 BIT 17 $2T_0 E_4 \geq 2TR$
18542	12.10.	1.57	2.08	4.12	4.73	22.9	669	1886	1012	174	40	890	2310	251	8
18543	"	2.12		4.63	4.57	18.1		656	320						
18544	"	2.21		4.50	4.33	24.4		1489	792						
18545	"	2.38	3.32	4.24	4.08	13.0	3175	8002	3625	826	107	4233	6719	1064	51
18546	"	3.33	3.42	3.54	3.42	11.0	532	1303	546	138	15	704	995	167	"
18547	"	3.46	3.51	3.39	3.28	11.9	279	683	305	73	9			97	4
18548	"	5.14		4.50	3.76	18.0		7279	3570						
18549	"	6.08	6.52	3.68	3.63	11.8	2041	5022	2314	632	63	2548	4380	681	36
18550	"	———		JUNK											
18551	"	7.30	8.19	4.98	4.97	21.6	2968	8002	4095	772	167	3833	7973	1133	52
18552	"	8.20	9.20	4.07	4.10	9.5	3390	8002	3681	882	84	4548	5760	1150	46
18553	"	9.21	9.56	3.22	3.26	8.0	2098	4460	1997	546	44	2822	2951	718	18
18554	"			—— No Run Summary ——											
18555	"														
18556	"														
18557	"	15.40	16.38	4.24	4.05	10.7	3435	8002	3695	834	96	4526	5669	1045	40
18558	"	16.39	17.41	3.57	3.41	10.0	3667	7611	3387	859	96	4699	5611	1077	41
18559	"	19.06	19.27	5.20	5.08	26.9	978	2744	1497	255	68	1304	2597	365	23
18560	"	19.31	20.23	4.79	4.67	18.2	3031	8001	4202	788	143	4005	7312	1215	3452
18561	"	20.23	21.17	4.10	3.98	12.8	3205	8002	3897	833	106	4252	6440	1227	52
18562	"	21.17	22.04	3.49	3.38	9.8	2741	6190	2864	712	69	3561	4606	930	34
18563	"	22.42	23.31	4.82	5.14	21.1	2912	8002	4211	757	159	3873	7727	1177	49
18564	"	23.36	00.32	4.04	4.32	12.8	3345	8002	3717	869	111	4226	6539	1122	56
18565	13.10.	00.33	01.18	3.39	3.62	9.7	2620	5660	2582	681	65	3258	4164	835	37
18566	"	02.48	03.20	4.55	3.81	15.2	1832	4756	2507	477	73	2460	3985	705	31
18567	"	04.27	04.37	3.53	3.30	11.2	622	1474	782	162	18	783	1196	206	8
18568	"	05.57	06.52	4.77	4.32	19.2	3204	8001	7674	833	160	3796	8714	996	59
18569	"	06.53	07.50	4.01	3.62	10.6	2702	5776	2747	703	75	3293	4463	790	34
18570	"	8.34	8.55	4.31	5.01	23.7	1162	3364	1911	302	172	1600	2926	527	24
18571	"	9.49	10.45	4.62	4.27	15.5	3162	8002	4013	823	128	4095	6983	994	48
18572	"	10.46	11.46	3.80	3.51	11.5	3582	8001	3613	932	108	4537	5839	1101	42
18573	"	11.47	11.55	3.10	2.87	8.4	454	968	420	118	10	541	691	121	4
18574	"	11.58	12.09	2.88	2.67	9.0	617	1344	580	160	14	793	848	171	10
18575															
18576		———				no	Run Summary								

Processors ON/OFF N50	MIP	TOF	FAMP	<L>	$\int L dt$	$\int L dt$ Exp	IBM/TAPE OUTPUT	AT RUN Start ID (μA)	AT RUN Start TOF (V)	ONLINE REJECTION MIPROC (T_2)	ONLINE REJECTION NORD-50 ($T_1 \& T_2$)	$\sum$ Bhabha	MH	E_{BEAM}	MAGNET FIELD	REMARKS
on	on	on	on	2.44	1.63	2026.92	IBM	2.9	1.84		48 %	15	0	22.100	-4173	Z chamber off
"	"	"	"	2.51	0.51	2027.43	"	2.6	1.0		51 %			"	-4187	ZREAD Test-vers → L9 Hang.
"	"	"	OFF	2.04	1.23	2028.66	"	2.6	1.0		51 %			"	-4193	" " "
"	"	"	"	1.79	5.69	2034.35	"	2.5	0.9	47 %	52 %	51	3	"	-4183	Stand. Data taking -
"	"	"	"	1.28	0.68	2035.03	"	2.3	0.75	44	60	7	0	"	-4203	Z-ch. on Beam dumped
"	"	"	"	1.21	0.34	2035.37	"	2.2	0.75		58	3	0	"	-4199	ZRead Test vers. ↓
"	"	"	"	1.61	5.49	2040.86	"	2.8	1.8		51.0 %			"	-4187	ZRead Test vers. → L9 Hang.
"	"	"	"	1.45	2.96	2043.82	"	2.2	1.7	47 %	56 %	34	0	"	-4180	Beam Dumped.
"	"	"	"					2.4	2.2						-4184	Ignore, only ped. event
"	"	"	"	2.25	6.68	2050.50	"	"	"	51	51	64	5	"	-4194	
"	"	"	"	1.87	6.33	2056.83	"	1.8	0.8	44	55	85	2	"	-4161	
"	"	"	"	1.33	3.36	2060.19	"	1.3	0.7	48	56	37	1	"	-4158	
							TAPE F11191	2.6	1.5							Vertex ch test
							"	2.3	0.9							" , Hard hang up L9
"	"	"	"	2.18	7.49	2067.68	IBM	2.0	0.7	43	55	83	6	"	-4176	z-ch on in middle of
"	"	"	ON	1.62	5.93	2073.61	"	1.9	0.6	46	57	72	4	"	-4172	
"	"	"	"	2.09	2.04	2075.65	"	2.1	2.3	49	48	23	2	"	-4167	Z-Read Test vers in Normal mod.
"	"	"	"	1.83	5.53	2081.18	"	2.2	1.9	49	49	64	1	"	-4191	Stand. readout again } z-ch
"	"	"	"	1.39	4.46	2085.64	"	1.9	1.4	46	53	55	6	"	-4214	on
"	"	"	"	1.09	2.99	2088.63	"	1.5	1.0	47	55	28	1	"	-4208	dump
"	"	"	"	1.84	5.37	2094.00	"	2.1	2.0	50	49	48	4	"	-4174	z-ch on
"	"	"	"	1.26	4.22	2098.22	"	2.0	1.5	46	55	38	3	"	-4178	4
"	"	"	"	0.87	2.28	2100.50	"			46	56	31	0	"	-4187	dump. "
"	"	"	"	1.34	2.46	2102.96	"	2.0	2.3	47	49	18	1	"	-4180	beams partially lost
"	"	"	"	1.00	0.62	2103.58	"	1.5	1.4	48	49	10	1	"	-4187	1 beam lost
"	"	"	"	1.21	3.89	2107.47	"	2.9	2.2	55	51	51	7?	"	-4193	
"	"	"	"	1.00	2.69	2110.16	"	1.9	1.9	48	54	26	1	"	-4200	Beams dumped
"	"	"	"	2.01	2.34	2112.50	"	2.0	1.9	45	45	28	0	22.110	-4180	beams lost.
"	"	"	"	1.95	6.18	2118.68	"	2.4	1.1	48	52	70	3	"	-4178	
"	"	"	"	1.36	4.88	2123.56	"			44	56	57	6	"	-4174	
"	"	"	"	1.20	0.54	2124.10	"	1.6	0.6	43	59	2	0	"	-4168	
"	"	"	"	0.99	0.61	2124.71	"			46	59	7	1	"	-4172	ZREAD Test vers / beams dumped
"	"	"	"				"	1.9	0.9							No events. 1817 link hanging
"	"	"	"				F11207	1.9	0.8							Test data for vertex ch.

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $*10^6$	TØ REJ. $*10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT 2 $E_1 > 6$ GeV	T_2 BIT 17 $2T \cdot E_4 \cdot \geq 2$ TR

5:20 We notice a strange error message in the last 9 run summaries, namely:

469 Record dropped (> 8000 words)

What is this error? Why always 469 occurences? Is something not being reset?
↑ Bad data or bad program or what? FAMP?

6:30 HV Read Error: No response from LG Supply/Mainframe 15
HV Wrong: LG distributor 14: primary HV wrong

7:20 ~~Start~~ → Standard Histogram for run 18568 ✓ reveals extra "spinning blocks" in both The end caps and The barrel!!

7:36 JDAS Readout error 33 – Missing LAM bit 5 or 6 (ID reg 1)
Cured by pressing some contacts.

8:00 Ambros / Kleinwort on shift

8:55 beams lost
9:50 new beams ready after some optimization
timing LAM branch 2 crate 3 : TOF 1 Bug in YMPROC corrected, rebuilt J.O.
11:45 bad background conditions. PKR told, that no orbit-corrections are possible because of hardware-error. They try to optimise.
14:50 Now possible to switch on ID
15:20 Run 18576 stopped after 200 events : 1 wrong cable in a VTX-Processor → 80% deadtime, that Processor missing
~15:40 LG Hangup during verbrech test run. This has apparently hurt the system, we have to regenerate. Don't WE ALL!!
16:00 Darvill & Jauge on shift.
17-19 Leakage search in PETRA, short break 18:20: Level 9 hangup bug found! J.O. / C.K.
19:15 Injection starts No, still another bug !u!
~21 The bug correction was not properly done and led to another hangup, with a new regeneration of system
The reason is understood and final test will be done tomorrow. Presently old readout system is loaded.
J.O. 23:20

See law of hybernetic entomology: There is always one more bug.
ANSWER – EXTERMINATE!!!!

Processors ON/OFF N50	MIP	TOF	FAMP	<L>	$\int Ldt$	$\int Ldt_{Exp}$	IBM TAPE OUTPUT	AT RUN ID (μA)	Start TOF (V)	ONLINE REJECTION MIPROC (T_2)	NORD-50 ($T_1 \cdot T_2$)	Σ Bhabha	MH	F_{BEAM}	MAGNET FIELD	REMARKS

0:00 Heinzelmann & Krebbiel on shift. Crate-Controllers swapped (Field-test)

ca 2:15 Beams up. Funny error of Nord:
Branch 7 Crate 7, Rack T4, 2nd from top.
LG Pedestal o.k. up to 2 events, then Left counter N to advanced to 6, then stop. Also error in Test Runs. Restart JDAS did not help, only Restart of NORD
It turned out that this was a FAMP error! Restart NORD had turned the FAMP off. Switching it on brought the error back (tested 2 times) So we leave FAMP off

Note! After restart of Nord, or after Nord hangup, FAMP has to be reset! Manual button, see instruction! J.O.

8:00 Bartel & Hedgecock on shift
Messages: No response from HV Main frame #15 (LG system)
These messages started at run # 18585
We think it is a computer problem, because HTR #15 seems not to exist.
Thus we ignore this error.
12:00 VTX-chamber tests data written to tape
12:00 IBM down for ~ 2h
14:00 Petra down until 16:30 water cooling problems
15:30 RESTART 18:00 HRS APPEARS ON SCREEN.

16:00 Darvill & Kawagoe on shift
18:34 Injection starts.
19:30 Beams ready - with very good symmetry
21:26 Beam conditions at start of run 18610 seem to have deteriorated somewhat - we call PKR and they improve things for us - then we get an ID Trip!

15.10.84
0:00 MATSUMURA, RAMCKE
1:05 JDAS-Readout error 46 - MP-16 out of sequence, yy = n
1:08 " 45 " analysis incomplete; yy = 1 } happens several times
1:10 " "
1:20 Run stopped; MP-16 reloaded (F15, F07)
1:45 Short break
3:10 Beams ready Run started
3:30 JDAS-Readout error 46 MP-16 out of sequence: yy = 1
5:50 "

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ. $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT 2 $E_1 > 6$ GeV	T_2 BIT 17 $2T \cdot E_4 \geq 2TR$	Processors ON/OFF N50	MIP	TOF	FAMP	<L>	$\int Ldt$	$\int Ldt_{Ext}$	IBM TAPE OUTPUT	AT RUN START ID (μA)	AT RUN START TOF (V)	ONLINE REJECTION MIPROC (T_2)	ONLINE REJECTION NORD-50 ($T_1 \cdot T_2$)	Σ BHABHA	MH	E_{BEAM}	MAGNET FIELD	REMARKS
18577	13.10.															on	on	on	off				TAPE F11207	1,8	0,17						test data for vertex-Ch.
18578-82	"		failures	after	prev.	hangup																	- " -								Vert hang up LV9
18583	"	17°7	17°8	2,48	2,63	8,7	Run stopped wrongly!	1360	648	165	14	924	719			"	"	"	off	Down	0.53	2125,24	IBM	low			5	2	22,100	-4204	DUMP
18584	"	21:02	21:03	4,51	3.70			104	51							"	"	"	ON				IBM	1,9	0,8					-4185	Test-vers. SU Vert level 9 hang-up.
18585	"	21:21	21:22	4,40	3,61	9,3	49	165	70	12.6	1.2	95	71	14	1	"	"	"	"	1.36	0.07	2125.31	IBM	1,8	0,6		64	2	0	22.100	-4155	Standard data taking system in girih Two events in 2s before computer Old readout loaded, hang up
18586																															
18589	14.10.	2.33	3.28	4.58	4.59	12.1	3204	8001	3903	833	101	4380	5948	1107	53	on	on	on	off	1.35	4.31	2129.62	"	1.9	1V	44	53	48	2	2 ch on 22.100	-4217	Old readout loaded
18590	FAMP Problems (Not reset!)																							1.7	0.7	44	53	48	2	"	-4187	Runs in between junk
18591																															
18592	14.10	3.33	4:36	4.21	4.22	9.4	3702	8002	3564	963	90	4627	5564	1054	47	"	"	"	off	1.52	5.64	2135.26	"	1.7	0.7	44	57	59	3	22.100	-4193	
18593	"	4:36	5:47	3.84	3.85	8.0	3938	8002	3446	1024	82	4927	5807	1130	45	"	"	"	"	1.30	5.11	2140.37	"	1.6	0.5	46	58	46	3	"	-4185	
18594	"	5:47	6:57	3.45	3.46	8.7	4132	8001	3299	1075	93	5080	5124	1181	32	"	"	"	"	1.05	4.82	2144.69	"	1.5	0.5	46	60	45	5	"	-4187	
18595	"	6:57	7:03	3.13	3.14	8.1	324	660	290	84	7	399	410	76	4	"	"	"	"	1.03	0.33	2145.02	"	1.4	0.5	43	58	5	0	"	-4222	Dump
18596	"	08°55	10°00	4.27	4.32	10.8	3376	8001	3756	879	95	4462	5687	1072	33	"	"	"	"	2.03	6.85	2151.87	"	1.8	1.3	42	52	74	6	"	4172	Z-CHAMBER ON
18597	"	10°00	10°59	3.62	3.87	9.8	3486	8002	3310	907	89	4467	5538	1027	28	"	"	"	"	1.86	6.47	2158.34	"	2.05	0.56	240	60	781	81	"	4208	-..
18598	"	10°59	11°42	3.27	3.51	8.9	2524	5549	2320	657	58	3189	3622	748	24	"	"	"	"	1.57	3.95	2162.29	"	2.1	0.5	38	60	42	3	"	4202	-.. -
18599	"	11°48	12°10	3.27	3.51	9.2	1187	2625	1626	384	28	1495	1652	356	8	"	"	"	"	1.33	1.58	2163.87	F11206	2.1	0.45	36	63	16	0	"	4158	-.. -
600	"																															ignore. No events
601	"	19.22	13°04	2.8	3,1	11.5	2474	5231	2033	644	74	3039	3211	681	17	"	"	"	off	1,18	2,93		F11206		Low	38	64	33	1	"	-4165	Vertexch. test data
602	"	13.07	13.19	2,68	2,89	9.9	695	1420	531	181	18	803	916	167	2	"	"	"	"	0,93	0,64		"			39	66	6	0	"	-4165	" " "
18603	"	19.29	20°17	4.89	4.90	33.7	2622	8058	4894	682	230	3149	6770	1078	61	"	"	"	"	1,51	3.95	~~2163.87~~ ~~2167.82~~ 2169.03	F11209	2.7	1.9	44	46	28	3	"	-4173	Vertexch Test data
18604																															Failed to start to IBM
18605	"	20°21	21°13	4,50	4,50	15.0	3091	7998	7752	864	121	4202	6712	1248	47	"	"	"	"	1,67	5,16	~~2172.98~~ 2172.98	IBM	2.2	1.3	47	55	61	5	"	4205	Normal data taking with new
18606	"	21°14	21°29	4,12	4,12	11,1	870	2203	967	227	25	1197	1679	320	23	"	"	"	"	1,80	1,57	~~2174.55~~ 2170,60	"	2,1	0,8	44	58	15	1	"	4166	Readout-program.
18607	"	21.41	21°47	3.96	3.96	12.9	351	880	378	91	12	467	619	107	3	"	"	"	"	1.55	0.54		F11215	2.0	0,7	42	>60	10	0	"		Vertex ch test data
18608																"	"	"	"				F11215							"		ended with 28 hangup
18609	"	22:11	22,23	3.77	3.77	13.1	467	1599	761	168	22	879	1006	18	10	"	"	"	"	1.39	0.9		F11215	1,9	0,65	40	57	15	0	"		Vertex ch test data,
18610	"	22°26	23°32	3,67	3,67	10.2	3622	8002	3553	942	96	4614	5808	1273	50	"	"	"	"	1,18	4,27	2174.87	IBM	2.5	0.9	45	57	51	5	"	4187	old readout loaded.
18611	"	23.32	0.12	2.92	3.26	8.6	2344	5193	2115	610	53	3107	3940	813	24	"	"	"	"	1.07	2.50	2177.37	"	1.8	0.65	43	61	23	2	"	4177	
18612	15.10.	0.56	1.18	4.61	4.94	18.2	1340	3609	1797	349	63	1822	3222	513	20	"	"	"	"	2,18	2.93	2180.30	"	2.2	0.90	49	52	25	1	"	4183	Z-chamber on
18613	"	1:23	1:44	4:39	4,80	16.7	1119	2877	1422	291	43	1491	2796	421	20	"	"	"	"	2.13	2.39	2182.69	"	2.2	1.8	49	52	18	3	"	4179	Beam lost -11-
18614	"	3:13	4.10	4.19	3:36	10,4	3340	8002	3375	791	91	4342	5744	1080	31	"	"	"	"	1,57	5,31	2188.00	"	2.0	0,80	42	52	44	0	"	4179	Z-Chamber off
18615	"	4:11	4:40	3.84	3.96	9.2	1752	4150	1989	456	42	2348	2647	627	11	"	"	"	"	1.34	2.35	2190.35	"	1.5	0,74	38	54	34	0	"	4187	Beam lost -A-
18616	"	5:08	6:41	4.82	5.03	16.4	2825	8002	4245	735	121	3965	6597	1107	32	"	"	"	"	1.98	5.59	2195.94	"	2.2	1.6	45	49	33	8	"	4192	Z-chamber on

TEST RUNS

RUN	DATE	START	STOP	AT RUN START I+	AT RUN START I-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL *10^6	TØ REJ. *10^6	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT 2 E>6GeV	T_2 BIT 17 $2T_0 E_1 \cdot \geq 2$TR

7:00 Break. Restart ≈ 8:00

8.00 Kill Weber on shift

8.51 Soft I.D.Trg. Pause run 18618; try to have background reduced by PKR; large spikes of TOF-current ≈ 10V occuring at at rate of ≈ 1Hz. PKR gets rid of it.

8.58 continue run 18618

9.31 "No trigger for 30 sec". "Pause" and "continue" cures it.

9.51 During run 18618 it became impossible to display histograms. So we exit JDAS and restat. Now display seems to work.

10^{22} Jdas Readout Error 33: Missing Lam branch 2 crate 3: TOF1 Counters

10^{39} Jdas Readout Error 45: MP-76 analysis incomplete: YY=1

10^{50} Ohlsson and Klemmstein arrive; Stop run 18620; load new version of read-out program

10^{53} start run 18621

11.45 CELLO tells us, that TASSO is down with the magnet. CELLO is coordinating of the moment. They wanted to get a new fill, but this is not possible because DESY is in trouble; so we go on with the present fill.

13.59 Jdas Readout Error 45 - MP76 analysis incomplete YY=7

14.30 PKR monitor: "Neue Füllung ca. 15.30"; we go on with the old fill, since synchrotron still in trouble.

14^{50} JDAS Readout Error 33 - Missing Lam branch 3 Crate 2: Muon Chambers

15.29 run 18624 stoped because PKR requested "HV off"; as soon as beams are dumped TV monitor announces "short break".

16.00 Naroska, Spitzer
No Petra
They have problems with Desy. (Wake)

19.00 Now Pilotherm

21.00 Next pilotherm

16.10.84 00.00 Chin + Becker on Shift

~~01:00~~ Restart at 01:00.
" " 02:00

2.00 Short Break.

3.30 Restart at 05:30

6:45 Restat at 08:00??

Processors ON/OFF N50	MIP	TOF	FAMP	<L>	$\int Ldt$	$\int Ldt_{Exp}$	IBM TAPE OUTPUT	AT RUN ID (μA)	Start TOF (V)	ONLINE REJECTION MIPROC (T_2)	ONLINE REJECTION NORD-50 ($T_1 \cdot T_2$)	$\leq$ Bhabha	MH	F BEAM	MAGNET FIELD	REMARKS

8.00 S. Wagner + S. Bethke
Phoned PKR. There will be no beam until 17.00 for sure. We ask to run down the ict to check

JADE ONLINE EVENT DISPLAY

04:50:25 17/10/1984

EXPT 24 RUN 18629 EV 3837

ACT Tlaept Tlpost T2bits
011B 0050028 000000B 00B

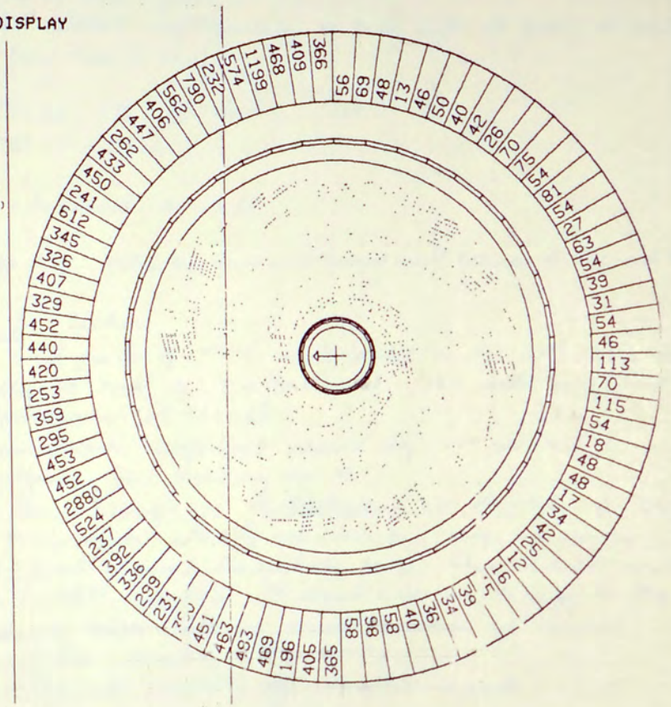
Field -4234 G Beam 22.100 GeV
Current e+ 4.78 mA e- 3.63 mA

>>DOUBLE RECORD EVENT<<

HADRONIC EVENT MULT.=31

Z-U N-50 0 (-3) & 184 (-3)

Length= 6023 & 2897
IDHITS= 1049
ELGTOT= 24432
MUHITS= 483
LGCYL= 22121
LGCAPS= 1156 1155



FRONT VIEW

ADC's.

power pack.
10 KVA pack.

, 50 m.
to be
the lg system
of the lg-Type

10:00 Temp: 16.1 °C
13:00 " 16.3 °C

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $*10^6$	TØ REJ. $*10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT 2 $E_1 > 6$ GeV	T_2 BIT 17 $2T \cdot E_4 \cdot \geq 2TR$

7:00 Break. Restart a[t] ...

8.00 Kill Weber or[der]

8.51 Soft I.D. Trig. Pa[ss] current ≈ 10V o[n] ...

8.58 continue run 18[625]

9.31 "No trigger for 30 ...

9.51 During run 186[25] ... was display scan[ned] ...

10[22] JDAS Read[out] ...

10[39] JDAS Read[out] ...

10[50] Ohlsson and X[e] ...

10[53] start run 18621 ...

11.45 CELLO tells u[s] ... They wanted to ... on with the p[ilot] ...

13[59] JDAS Read[out] ...

14.30 PKR monitor[ing] ... still in troub[le] ...

14[50] JDAS Read[out] ...

15.29 run 1862[9] ... dumped T[ape] ...

16.00 Naroska ... No Petra ... They have ...

19.00 Now P[etra] ...

21.00 Next pilot run ...

16.10.84 00:00 Chin + Becker on Shift

~~04:00~~ Restart at 01:00.
" " 02:00

2.00 Short Break.

3:30 Restart at 05:30

6:45 Restart at 08:00??

Processors ON/OFF N50	MIP	TOF	FAMP	<L>	$\int Ldt$	$\int Ldt_{Exp}$	IBM TAPE OUTPUT	AT RUN ID (μA)	Start TOF (V)	ONLINE REJECTION MIPROC (T_2)	NORD-50 ($T_1 \cdot T_2$)	Σ Bhabha	MH	F_{BEAM}	MAGNET FIELD	REMARKS

8[00] S. Wagner + S. Bethke
Phoned PKR. There will be no beam until 17[00] for sure. We ask to run down the magnet (uses on the whole night).
Until 17[00] PKR doesn't need somebody to be on shift at Jade, so we restrict to check temperatures from time to time.

11:09 Run 18625 is LG-Xe data. (X_e #10 -2)

14[55] TEMP = 15.8° SRW

16.00 Dieckmann + Schomolt on shift

21:45 To ~~coming~~ night shift: Watch the somewhat humid mail between the PC and the FADC's.

0:00 Barth & Spitzer

0:10 beams ready

0:15 power ~~supp~~ part of CC10-crate failed with overheat replace power pack. Originally it had a 1.2 KVA pack, we could only find a 1.0 KVA pack.

1:20 Std-histograms ok except:
Bunch marker (prepulse) moved by 50 ns to 400.
PKR claims their timing is ok.
The other timings on std histograms are ok. Thus we ignore the 50 ns.

4:30 Events occur with all lg counters on very low energy seem to be pedestal fluctuations. Somebody from Tokyo should inspect the lg system. In run # 18628 we had 34 multihadrons to muggy be they are of the lg-Type

4:45 Indeed we have pick up multihadrons see pictures.

7:40 Stop Petra until 17.00
ask MKK to switch off our magnet.

08:00 Davies / Tinglof

10:00 Temp: 16.1 °C

13:00 " 16.3 °C

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $*10^6$	TØ REJ. $*10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT 2 $E_1 > 66$ eV	T_2 BIT 17 $2T \cdot E_2 > 2T$
18617	15.10.	6:42	6:51	3.91	4.55	12.8	516	1402	664	134	17	773	1018	209	7
18618	"	8:46	9:47	3.61	4.46	14.2	3226	8002	4023	840	119	4377	6337	1112	50
18620	"	9:52	10:53	3.22	4.03	9.6	3615	7855	3448	941	90	4683	5235	1106	37
18627	"	10:56	12:04	3.21	4.07	7.8	4061	8002	3797	1056	81	5016	5173	1112	29
18622	"	12:05	13:17	2.89	3.64	7.6	4305	8002	3035	1120	85	5126	4956	1146	28
18623	"	13:18	14:32	2.33	3.00	7.3	4446	8001	2937	1157	85	5264	4803	1154	25
18624	"	14:37	15:29	2.15	2.79	7.4	3125	5423	2027	813	60	3710	3240	770	16
18626	17.10.	0:19	1:20	3.61	4.20	11.2	3426	8002	3778	892	100	4525	5849	1357	31
18627	"	1:31	2:35	3.15	3.67	9.2	3766	8002	3431	980	90	4666	5281	1360	29
18628	"	2:35	3:40	2.86	3.35	15.0	3916	7854	3429	1019	152	4805	5040	1371	28
18629	"	4:13	5:18	5.04	3.86	11.2	3237	8002	3865	844	94.3	4706	5339	1521	30
18630	"	5:18	6:18	4.53	3.42	11.4	3331	8001	3618	919	104	4827	5124	1393	37
18631	"	6:19	7:20	4.08	3.05	9.3	3642	8002	3559	948	87	5048	5030	1373	33
18632	"	7:20	7:30	3.69	2.74	8.6	519	1243	570	150	13	755	752	213	5
18633	17-10	21:57	22:11	4.33	3.18	15.9	785	1552	681	201	32	846	1113	157	6
18634	"	22:12	23:21	4.08	2.94	8.1	4130	8001	3264	1074	87	4664	5455	923	33
18635	18.10.	1.44	2:04	4.39	4.79	12.8	1179	2825	1293	307	39	1467	2110	309	112
18636	~	2:07	2:34	2.87	3.87	10.0	1578	3436	1655	411	41	2029	2445	518	25
18637	18.10	3.14	4.13	4.60	4.65	10.6	3536	8002	3756	919	97	4791	5394	1137	24
18638	~~17.10~~	4.12	5:21	3.89	3.82	9.5	3739	8002	3472	1025	97	5045	5163	1183	50
18639	~	5:22	6:31	3.36	3.30	9.8	4180	8001	3384	1087	106	5170	5053	1152	26
18640	"	6.32	7.28	2.94	2.87	8.2	3318	6230	2512	864	70	4000	3905	841	15
18641	~~1855~~	~~1888~~	1947	4,17	4,17	22,11	~~7136~~	8262	4493	749	165	3747	5905	1066	41
18642	"	19:53	20:44	3.55	3.55	19.5	3026	8044	4274	788	153	3719	5946	1155	50
18643	"	20:45	21.15	2.95	2.81	15.2	1694	3367	1781	440	67	2174	3001	599	26
18644	"	21.21	22.12	2.55	2.77	15.3	3048	7051	3298	793	121	3516 ~~4332~~	4832	1324	38
18645	"	22.16	22.26	1.94	2.33	15.7	592	1390	620	154	24	800	836	225	7
18646	"	2229	23.00	1.91	2.31	9.9	1795	3647	1504	466	46	2377	2368	657	16
18647	"	23.55	00:21	4.37	4.50	26.3	1202	3153	1579	313	82	1420	3379	420	116
18649	M.10	0:31	1:35	3.89	4.02	14.2	3419	8002	3476	889	126	4400	5840	1226	48
18649	"	1:36	2:38	3.22	3.37	11.1	3741	8002	3308	972	107	4635	5501	1156	~~28~~ 18
18650	"	2:39	2:55	2.66	2.88	11.0	932	1978	791	242	27	1158	1308	271	7
18651	"	3.29	4.29	4.71	4.79	13.4	~~8000~~ 3349	8002	3520	870	117	4373	5839	1038	19
18652	"	4:28	5:28	3.92	3.98	9.6	3530	8002	3398	918	88	4727	5415	1204	20

Processors ON/OFF N50	MIP	TOF	FAMP	<L>	$\int L dt$	$\int L dt_{Exp}$	IBM TAPE OUTPUT	AT Run ID (μA)	Start TOF (V)	ONLINE REJECTION MIPROC (T_2)	NORD-50 (T_1+T_2)	Σ_{Bhabha}	MH	E_{BEAM}	MAGNET FIELD	REMARKS
ON	ON	ON	OFF	1.80	0.93	2196.87	IBM	2.0	1.0	44	55	7	1	22,100	4190	beams lost ? -Chamber on
"	"	"	"	2.18	5.90	2202.77	"	2.8	1.2	47	58	65	4	"	4184	"
"	"	"	"	1.70	5.90	2208.67	"	1.7	0.8	44	61	65	7	"	4164	"
"	"	"	"	1.27	5.90	2214,57	"	1.6	0,5	46	61	65	7	"	4167	Nov readout loaded. Standard Data Taking
"	"	"	"	0.99	4.45	2219.02	"	1.6	0,4	46	64	49	5	"	4185	"
"	"	"	"	0.77	4.63	2223.65	"	1.6	0,35	47	63	51	2	"	4180	"
"	"	"	"	0.77	2.72	2226.37	"	1.2	0,32	51	62	30	7	"	4180	beams dumped "
"	"	"	OFF	1.08	2.71	2230.08	"	2.3	0.8	45	55	40	9	"	4215	Old Nov readout ~~removed~~ loaded. Stand. Data Taking
"	"	"	"	0.89	3.35	2233.43	"	2.0	0.5	41	59	42	9	"	4228	"
"	"	"	"	0.72	2.81	2236.24	"	2.0	0.4	44	58	34	35!!	"	4194	beams dumped ? cha-8
~	~	~	~	2.02	6.55	2242.79	~	2.1	0.7	42	53	62	11!	"	4227	"
"	"	"	"	1.54	5.60	2248.39	"	1.9	0.6	42	56	58	8!	"	4222	"
"	"	"	"	1.27	4.41	2253.00	"	1.7	0.5	45	57	50	7	"	4183	"
"	"	"	"	1.12	0.65	2253.65	"	1.7	0.5	44	56	8	0	"	4206	beam dumped "
"	"	"	ON	1.38	1.07	2254.72	"	2.2	0.8	42	58	9	1	"	4208	"
"	"	"	"	1.03	4.27	2258.99	"	2.0	0.6	43	61	57	1	"	4201	beam dumped "
"	"	"	"	1.54	1.88	2260.87	"	2.0	0.7	42	57	19	2	"	4224	" z on
"	"	"	"	1.12	1.77	2262.64	"	1.7	0.68	47	57	18	4	"	4217	beam dumped " z off
"	"	"	"	2.23	7.88	2265.52	"	2.2	~1	44	55	85	7	"	4184	" z on
"	"	"	"	1.61	6.35	2271.87	"	1.4	0.5	47	58	75	12	"	4176	"
"	"	"	"	1.09	4.56	2276.43	"	1.2	0.41	~~48~~ 47	59	61	9	"	4206	"
"	"	"	"	1.02	3.38	2279.81	"	1.3	0.42	~~55~~ 55	61	39	6	"	4204	dump " z-off
ON	ON	ON	OFF	0,54	3,83	—	FIII73	2,2	2.0 ~~2.2~~	39	51	39	3	"	4204	Vertex ch test data.
"	"	"	"	0,89	2,68	—	F22B60	2,2	1.8 ~~2.6~~	42	52	36	5	"	-4205	- " -
"	"	"	"	0.81	1.00 (Bhabha)	2280.81	IB11	2.2	1.2	45	57	11	5	"	-4183	Stand. data, with new program
"	"	"	"	0.55	1.64	—	F22B71	1.9	1.0	45	57	24	6	"	-4181	Vertex chamber test data
"	"	"	"	0,38	0,22	—	- " -	1.6	0.9	43	60	4	0	"	-4204	- " -
"	"	"	"	0.38	0.68	228 ~~2.28~~ 1.49	IBM	1,45	0,7	51	61	8	4	"	-4211	
"	"	"	"	1.59	1.91	2283.40	"	1.6	1.5 1.0	53	~~52~~ 52	23	0	"	4215	Stopped to reset HV
"	"	"	"	1.15	3.93	2287.33	"	1.2	-	43	59	51	9	"	4214	
"	"	"	"	1.05	3.93	2291.26	"	2.0	1.3 1.2	43	60	36	6	"	4203	
"	"	"	"	0.70	0.65	2291.91	"	1.4		44	63	5	3	"	4204	Beams dumped.
"	"	"	"	2.08	6.96	2298.87	"	1.4	1.1	42	58	73	2	"	4207	Z on off
"	"	"	"	1.61	5.67	2304.54	"	1.6	1.0	43	59	78	5	"	4198	

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ. $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT 2 $E > 6$ GeV	T_2 BIT 17 $2T_1 \cdot E_1 \cdot 2TR$

Processors ON/OFF N50	MIP	TOF	FAMP	<L>	$\int Ldt$	$\int Ldt_{Exp}$	IBM TAPE OUTPUT	AT Run ID (nA)	Start TOF (V)	ONLINE REJECTION MIPROC (T_2)	NORD-50 ($T_1 \cdot T_2$)	Σ Bhabha	MH	F_{BEAM}	MAGNET FIELD	REMARKS

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17. 10. 84

16 00 S. Wagner and K. Kawagoe on shift

PETRA will restart at 17 o'clock, → but we got no beam yet. (17:50)

19⁰⁰ "Erdschluß in Magnetstromkreis" ⇒ at least an hours break still

23 39 "short break"

18. 10. 84

00:00 NARODKA & DARVILL on shift.
Petra shell on "Short Break" : Erdschluß

1.40 Beams

2:04 10 soft trip due to machine loosing e^+ - about half of them!

2:30 Tasso call to say that P.K.R. want to try a new filling - half the e^+ have gone, the luminosity is very low what can we lose?

3.00 New filling

7.30 beams dumped, call K people to run down magnet.
53.6 nb^{-1} / night-shift. ? I find 24 nb^{-1} ! SW

7.40 Magnet is off. Next shift should come ~every 2-3 hours to check things (?!?) Bye, bye.

7.50 All OK. Be

11.20 " Be

11.00 Hellenbrandt / Kubilin on shift

18.50 new fill ready, start run with vertex-chamber

18.55 Muon crate 13 reset at crate

22.30 Olsson and Kleinwort are leaving, and left the vertex chamber off over night

22.32 YVOLTS: error in HV-system, supply/mainframe = 63
error in TOF/TAG system / no LAM found
error flags for mainfr 56 T F T
61 T F T
63 T F T what does this mean?

Yamada & Davies

Some of MH's are backgrounds, everything work off!

1 53 JDAS readout error 45 - MP-16 analysis incomplete: YY = 1.
(No reaction was taken.)

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JDAS error 33 - Missing LAM branch 2 crate 3 : TOF1 counters (twice)
Those damned mainf 55 T F T errors have been going all night.

5.50 Oops!! Guess who forgot to turn the Z chamber back on, for runs 18651 - 3 (sorry!!)

7:22 well the vertex chamber alarm LED is still blinking away to itself !!

7.25 PETRA FINIS FOR MORNING, MAGNET GOING TO BE RUN DOWN.
Have fun John! Ha ha ha.

8:00 Heintzelmann & Nye

9:00 Bantel phones to say that around 10:00 people are coming to work on magnet water supply – THEREFORE THE MAGNET CANNOT BE SWITCHED ON BEFORE 12:00 AT EARLIEST !

16,00 Clarke & Grashorn

16.21 I tested the HV system of TOF, TAG counters. It was totally blocked. Nothing worked neither manual nor computerwise. Switching off and on Mains on several Mainframes (53 & 56) helped. I do not konow how such a status can be reached. In case of more error messages from YVOLTS please call me
B. Naroska

19⁰⁰ We are still far from getting beam. Standard data taking program loaded for tonight, since vertex and Nord experts should be present when we turn over to standardly include vertexchamber in data taking (tomorrow!). Note however that the task YPAKA (Run start) now prints a warning if the vertex ch is not included in the readout &r 1 : 000 &r 2 : 037 !
J.O.

21:59 Beam at last
Run started with FAMP on and running correctly (see sheet on crate) Run# 18656
JDAS error 33 - missing LAM br. 2 cr. 3 TOF1 counters. x 2
Shortly after run that magnetic field jumped to 4202 A

23:26 JDAS error 43 MP-16 analysis incomplete YY=1

NOTE FOR NEXT SHIFT. IF YOU HAVE TO WRITE TO TAPE DO NOT USE THE TAPE ON THE DRIVE. IT HAS ALREADY BEEN USED FOR DATA TAKING AND IS ONLY ON THE DRIVE TO KEEP IT CLEAN AS SOMEONE HAS TAKEN AWAY ITS BOX [TAPE IS F22 871]

RUN	DATE	START	STOP	AT RUN START I+	AT RUN START I-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL *10^6	TØ REJ. *10^6	T1 ACC SUM	T2 ACC SUM	T1 BIT2	T2 BIT 17
18653	19-10-84	5:29	5:47	3.77	3.37	9.6	729	1693	652	190	18	974	1009	239	3
18654	"	5:42	6:53	3.15	3.26	12.4	4209	8002	3249	1096	135	5206	4700	1205	35
18655	"	6:54	7:14	2.59	2.72	11.1	1199	2192	875	312	35	1475	1230	306	3
18656	"	21:59	23:03	4.47	5.00	12.2	3635	8001	3245	945	115	4487	5812	951	30
18657	"	23:03	0:11	3.96	4.42	10.3	4035	8001	3304	1049	108	4936	5299	1043	35
18658	20.10.84	0:10	1:25	3.50	3.90	9.7	4235	8002	3182	1101	106	5122	4911	1038	31
18659	"	1:26	1:47	3.07	3.44	6.7	1213	2296	896	315	21	1540	1326	316	10
18660	"	2:22	3:17	5.64	5.56	12.6	3099	8002	3719	805	101	4476	5662	1021	21
18661	"	3:17	4:17	4.96	4.89	19.5	3321	8001	3456	863	99	4590	5409	1040	24
18662	"	4:17	4:28	4.36	4.29	16.8	597	1315	581	155	26	770	786	189	6
18663	"	6:04	6:43	5.17	5.06	14.8	2251	5299	2448	585	86	2871	3753	598	17
18664	"	7:35	8:33	5.78	5.86	18.3	3077	8002	4320	800	147	4231	6026	962	23
18665	"	8:33	9:32	5.04	5.10	14.7	3230	8002	3616	841	123	4290	5763	993	38
18666	"	9:32	10:30	4.42	4.48	10.7	3434	8002	3415	894	95	4524	5531	1043	27
18667	"	10:30	10:33	3.92	3.98	18.0	117	303	134	30	5	152	178	27	1
18668	"	10:41	11:15	3.84	3.90	15.4	2037	4423	1938	530	81	2406	2752	551	17
18669	"	11:15	11:54	3.59	3.65	11.2	2295	4932	2047	598	67	2822	3010	593	16
18670	"	12:52	13:49	5.82	5.89	23.1	2803?	8002	4485	737	170	4051	5313	804	30
18671	"	13:50	13:53	5.09	4.58	15.3	1542?	496	262	40	6	239	295	40	1
18672	"	13:57	14:26	4.99	4.49	23.1	14303?	3782	2087	372	86	1955	2333	406	8
18673	"	14:27	14:41	4.54	4.21	13.5	8227?	2267	1080	214	29	1305	1379	256	4
18674	"	14:54	15:01	4.42	3.96	14.0	4148?	1061	510	108	15	632	614	113	3
18675	"	15:02	15:11	4.35	3.89	10.7	5087?	1323	624	132	14	806	755	146	4
18676	"	15:17	15:19	4.26	3.87	18.2	4199?	1077	528	109	20	622	572	108	4
18677	"	15:19	15:21	4.19	3.74	12.8	960?	240	165	25	3	166	129	27	1
18678	"	15:23	15:28	4.16	3.72	11.0	565?	697	344	67	7	419	372	76	2
18680	"	15:35	15:37	4.06	3.62	16.7	837?	205	100	22	4	115	102	18	0
18681	"	15:37	15:45	4.04	3.60	15.3	3317?	1023	496	104	16	606	542	111	1
18682	"	15:46	15:52	3.96	3.54	14.1	658?	1477	685	171	24	822	883	177	6
18683	"	15:58	16:09	3.47	3.45	13.1	605?	1417	620	157	21	800	810	177	6
18684	"	16:09	16:21	3.79	3.37	10.6	697?	1585	672	181	19	961	921	191	5
18685	"	16:22	16:23	3.69	3.29	15.2	27?	94	40	7	1	45	42	4	0
18686	"	16:23	16:24	3.68	3.28	11.9	20?	118	56	5	1	63	30	6	1
18687	"	16:30	16:45	3.64	3.24	15.2	1124	2262	975	293	45	1377	1373	271	5

RUN	PROCESSORS ON/OFF N50	MIP	TOF	FAMP	<L>	∫Ldt	∫Ldt Exp	IBM TAPE OUTPUT	AT RUN START ID (nA)	AT RUN START TOF (V)	ONLINE REJECTION MIPROC (T2)	ONLINE REJECTION NORD-50 (T1&T2)	Σ Strobe	MH	E BEAM	MAG FIELD	REMARKS
NS0	MIP	TOF	FAMP														
ON	ON	ON	OFF	1.34	0.98	2294.52	IBM	~~1.2~~	0.9	43	61	10	2	22.100	4159	Stopped when Z turned on!
"	"	"	"	1.03	4.35	2298.87	"	0.8	0.8	46	61	44	18	"	4199	Z ch on.
"	"	"	"	0.97	1.16	2300.03	"	1.2	3.0	47	62	9	3	"	4197	The end of a nice fill.
ON	ON	ON	ON	1.78	6.48	2306.51	"	1.9	0.68	44	57	77	13	"	4155	Stand. data taking (No vertex ch)
"	"	"	"	1.57	6.33	2312.84	"	1.6	0.40	46	60	55	7	"	4198	(Z chamber on)
"	"	"	"	1.26	5.32	2318.16	"	~~0.84~~	0.40	46	60	54	10	"	4221	Z ch. on
"	"	"	"	0.89	1.08	2319.24	"	"	"	47	63	18	0	"	4221	"
"	"	"	"	3.2	9.93	~~2329.17~~ 2327.17	"	2.3	~~0.62~~	42	55	117	6	"	4212	Z on
"	"	"	"	2.34	7.77	2335.94	"	2.1	0.55	41	58	71	8	"	4205	"
"	"	"	"	1.65	0.99	2337.93	"	2.0	0.48	42	60	3	6	"	4206	" Beam lost
"	"	"	"	2.65	5.97	2343.90	"	2.3	0.65	40	56	68	5	"	4193	Z on Beam lost
"	"	"	"	3.31	10.18	2354.08	"	2.4	0.7	43	~~48~~	108	10	"	4173	Z on
"	"	"	"	2.64	8.53	2362.61	"	2.4	0.6	40	57	80	6	"	4206	"
"	"	"	"	2.18	7.50	2370.11	"	2.3	0.52	41	~~39~~ 38	92	4	"	4196	"
"	"	"	"	1.96	0.23	2370.34	"	2.2	0.46	30	61	3	0	"	4210	"
"	"	"	"	1.58	3.22	2373.56	"	2.2	0,5	38	60	37	1	"	4209	Vertex ch standard, to 18713
"	"	"	"	1.48	3.39	2376.95	"	2.0	0.42	39	62	42	1	"	4209	Beam plumped,
"	"	"	"	0.33?	9.23	2386.18	"	2.6	0.8	39	48	82	6	"	4174	
"	"	"	"	0.31?	0.48	2386.66	"	2.4	0.6	32	53	4	0	"	4203	
"	"	"	"	0.27?	3.88	2390.54	"	2.4	0.6	36	49	29	6	"	4207	
"	"	"	"	0.29?	2.38	2392.92	"	2.3	0.5	40	53	29	1	"	4201	
"	"	"	"	0.25?	1.04	2393.96	"	2.2	0.5	38	55	8	3	"	4209	3:6
"	"	"	"	0.26?	1.30	2395.26	"	2.1	0.45	37	55	17	0	"	4205	vertexch not compl. 3:6, 1:1
"	"	"	"	0.24?	0.99	2396.25	"	2.0	0.45	35	55	14	3	"	4202	3:6, 1:4
"	"	"	"	0.24	0.45	2396.70	"			25	55	5	0	"	4196	
"	"	"	"	0.26	0.45	2397.15	"			35	53	5	2	"	4200	Vertexch. not complete 3:6, 1:7
"	"	"	off	0.18	0.18	2397.33	"			36	58	2	1	"	4206	(not existing 18679)
"	"	"	"	0.23	1.45	2398.78	"			34	55	16	2	"	4204	3:6, 1:6-7
"	"	"	"	2.90	1.27	2400.05	"			39	58	14	2	"	4224	Vertexch. not complete 3:6, 1:1-5
"	"	"	"	2.02	1.00	~~2401.05~~ 2401.05	"			36	60	14	2	"	4213	3:6, 1:7
"	"	"	"	2.22	2.36	2403.41 ~~2405.05~~	"			38	60	26	1	"	4218	3:6, 1:7
"	"	"	"	2.30	0.09	2403.50	"			21	69	1	0	"	4209	
"	"	"	"	2.62	0.18	2403.68	"			-29?	61	2	0	"	4206	3:6 1:1,1:7
"	"	"	"	1.84	2.06	2405.74	"	2.1	0.37	42	59	29	1	"	4204	Vertexch not compl 3:6 1:4 3:6 1:4,1:7

RUN	DATE	START	STOP	AT RUN START I+	AT RUN START I-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL *10^6	TØ REJ. *10^6	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT2 E>6GeV	T_2 BIT 17 2T·EL·Σ2TR

Processors ON/OFF N50	MIP	TOF	FAMP	<L>	∫Ldt	∫Ldt Exp	IBM TAPE OUTPUT	AT Run ID (hA)	Start TOF (V)	ONLINE REJECTION MIPROC (T_2)	NORD-50 (T_1·T_2)	Σ Bhabha	MH	F BEAM	MAGNET FIELD	REMARKS

20/10/84

0:00 Diedrmann + Bethke enjoying night-shift
4:10 Most online "multihadronic" events are of the type shown on page 169.
Such lead-glass-on-events sometimes come very frequently.

8:00 Kado and Kawagoe on shift
8:15 ID hard trip (READOUT)
8:45 JDAS error 53 system crate watchdog flag on PARM=000001
JDAS READOUT ERROR 47 - MP-16 start pulse missing or T2 crate off-line
this is due to the interference between the data taking and Kado's test program.
8:56 ID hard trip "chain current" third time now, always 00.8 at address 88
10:40 R 18668: Vertexchamber included in standard data taking and sent to IBM
No Reformjobs to be submitted until further notice!
J.O.

VTXC HV: DV: 1600 AV: 1300 (HV)

Problem: In Br 7 (Vertexch.) a Camac cycle is sometimes not ended.
This brings an error in the Readout: JDAS nr 53, Watchdog on
(Suberror 24 normally, seen at end of vertexch. branch). It is believed to be caused by a hardware
bad contact, or similar. It occurs seldom, but may burst into very frequent occurrence. In this
case, only restart of a Run will help. The problem is under investigation.
12:00 During refill, crate controller cp 2160 in Br 1: Cr 1 and Cr 7 interchanged. No errors in testruns.
13:59 In summaries of RUN 18670 and 18671, "LUMI" is too small and "SECONDS" is too long.
~~This is due to program error, Mr. Olsson rebuilds the FASTE~~. Clock on 10 Hz!

14:00 ID hard trip "chain current" seems to be faulty electronics → alarm register set, but
"Kettenstromüberwachungsgerät" had not stopped, therefore one reads always "88" → running 7-Segment-Display!

16:00 Matsumura + Menke on shift
18:00 A bad connection was found in the Branch Highway cable, at the Branch coupler. Coupler is exchanged.
Now no errors are seen R18689 on. Note: a number of runs were taken with only fractions of the
vertexchamber read out. These data are of course complete in other components and have been sent to
IBM.
18:43 The error still occurs, damn the CAMAC and its inventors!
20:37 Error 53 - (System crate watchdog flag on) occurred
Error 33 about 5 times/hour
22:12 FAMP switched on again after beams dumped

22:18 FAMP stops system after 5 events (slaves full) & FAMP switched off again
now data taking is working
run 18693 has no events because of this problem.

0:00 Barlow, Ranchle on shift.
0:30 Error 53. Again at 0:45.
0:45 Vertex chamber HT changed at start of run 18696 — VTXC HV: DV = 1600, AV = 1325 RRamcke
1:40 Error 53 messages continue about every 10 or 15 minutes.
2:10 Frequent error 53 messages. They may be associated with the RS232 connection to the vertex chamber PC.
2:16 Beams dumped.
2:55 VTX-Soft trip; HV changed at started run 18698: VTXC HV DV = 1600
7:10 Error 33 AV = 1300 ← due to high current
4:26 Runs 18698 and 18699 taken with 2 chamber sectors off. Oops!
5:30 Vertex chamber HT changed at start of run 18701; DV = 1600 AV = 1325
7:00 New fill. Vertex chamber HT back to AV = 1300.
7:15 Tagging HV error messages on console - values all zero. The Power supply reset.

8:00 Haidt + Komamiya tried to
8:07 Vertex chamber H.V. was increased by Ramcke [$I_A > 10\,\mu A$ → HV DV = 1600; AV = 1300]
8:08 vertex chamber tripped → The voltage was decreased again to the above value
8:15 Error 33 Missing LAM Br = 1, Cr = 1: vtx chamber
8:30 Error 53 System crate watchdog flag on PARM = 0 00 24 (oct)
11:00 New fill
11:05 vertex chamber tripped reset alarms at Rücksack
11:09 " "
13:46 Vertex chamber trip
14:05 JDAS error 33 missing LAM branch 3 crate 2 (μ-chamber)
JDAS error 45 MP-16 analysis incomplete: YY = 1
15:25 " 33 Br = 1 Cr = 1
15:17 Vertex chamber trip
15:27 Vertex chamber trip

15:00 Clarke / Kuhlen on shift
System hangs up occasionally — with "NO-EVENTS"; press F2 & then F2 again and all OK ... ?
JDAS Error 33
" " "

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 $E_1 > 6$ GeV	T_2 BIT 17 $2T \cdot E_4 \cdot \geq 2TR$
158															
18688	20-10-84	17:00	17:30	3.43	3.04	8.2	1711	3547	1409	446	37	2194	2150	453	14
18689	"	18:24	19:27	4.91	4.98	14.0	3383	8002	3833	881	124	4289	5324	874	28
18690	"	19:28	20:28	4.31	4.31	13.8	3607	8001	3710	938	130	4577	5097	987	29
18691	"	20:28	21:34	3.82	3.78	14.7	3951	8002	3580	1028	152	4864	4854	998	26
18692	"	21:35	22:05	3.38	3.29	13.6	1795	3449	1504	467	64	2077	2106	411	4
18694	"	22:51	23:46	5.03	4.41	14.9	3229	8001	3491	840	125	4083	5318	886	36
18695		23:45	00:49	4.52	3.67	12.1	3823	8002	3574	944	124	4562	5036	922	23
18696	21.10.84	0:54	2:02	4.00	3.15	10.9	4000	8002	3685	1041	113	4780	4906	983	23
18697	"	2:01	2:16	3.40	2.65	14.3	761	1447	638	198	284	892	812	176	3
18698	"	3:01	3:52	5.49	5.49	17.9	2979	8002	4246	750	134	3935	5442	895	23
18699	"	3:53	4:27	4.77	4.69	12.5	2039	5032	2448	531	66	2712	3312	623	29
18700	"	4:27	5:30	4.34	4.24	12.8	3708	8002	3769	965	124	4659	5028	1012	33
18701	"	5:33	6:05	3:47	3.38	18.2	1887	3856	1728	491	70	2349	2257	486	13
18702	"	6:06	6:20	3.47	3.37	10.7	1959	1661	742	203	22	1061	938	212	8
18703	"	7:08	8:05	5.14	4.91	15.1	3244	8002	3965	844	127	4076	5346	880	34
18704	"	8:06	9:12	4.46	4.23	12.9	3601	8002	3702	937	121	4556	5063	953	18
18705	"	9:13	10:22	3.82	3.58	11.5	4103	8002	3512	945	122	4883	4874	983	23
18706	"	10:22	10:33	3.33	3.10	9.3	651	1301	542	169	16	802	769	126	5
18707	"	11:06	12:21	5.83	5.99	23.9	2744	8002	4521	714	171	3667	5714	872	24
18708	"	12:21	13:14	4.70	4.84	15.7 3126	3126	8002	3903	812	148	4041	5406	863	29
18709	"	13:14	14:13	4.06	4.19	14.7	3373	8002	3751	877	129	4332	5041	884	19
18710	"	14:14	14:34	3.51	3.63	11.5	1128	2543	1144	294	34	1413	1519	284	4
18711	"	15.12	16.04	5,77	5,52	25,5	2877	8002	4237	748	191	3525	5767	747	25
18712	"	16.04	16.58	5,01	4.78	18,1	3044	8002	4061	792	143	3854	5479	861	27
18713	"	16.59	18.08	4.31	4.11	16.0	3270	8002	3865	851	136	3963	5332	868	31
18714	"	18.09	18.42	3.63	3.47	17.2	1955	4244	1919	509	87	2263	2592	436	14
18715	"	19.44	20.35	5.69	5,73	30.7	2938	8002	4576	764	234	3355	6281	728	31
18716	"	20.35	21.25	4.93	4,17	26,3	2949	8001	4520	768	202	3478	6060	758	18
18717	"	21.25	22.27	4.32	4.17	21.0	3239	8001	4030	842	177	3797	5481	753	22
18718	"	22.27	23.27	3.74	3.79	16.5	3551	8002	3605	923	152	4208	4956	770	35
18719	"	23.27	0.18	3.31	3.36	15.0	3009	6186	2651	783	117	3545	3568	668	12
18720	22.10.84	0.50	1:39	5.77	5.78	25.6	2934	8002	4445	763	195	3650	5595	830	22
18721	"	1:39	2:33	5.11	5.08	21.2	3156	8002	4133	821	173	4066	5227	924	23
18722	"	2:32	3:33	4.51	4.48	18.5	3593	8002	3969	935	172	4316	5085	924	26

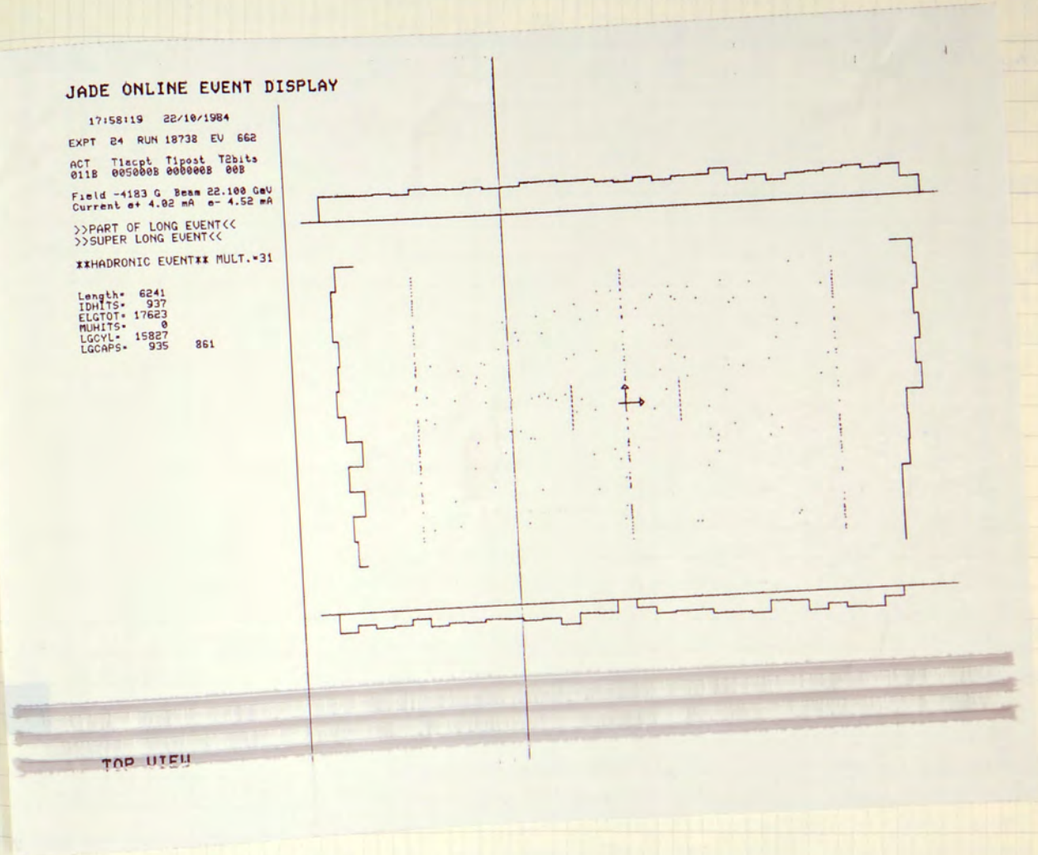
Processors ON/OFF N50	MIP	TOF	FAMP	<L>	$\int Ldt$	$\int Ldt_{Exp}$	IBM/TAPE OUTPUT	AT Run Start ID (μA)	AT Run Start TOF (V)	ONLINE REJECTION MIPROC (T_2)	ONLINE REJECTION NORD-50 ($T_1 \cdot T_2$)	Σ Blubks	MH	E Beam	Magnet Field	REMARKS
																159
ON	ON	ON	OFF	1.76	3.00	2408.74	IBM	2.1	0,37	41	62	31	1	22.100	4188	Vertex ch not complete 3:6 Beams dumped 1:4.1:7
"	"	"	"	2.31	7.81	2416.55	"	2.0	0.55	40	56	94	6	"	4215	
"	"	"	"	1.96	7.05	2423.60	"	1.8	0.5	42	57	80	11	"	4215	
"	"	"	"	1.58	6.23	2429.83	"	1.6	0.65	44	58	69	7	"	4194	
"	"	"	"	1.17	2.10	2431.93	"	1.4	0.45	45	60	21	8	"	4221	beams dumped
"	"	"	"	2.03	6.54	2438.47	"	2.0	0.65	38	54	66	7	"	4222	
"	"	"	"	1.58	6.04	2444.51	"	1.8	0.60	41	57	66	4	"	4183	
"	"	"	"	1.30	5.19	2449.70	"	1.6	0.38	43	57	47	2	"	4205	
"	"	"	"	1.20	0.91	2450.61	"	1.4	0.45	43	60	13	0	"	4158	beams dumped.
"	"	"	"	2.90	8.34	2458.95	"	2.2	0.80	39	51	93	4	"	4187	2 chamber switched off.
"	"	"	"	2.49	5.07	2464.02	"	2.0	0.70	39	55	67	0	"	4204	is not switched on.
"	"	"	"	1.92	7.12	2471.14	"	1.8	0.55	43	56	74	4	"	4209	
"	"	"	"	1.54	3,00	2474,14	"	1.5	0.45	44	59	34	3	"	4199	Dead time 100% Run stopped
"	"	"	"	1.57	1.23	2475.37	"	1,4	0.42	47	59	14	0	"	4200	beams dumped.
"	"	"	"	2.24	7.27	2482.64	"	2.2	0.62	38	55	104	11	"	4206	
"	"	"	"	2.02	7.27	2489.91	"	2.0	0,65	41	57	63	5	"	4207	
"	"	"	"	1.56	6.41	2496.32	"	1.6	0.45	44	59	75	6	"	4186	
"	"	"	"	1.26	0.82	2497.14	"	1.4	0.35	43	61	7	0	"	4195	beams dumped
"	"	"	"	3.26	8.95	2506.09	"	1.6	0,8	38	48	85	4	"	4177	
"	"	"	"	2.62	8.18	2514.27	"	1.2	0.65	37	55	91	2	"	4206	
"	"	"	"	2.29	7.72	2521.99	"	1.2?	0.55?	37	57	80	2	"	4171	
"	"	"	"	1.83	2.06	2523.05	"	1.1	0.45	36	59	16	1	"	4174	beams dumped
"	"	"	"	2.6	7.49	2530.54	"	2.3	0.62	39	53	70	3	"	4179	
"	"	"	"	2.47	7.51	2538.05	"	2.2	0.6	37	54	70	5	"	4178	
"	"	"	"	2.25	7.36	2545.41	"	2.4	0.55	37	56	85	8	"	4168	
"	"	"	"	1.66	3.25	2548.66	"	1.2	0.46	36	59	85	10	"	4180	beams dumped
"	"	"	"	3.14	9.23	2557.89	"	2.4	0.8	42	49	103	11	"	4208	
"	"	"	"	2,79	8.22	2566.11	"	2.4	0,68	41	50	103	17	"	4164	
"	"	"	"	2.29	7.43	2573.54	"	2.4	0,63	36	55	99	10	"	4205	
"	"	"	"	1.79	6.35	2579.89	"	2.2	0.48	37	60	50	10	"	4213	
"	"	"	"	1.45	4.37	2584.26	"	2.0	0.42	38	61	52	6	"	4177	beams dumped
"	"	"	"	3.05	8.94	2593.20	"	2,4	0,72	39	50	104	13	"	4199	
"	"	"	"	2.63	8.30	2601.50	"	2.2	0.75	38	53	98	16	"	4208	
"	"	"	"	2.04	7.32	2608.82	"	2.1	0.60	40	55	81	23	"	4212	

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	T_2 BIT 17
158															
160															

Processors ON/OFF N50	MIP	TOF	FAMP	<L>	$\int Ldt$	$\int Ldt_{Exp}$	IBM TAPE OUTPUT	AT Run ID (nA)	Start TOF (V)	ONLINE REJECTION MIPROC (T_2)	NORD-50 (T_1 T_2)	Σ Bhabha	MH	F BEAM	MAGNET FIELD	REMARKS

1638	VTX - chamber trip
1748	~~VTX - chamber trip~~ VTX - chamber trip
	PETRA had trouble with transmitters, this might be the reason.
19.59	JDAS readout error 33 - Missing LAM branch 1 crate 1 : Vertex chamber
21.46	Vertex - chamber trip
23.55	Tasso want new fill in ~ 15 min.
22.10.84	
0:00	Diechmann - Schmidt on shift.
0:50	new fill
	"NORD 50 busy" very often
5:28	new fill
6:07	VTX chambers Hard Trip
6:40	VTX chamber hard trip
1:35	VTX chamber hard trip + ID hard trip
8:00	Barlow & Ambros on shift.
9:13	Beams dumped. PETRA want access for ~ 30 min.
11:15	New fill. "30 minutes" = 2 hours, as usual. Conditions bad - Petra has to optimize these.
11:52	Obscure message on console: "ERROR FLAGS FOR MAINFR31 T F T". Anyone knows what this about?
11:55	"No LAM found for supply/mainframe 63". Unit looks OK.
12:32	JDAS READOUT ERROR 33 - Missing LAM branch 3 crate 2 : Muon chambers (again 12:51; 12:54; 12:59
	JDAS READOUT ERROR 45 - HP-16 analysis incomplete; YY=1
12:53	JDAS 53 - System crate watchdog flag on PARM=000024 (oct)
12:56	JDAS 33 - Missing LAM branch 2 crate 3 : TOF1 counters
14:25	J. Olsson has reloaded FAMP.
15:00	New fill. First attempt fails as vertex „proces not loaded" ⇒ run 1873 ~~was~~ saw no events.
	Frequent Vertex chamber Trips.
16.00	Kado / Clarke
16.30	Try to start run - JDAS Readout error 73 - many times (ie CAMAC asem failed BR 1 CR 4 : VTX ch.)
	- try F15 / F16 and dummy tot run - no luck
	- J. Olsson on his way, nP of CR 4 pulled out, put back and .. ok! (EW)

We are seeing lots of events as on opposite page / (& all) many muon streets on / lots of N50 Busy's - seem to have started around midnight of 21st. —— they were happening on 19th!



RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ. $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT 2 $E_1 > 6$ GeV	T_2 BIT 17 $2T \cdot E_4 \cdot \geq 2TR$
18723	22.10.84	3:58	4.58	3.76	3.74	17,7	3621	7245	3281	842	167	4203	4219	800	21
18724	"	5:29	6:22	5.86	5.86	31.2	2851	8002	4536	769	240	3400	5889	761	27
18725	"	6:23	7:18	5,13	5,07	25,7	3118	8001	4259	827	213	3806	5235	874	37
18726	"	7:19	8:21	4.48	4.39	24.5	3428	8002	4122	892	29	3899	5927	844	20
18727	"	8:22	9:14	3.89	3.80	24.8	3128	7240	3641	814	202	3411	4816	716	19
18728	"	11:49	12:43	5.19	4.81	33.3	3185	8002	4553	829	276	3187	6501	691	29
18729	"	12:45	14:01	4.63	4.28	31.1	3546	8002	4093	923	288	3651	5834	787	28
18730	"	14:04	14:18	3.94	3.64	22.8	809	1703	829	211	48	943	959	197	4
18731	—														
18732	"	15:06	15 36	5.76	6.08	34.5		4514	2622		no run summary				
18734	"	16.42	16.50	4.72	5,25	25.8	452	983	494	117	30	531	580	116	1
18735	"	16.54	16.57												
18736	"	17.00	17.10	4.54	5,07	24.5	601								
18737	"	17.21	17.52	4,34	4.86	25,5	1757	3941							
18738	"	17.52	18.57	4.07	4.57	27,3	3855	8002	4103	1003	273	4440	4216	912	27
18739	"	18.57	19.27	3.55	4.02	24.1	1268	2455	1209	330	79	1453	1307	278	5
18740	"	19.22	20.04	3.38	3.83	27.6	2390	4613	2286	622	177	2710	2264	554	12
18741	"	21.50	23.03	4.98	5,17	34.8	3740	8002	4439	973	338	4147	4288	1083	23
18742	"	23.03	0.14	4.29	4.47	28.9	3644	8002	4136	1000	289	4330	4161	883	23
18743	23/10/84	0.15	1.35	3.72	3.89	25.6	4134	8002	3910	1074	275	4602	4168	883	20
18744	23/10/84	1.36	1.39	3.21	3.37	26.8	194	388	193	50	13	225	169	33	2
18745	"	2.25	3.06	5.30	5.53	28.5	2451	5708	3138	637	181	2904	3162	630	20
18746	"	4.06	5.27	4.23	4.44	26.6	4098	8001	4059	1066	284	4497	4176	875	26
18747	"	5.28	6.03	3.58	3.77	22.9	2103	3957	1868	547	125	2414	2060	519	8
18748	"	6.42	7.39	5.60	5.65	20.4	3134	8002	4291	815	166	4059	4965	858	24
18749	"	7:42	8:47	4.90	4.94	20.7	3303	8002	4017	860	179	4456	4588	1006	26
18750	"	8:49	10:10	4.22	4.26	19.8	3176	6887	3364	826	164	4078	3730	872	22
18752	"	10:57	11:49	5.45	5.62	25.2	2947	8002	4609	767	194	3969	4978	926	25
18753	"	12:01	12:45	4.68	4.84	24.8	2579	5990	3005	621	167	3234	3534	702	20
18754	"	12:46	13:31	4.22	4.38	17.6	2654	6172	2994	691	121	3623	3398	714	25
18755	"	14:11	14:42	6.08	6.15	30.7	~~4687~~	4681	2655	—	—	—	—	—	—
18756	"	14:52	15:42	5.50	5.57	27.8	2978	8002	4387	775	275	3833	5119	934	23
18757	"	15:44	16:37	4.85	4.92	21.7	3125	8001	4155	813	177	4156	4782	941	25
18758	"	16:38	17:35	4.28	4.35	17.5	3308	7405	3475	861	150	4352	4227	919	20

Processors ON/OFF N50	MIP	TOF	FAMP	$\langle L \rangle$	$\int L dt$	$\int L dt$ Exp	IBM / TAPE OUTPUT	AT RUN START ID (μA)	AT RUN START TOF (V)	ON LINE REJECTION MIPROC (T_2)	ON LINE REJECTION NORD-50 ($T_1 \cdot T_2$)	Σ Blubbles	MH	E_{BEAM}	MAGNET FIELD	REMARKS
ON	ON	ON	OFF	1,45	5,23	2614,05	IBM	1.8	0.45	42	60	58	16	22.1	4187	beams dumped
"	"	"	"	2,97	8,77	2622,82	"	2.6	0,75	39	50	84	20	"	4215	
"	"	"	"	2,29	7,26	263008	"	2.3	0,75	38	53	88	22	"	4173	
"	"	"	"	1.93	6.62	2636.70	"	2.0	0,65	41	55	65	36	"	4179	
"	"	"	"	1.79	5.60	2642.30	"	1.8	0.6	40	57	57	22	"	4184	beams dumped.
"	"	"	"	2,22	7.08	2649.38	"	2.9	1.2	45	51	75	41	"	4195	
"	"	"	"	1.85	6.54	2655.92	"	2.8	0,82	42	56	63	36	"	4202	
"	"	"	"	1.57	1.27	2657.19	"	2.0	0.5	40	58	19	3	"	4171	beams dumped.
																No scalb.
"	"	"	"		4.82		IBM	2.7	0.7						-4162	beams lost, Nord hang up Lev 8
"	"	"	"	2.36	1.07	2658.26	"	2.0	0.42						4182	Without VTX chamber
				2.53	0.38	2658.64	"	2.0	0.4						4172	
				2.32	1.39	2660.03	"	2.0	0.4							
				1.98	3.48	2663.51	MD203	2.0	0.39				24			Lots of "bad" events.
"	"	"	"	1.85	7.14	2670.65	IBM	2.0	0.38	37	56	96	55	"	4180	"
"	"	"	"	1.87	2.37	2671.02	"	1.6	0.34	44	57	80	12	"	4178	"
"	"	"	"	1.39	3.33	2674.35	"	1.4	0.32	41	58	35	28	"	4200	" / beams dumped
"	"	"	"	2.06	7.7	2682.05	"	2,0	0,5	39	53	81	52	"	4194	
"	"	"	"	1.93	7.41	2689.46	"	2.0	0.4	39	56	90	43	"	4194	
"	"	"	"	1.45	6.01	2695.47	"	1.8	0.36	42	58	58	48	"	4173	
"	"	"	"	1.43	0.28	2695.75	"	1.6	0.30	44	61	1	1	"	4186	Beams dumped.
"	"	"	"	2.77	6.79	2702.54	"	2.2	0.55	34	52	89	25	"	4197	"Stopped" HV problems
"	"	"	"	1.91	7.82	2710.36	"	1.8	0.40	41	57	83	46	"	4173	Lots of SDAS errors
"	"	"	"	1.61	3.38	2713.74	"	1.5	0.31	46	59	34	20	"	4187	Beams dumped.
"	"	"	"	3.08	9.66	2728.40	"	2.2	0.58	35	51	99	4	"	4171	
"	"	"	"	2.53	8.37	2731.74	"	2.0	0.48	38	55	93	16	"	4171	
"	"	"	"	2.00	6.36	2738.10	"	1.8	0.40	47	56	75	20	"	4216	Beams dumped
"	"	"	"	3.12	9.20	2747.30	"	2.2	.57	36	47	97	8	"	4202	
"	"	"	"	2,27	5.86	2753.16	"	2.2	0.50	38	55	67	16	"	4167	
"	"	"	"	2.13	5.66	2758.82	"	2.0	0.42	40	56	69	8	"	4210	beams dumped
"	"	"	ON	3.18	5.29	2764.11	"	2.4	0.64	79	54	—	—	"	4193	Nord hang up Lev 8
"	"	"	OFF	2.76	8.23	2772.34	"	2.4	0.58	35	51	107	21	"	4187	
"	"	"	"	2.50	7.80	2780.14	"	2.2	0.50	35	53	93	19	"	4197	
"	"	"	"	2.07	6.84	2786.98	"	2.0	0.42	40	57	69	11	"	4193	Beams dumped

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ. $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT 2 $E_1 > 6$ GeV	T_2 BIT 17 $2T \cdot E_4 \cdot \geq 2$TR

19.20 Starting with run 18740 new Vertexchamber Voltage :

VTXC HV	OV: 1500
	AV: 1350

19.50 very often now JDAS readout error 53, PARM = 24 (oct)
br. 1 cr. 1 ; ev. length ~ 2500 ... 3500 (oct)

note to Tohru Takeshita :
we are getting now an incredible number of "super bad glass events" ~50 "MH" per run!

22.08 now frequently JDAS error 33 missing LAM
br. 1, cr. 1 or br. 3, cr. 2

22.30 two times JDAS error 53, PARM 24 (oct), br. 1, cr. 1, ev. lengh 3736 / 3562 (oct)
numbers on bottom line : 7 / 0 and 7 / 3

22.40 same as 22.08
23.30 ID hard trip "chain current" with no reason (same as on 20.10.) Matsumura should check it
23.38 same as 22.08
23.50 ID hard trip "chain current" (see above)

23-10-84 0^{00} DAVIES & J. WAGNER ON SHIFT

0.20 JDAS readout error 33 - missing LAM branch 1 crate 1 : Vertex ch.
0.30 " " 4 " 53 - System crate watchdog flag on PARM = 000024 (oct)

CONZR :					
	0	000101	0	003530	0
	7	0	177777	177777	177777

0.50 JDAS ——— 33 Mes LAM Branch 2 crate 3 : TOF1 counters
0.53 " " 33 " " " 1 " 1 : Vertex ch.
1.00 Trip (see JDAS)

1.19 JDAS " 53

0	000506	0	122	6
16	1	177777	177777	177777

1.21 JDAS ——— 33 - Missing LAM br 3 or 2 : Muon ch's (← TWICE)
1.24 " " " " " 1 1 : Vertex (← ")
1.31 This one again.

2.32 JDAS 53 Mes crate watch ———

0	101	0	4012	0
7	0	177777	177777	177777

and again at 2.36

Processors ON/OFF N50	MIP	TOF	FAMP	<L>	$\int$Ldt	$\int_{Exp}$Ldt	IBM TAPE OUTPUT	AT Run ID (μA)	Start TOF (V)	ONLINE REJECTION MIPROC (T_2)	NORD-50 ($T_1 \cdot T_2$)	Σ Beating	MH	F BEAM	MAGNET FIELD	REMARKS

2.41 Yet another JDAS error br 1 cr 1 (Vertex). Still it keeps me awake I suppose.
3.2 VOLTS MFR 61 channels 0-10 (at least)
Reset these
Then got ... IENTRY of LAMDAT 5
——— waiting 1 seconds ———
waiting for LAM 0 0 5 0
100 0 0
200 0 0
300 0 0
400 0 0
500 0 0
Kept coming even after pause.
Stopped run.
Ran DOWN HV
Couldn't run up again. Problems with the HV.
Reset HV on mt 61 manually!

4.9 JDAS readout error 46 - MP-16 out of sequence ; YY=1
4.21 Back to the JDAS and missing LAMS. (br 3 cr 2 : Muon)
4.39 GOT YET ANOTHER ALARM (chain + HV output) see Inner detector manual.
5.10 " " " " " " " " !!
5.16 JDAS error 53 etc
5.29 CONZR 0 101 0 3154 0
7 3 17— 17— 17—
6.00 JDAS: missing LAM on (Muon ch's) + (Vtx ch) + (TOF2 counters)
7.39 Got stuck in " RUN SAVING " mode, had to get output myself (this happend on 18748 +18748)
(7.46 well I can honestly say this has been an interesting shift, specially designed to keep me awake. We thought you'd like it)

8^{00} - 16^{00} Kado & Yamada on shift
8.37 missing LAM branch 1 crate 1. Vtx ch.
Run 18749 : Run summary was not saved. "PRINT out" was obtained by manual operation. See the NORD protocall

9.10 two times missing LAM br. 3, cr. 2
9.13 same br. 1, cr. 1

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ. $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT 2 $E_1 > 6$ GeV	T_2 BIT 17 $2T \cdot E_4 \cdot \Sigma 2TR$

9.20 run 18750 paused, to allow Matsumura to investigate the "chain-current-alarm problem"
9.37 continue run 18750 (Matsumura give up)
9.38 JDAS 33 missing LAM br.1, cr.1
" 33
9.40 ID hard trip "chain current" (watched by Matsumura and Riesberg !)
9.46 JDAS 33 missing LAM br.1, cr.1
9.42 run 18750 paused again on special request from Mr. Riesberg
9.58 continue run 18750
10.01 JDAS 46 MP-16 out of sequence YY=1
10.02 " 53 PARM=2 br.3 cr.6 ev. high 122 / 16, 1 (xcard row number, oct)
10.03 " 33 missing LAM br.1, cr.1
10.10 run stopped, again no run summary printing ! look to system console
Run 18751: only a few events (pedestals).
12.09 JDAS READOUT ERROR 53 - sys. crate watching flag on PARM=000024 (oct) CONZR
: 000000 000101 000000 003246 000000 000007 000001 177777
12.10 JDAS READOUT ERROR 33 missing LAM. each. 4 times !
12.14 Too many "Missing LAM" errors. (~20 times)
12.42 missing LAM error continues to bother. The run 18753 was stopped manually.
Starting a new run did NOT help cure the problem.
14.45 JDAS 46 MP-16 out of sequence, YY=Ø, Then no trigger → PAUSE, CONTINUE
→ NORD CRASH (level 8)
has the FAMP something to do with this crash ? Nevertheless it could not be switched on again, because there is no manual about it.
15.30 JDAS 33 missing LAM br.1, cr.1
15.40 JDAS 53 PARM=24 / 0, 101, 0, 2770, 0, 7, 2, -1
16.00 Fred Hochmuth and R. Felst on shift

17.00 JDAS error 33 Missing LAM Br.1 cr.1 (Vertex chamber)
17.15 Read glass HV supply mainframe 15 no response, Rome looks O.K., do nothing
17.20 JDAS error 33: missing LAM branch 1 crate 1 : //
JDAS " 53: System crate watching flag on h PARM=00024 (oct) CONZR: 000000 000101 000000 003734 000000 000007 000002 177777 : //
17.30 Beams dumped.
Run summary printed automatically (Howard had deleted a corrupted file).
Ved Rung up Level 8 ~~wrote~~ mark den gleichen Fehlermeldungen wie um 14.45
run summary list

Processors ON/OFF N50	MIP	TOF	FAMP	<L>	$\int Ldt$	$\int Ldt_{Exp}$	IBM TAPE OUTPUT	AT Run ID (μA)	Start TOF (V)	ONLINE REJECTION MIPROC (T_2)	ONLINE REJECTION NORD-50 ($T_1 T_2$)	Σ Blubby	MH	F BEAM	MAGNET FIELD	REMARKS

20.50 At end of run, run summary again had to be printed with human intervention.
It claimed device 5 was occupied / not available (even though it wasn't / was, respectively)

Occasional errors of following variety:
JDAS error 33 — Missing LAM Br 1 Cr 1 : Vertex chamber
" " 45 — MP-16 analysis incomplete ; YY=1
" " 53 — (see definition of fault on previous page).
None of these interrupt data taking and we ignore them.
also get JDAS error 74 (oct) suberror 101 (oct)

23.15 All run summaries must be "prompted" via NORD terminal.
The summary for 18763 printed 6 Records out whereas actual no. of records out was 4576

24/10/84
0:00 Kawagoe & Nye
Run summary appears to be printing as normal
0:30 Not "RECORD RUN" errors very often (~ 1 every 15 secs)
1:42 beam dumped
3:15 NORD-50 stopped - ~~exit~~ aborted & reloaded ok
4:00 NORD-10 stopped - level 8 - not sure why. - Restarted ok
Reloaded FAMP ok
Still JDAS ERRORS 33, 45 & 53 appear from time to time

8.00 Whittaker & Zorn

8.05 JDAS READOUT ERROR 33 Missing LAM branch 1 crate 1 : Vertex chamber — MESSAGE (A)
8.15 JDAS READOUT ERROR 53 - System crate watchdog flag on PARM=000024 (oct) — MESSAGE (B)
CONZR: 000000 000101 000000 005254 (a) 000000 000007 000001 177777
9.16 YPARA: PED CRT 2 CH 276 IS < 100, VALUE 50
YVOLTS: ERROR IN HV-SYSTEM, SUPPLY/MAINFRAME = 15
LG SYSTEM HV CONTR: NO RESPONSE
YVOLTS: LG DISTRIBUTOR 14 PRIMARY HV = 1.981 SHOULD BE 1.970
YVOLTS: TAG-MFR-BSCHAN = 0 HV = 0.003 SHOULD BE 1.336
" " " " 1 0.004 " " 1.445
:
10
TOO MANY WRONG CHANNELS: PRINTOUT STOPPED

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	$T\emptyset$ REJ. $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT 2 $E_1 > 6$ GeV	T_2 BIT 17 $2T \cdot E_{tr} \cdot \geq 2TR$
15															
168 RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	$T\emptyset$ REJ $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT 2 $E_1 > 6$ GeV	T_2 BIT 17 $2T \cdot E_{tr} \cdot \geq 2TR$
18752	23.10.84	18^{30}	18^{46}	5.8	5.6			452	248						
18760	"	18^{54}	19^{48}	5.61	5.42	26	3147	8002	4143	819	212	4018	5035	939	28
18761	"	19.53	20.49	4.91	4.73	17.7	3307	8001	3921	861	152	4513	4664	921	29
18762	"	20^{52}	21^{46}	4.32	4.17	15.8	3197	7271	3348	831	131	4338	4037	1145	25
18763	"	22^{25}	23.13	6.18	6.18	30.1	2833	8001	4576	737	222	3791	5217	936	25
18764	"	23^{13}	0:07	5.47	5.48	34.4	3211	8002	4521	835	237	3958	4769	954	18
18765	24/10/84	0^{09}	0^{57}	4.80	4.80	33.2	2875	8002	4442	747	248	5087	3368	2550	21
18766	"	0^{58}	1^{45}	4.29	4.30	27.2	2793	6237	3200	726	197	3705	3112	1010	20
18767	"	2^{17}	3^{11}	5.85	5.81	35.3	3178	8002	4573	826	29	3756	4905	857	25
18768	"	3.13	3^{15}	5.12	5.09	38.8	~~3118~~ 23	248	140	19	7	114	98	19	0
18769	"	3^{17}	3^{52}	5.07	5.04			5768	2845						
18770	"	4^{00}	5^{04}	4.61	4.58	31.8	3811	8002	4237	991	315	4208	4326	913	24
18771	"	5^{04}	5^{08}	4.03	4.01	31.0	189	441	223	49	15	259	188	47	1
18772	"	5^{39}	6^{32}	5.34	5.81	30.9	3142	8002	4476	817	252	3770	4981	827	30
18773	"	6^{41}	7^{35}	4.97	5.04	20.3	3227	8002	4141	840	171	4140	5028	894	41
18774	"	7.35	8.30	4.41	4.47	17.5	3271	7376	3585	852	149	4202	4289	865	22
18775	"	9.13	1004	6.27	6.23	32.5	3004	8002	4612	781	253	3535	5630	846	37
18776	"	10.12	10.38?	5.42	5.39	23.8		TRIG 5191?	IBM 2488?						
18777	"	10.52	11.28	4.93	4.90	20.4	1808	4530	2404	474	96	2475	2728	524	9
18778	"	11:34	11:38	4.48	4.45	14.6	201	475	426	52	7	235	316	63	3
18779	"	1343	1400	5.27	5.68	22.	1041	2651	~~2651~~ 1496	271	59	1223	1773	238	10
18780	"	1402	1454	5.54	5.45	21.9	2916	8002	4283	759	166	4095	4934	1140	26
18781	"	14.57	15.43	4.88	4.81	22.8	2733	6422	3283	711	162	3360	3908	687	17
18782	"	15.45	16^{04}	4.38	4.32	14.4	1074	2815	1357	280	40	1581	1562	341	15
18783	"	16.07	17^{03}	4.18	4.12	12.6	3332	7484	3636	867	109	4311	4450	819	26
18784															
18785		no evts													
18786	"	18:13	18:30	5.84	5.63	16.8	965	~~2708~~ 2708	~~1497~~ 1497	251	42	1352	1732	285	3
18787	"	1831	19^{27}	5.60	5.40	19.1	3069	8001	4233	749	152	4141	5056	849	1873 !
18788	"	19.28		4.90	4.71			~800	evts						
18789	"	19^{52}	19^{58}	4.65	4.47	14.5	357	943	480	93	13	544	513	107	2
18790	"	20^{45}	20^{49}	5.54	5.53	18.5	182	574	331	47	4	279	305	43	0
18791	"	21^{18}	21^{43}	6.11	6.12	27.0	1419	4097	2380	369	99	1805	2790	408	14
18792	"	2149		5.65	5.67	23.5	412	1224	722	107	25	561	845	135	2
18793	"	22^{22}	22^{40}	5.47	5.49	24.7	1018	3080	1688	265	65	1569	1534	523	14

Processors ON/OFF N50	MIP	TOF	FAMP	$\langle L \rangle$	$\int Ldt$	$\int Ldt_{Exp}$	IBM/TAPE OUTPUT	AT Run ID (μA)	Start TOF (V)	ONLINE REJECTION MIPROC (T_2)	NORD-50 ($T_1 \& T_2$)	$\sum$ Bhabha	MH	E_{beam}	MAG. FIELD	REMARKS
					0.27	2787,25	IBM	2.4	0.6							Nord hung up level 8 hammered hrd
On	On	On	off	2.33	9.17	2796,42	IBM	2.2	0.55	34	53	101	8	22,10	4183	
"	"	"	"	2.38	7.87	2804,29	"	2.0	0.48	39	55	74	5	"	4186	
"	"	"	"	1.98	5.72	2810,01	"	2.0	0.41	40	58	63	8	"	4192	beam dumped
"	"	"	ON	3.62	10.24	2820.25	"	2,5	0.65	36	48	94	10	"	4203	
"	"	"	"	2.54	8.15	2828.40	"	2.2	0.56	38	50	104	36	"	4183	
"	"	"	"	2.15	6.19	2834,59	"			39	50	83	39	"	4.18	
"	"	"	"	1.90	5.30	2839,89	"	1.8	0.42	43	55	52	21	"	4155	beam dumped
"	"	"	"	2.82	8.64	2848,53	"	2.3	0.64	34	49	107	29	"	4171	
"	"	"	"	0.22	0.16	2848,69	"	2.1	0.5	12	54	2	1	"	4167	
"	"	"	ON	2.20	4.70	2853.39	"	2.1	0.5	18	45			"	4168	NORD 10 CRASHED LIVE
"	"	"	OFF	1.92	7.31	2860,70	"	1.8	0.4	39	54	77	59	"	4187	
"	"	"	"	1.34	0.25	2860,95	"	1.8	0.4	35	58	3	2	"	4.190	beam dumped
"	"	"	ON	2.80	8.80	2869,75	"	2.4	0.60	35	50	91	28	"	4179	
"	"	"	"	2.44	7.88	2877.63	"	2.1	0.50	37	53	76	9	"	4158	
"	"	"	"	2.07	6.76	2884.39	"	1.8	0.43	40	56	74	15	"	4183	beam dumped
"	"	"	"	2.49	~~2.48~~	2891,86	"	2.4	0.68	36	47	109	10	"	4195	
"	"	"	"	2.96	4.81	2896.67	"	2.0	0.60					"	4181	NORD HUNG UP lev 8
"	"	"	OFF	2.58	4.66	2901.33	"	1.8	0.50	39	51	50	9	"	4184	Tagging Chrs HV off.
"	"	"	ON	0	118 Bhabha	2902.57	"			39	58	13	1	"	4165	
"	"	"	"	2.93	3.05	2905.56	"	2.1	0.55	37	49	29	7	"	4161	Change in Vertex Ch. Program
"	"	"	"	3.19	9.31 dead	2914.87	"	1.6	0.50	36	51	110	12	"	4161	
"	"	"	"	2.23	6.90	2921.77	"	~~1.9~~ ?	~~0.45~~ ?	37	54	76	2	"	4167	Test version of NORD-prog
"	"	"	"	2.39	2.56	2924,33	"	1.9	0.45	36	56	35	0	"	4164	" " " " "
"	"	"	"	1.97	6.58	2930,91	"	1.7	0.43	42	56	72	4	"	4174	
								~~2.3~~ 2.3	~~0.60~~ 0.60							} no evts !
								~~2.2~~ 2.2	~~0.58~~ 0.58							
ON	ON	ON	OFF	3.50	3.37	2934.28	IBM	2.2	0.58	36	49	41	3	22,00	4161	
"	"	"	ON	2.96	9.08	2943.36	"	2.1	0.57	38	52	105	8	"	4167	
"	"	"	"		≈ 0,8		"	1.8	0.50					"		Nord hung up, L=8
"	"	"	"	2.42	0.86	2945.02	"	1,7	0,5	37	53	9	0	"	4153	beams lost
"	"	"	"	4.11	0.75	2945.77	"	2.1	0.58	30	49	6	0	"	4181	beams lost
"	"	"	OFF	3.48	4,93	2950,70	"	2.1	0.65	34	47	56	1	"	4158	FAMP off
"	"	"	"	3.59	1.48	2952.18	"	"	0,6	38	46	14	1	"	4165	"
"	"	"	"	3.08	3.13	2955,31	"	2.1	0,55	38	50	34	2	"	4171	"

→ continue next page <

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $*10^6$	TØ REJ. $*10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT 2 $E_1 > 6$ GeV	T_2 BIT 17 $2T \cdot E_L \cdot \geq 2TR$

Processors ON/OFF N50	MIP	TOF	FAMP	<L>	$\int Ldt$	$\int Ldt$ Exp	IBM TAPE OUTPUT	AT Run ID (nA)	Start TOF (V)	ONLINE REJECTION MIPROC (T_2)	ONLINE REJECTION NORD-50 ($T_1 T_2$)	Σ Beabag	MH	F_{BEAM}	MAGNET FIELD	REMARKS

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24/10/84

9.16 CONTD. We tried to reset MAINFRAME 63 CHANNELS 0 + 1 ONLINE. This gave the messages:
YVOLTS: MAINFRAME 63 CHANNEL 0 DOES NOT REQUIRE RESETTING.
" " " " 1 " "
However MAINFRAME 63 was found to be switched off so why did we get these messages ?? because while mfr was off — not wrong voltages
9.25 MFR 63 switched on and errors acknowledged.
9.30 - 9.35 MESSAGE A / MESSAGE B a = 003572 / MESSAGE A / MESSAGE B a = 003040 / See page 167
9.38.18 ERROR 37; 10X ERROR
ADDRESS: 71102; LEVEL (DEC.): 8
9.50 YVOLTS: ERROR IN HV-SYSTEM, SUPPLY/MAINFRAME = 15
LG SYSTEM HV CONTR: NO RESPONSE
YVOLTS: LG DISTRIBUTOR 14 PRIMARY HV = 1.981 SHOULD BE 1.970
'NO TRIGGERS' — found 'EVENT ACCEPTED' light was permanently on. PAUSE/CONTINUE
Reffened again — PAUSE/CONTINUE — seemed to clear it.
Reffened again " " " " " "
9.55 MESSAGE B a = 003760 / MESSAGE A / See page 167
10.04 ERROR 31 IN 35013 AT 100; PERMIT VIOLATION
10.13 YPARA 24: PED CRT 2 CH 276 IS < 100, VALUE 50
YVOLTS: ERROR IN HV-SYSTEM, SUPPLY/MAINFRAME = 15
LG SYSTEM HV CONTR: NO RESPONSE
YVOLTS: LG DISTRIBUTOR 14 PRIMARY HV = 1.981 SHOULD BE 1.970

YRUNSM reloaded. It had been printing "permit violation" on system console but it appears that no-one read this. Todays problem is different from the corrupt file of yesterday.

10.40 NO TRIGGERS — PAUSE/CONTINUE — didn't change anything — EVENT ACCEPTED light stayed on.
PAUSE again — NORD hung up.
RESTARTED NORD.
10.52 YPARA 24 PED CRT 2 CH 276 IS < 100, VALUE 50
YVOLTS: ERROR IN HV-SYSTEM, SUPPLY/MAINFRAME = 15] REPEATED.
LG SYSTEM HV CONTR: NO RESPONSE
Z-CHAMBER WATER ALARM WAS ON — ALMOST IMPERCEPTABLE — about 2% INCREASE IN NOISE in the immediate vicinity — cannot hear it from the control room at all. Richard Hedgelock is very called Dan Blanke. — seems to be an old problem.
11.00 IDAS READOUT ERROR 33 — Missing LAM board 3 crate 2. Muon chambers.
~~MESSAGE~~

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11.01 MESSAGE A See page 167
11.02 IDAS READOUT ERROR 000074 (oct) SUBERROR 000101 (oct)
11.06 Slow trip.
11.40 YPARA 24: PED CRT 2 CH 276 IS < 100, VALUE 50
YVOLTS: ERROR IN HV-SYSTEM, SUPPLY/MAINFRAME = 15
LG SYSTEM HV CONTR: NO RESPONSE
YVOLTS: LG DISTRIBUTOR 14 PRIMARY HV = 1.981 SHOULD BE 1.970
YVOLTS: TAG - MFR = 61 CHAN = 0 HV = 0.001 SHOULD BE 1.315 RESET THIS CHANNEL (via IDAS —
" " " 1 0.001 " 1.265 " "
10
TOO MANY WRONG CHANNELS, PRINTOUT STOPPED

Tried to reset — as in messages

Didn't work

!ENTRY OF LAMDAT 18
—— WAITING 1SECONDS ——
WAITING FOR LAM 0 1 1
LAMS 0 1 1
LAMDAT WORDS 1 11
" " 2 9
FINISHED READING AT WORDCOUNT 25
RST RESP OPSNG -2085 -3072 976 11
—— WAITING 1SECONDS ——
!ENTRY OF LAMDAT 5
—— WAITING 1SECONDS ——
WAITING FOR LAM 0 1 1
LAMS 0 1 1
LAMDAT WORDS 1 9
2 9
3 9
4 9
5 9
FINISHED READING AT WORDCOUNT 26
STATUS 26 1 985
FAILED CHANNEL RESPONSE FOR CHANNEL 0
1
24
STATUS OF MAINFRAME 61
HV IS ON
BOXED MESSAGES ABOVE REPEATED

RUN	DATE	START	STOP	AT RUN START I+	AT RUN START I-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL *10^6	TØ REJ. *10^6	T1 ACC SUM	T2 ACC SUM	T1 BIT2 E>6GeV	T2 BIT 17 2T·E1·≥2TR

12.00 Tried to reset MFR 61 – by hand – Didn't work.
Couldn't find Nye or Wagner. Eventually got Beate.
12.05 Noticed FAMP off – switched back on during injection.

13.13 TAG mainframe 61 failed completely,
Changed to a new unit. Please let me know any new problems.
B. Nordahl

13.40 More HV errors but apparently spurious. – Jan Olsson is trying to trace problem.

new VTXCH HV :
DV : 1400
AV : 1400
current run is 18779 (HV)

14:08 Vertex Ch. trip – Noise Problem.

14:00 Program for VTXC-beamvars changed. C.K.

15:15 – 2) HV & 3) HV errors: – Sidedue to Pb Glass HV-Mainframe 11+15.
15:28 2) HV & 3) HV errors! (not 3 then 2) same as above.
15:25 Trigger ~~Level~~ box Level 5 error –

16 00 Bethke, Schneekloth on shift

Changes to Nord-50 program.
The number of 'SUPER-LEADGLASS' events has increased recently. Each of these takes several seconds computer time in the Nord-50 due to the LG cluster analysis – there are many fired blocks (hundreds) and many clusters.
So Nord-50 program changed to avoid LG analysis if more than ~~300~~ 250 LG barrel hits. If there are more than 500 LG hits in total OR the sum of the barrel hits energy's are >50 GeV the event is flagged for rejection BUT is NOT yet rejected.

Events with 7200 LG barrel hits cause a message on the colour TV.

The effect is that the deadtime has clearly improved and that the N50 BUSY warning does not seem to appear. The above figures will probably be adjusted in the light of experience. 'Working' version Run 18783 =>
HEIT

Processors ON/OFF N50	MIP	TOF	FAMP	<L>	∫Ldt	∫Ldt Exp	IBM TAPE OUTPUT	AT Run ID (nA)	Start TOF (V)	ONLINE REJECTION MIPROC (T2)	NORD-50 (T1·T2)	Σ Bhabha	MH	F BEAM	MAGNET FIELD	REMARKS

16.37 JDAS READOUT ERROR 46 – MP16 out of sequence; YY=0
16.47 " " " 74 – wrong LAM branch 1 crate 1 : Vertex Chamber
16.49 " " " 33 Missing LAM 1 1 "
16.50 " " " 74 Wrong " 1 1 "

YVOLTS – the HVLIB belonging to TOTSUKA altered to retry camac accesses 30 times rather than 10. This may cause the read errors to go away (HEIT)

18.00 Beams ready, start run 18784 → run stops during "pedestals": N50: 9 N50: 5
18.30 H.M. reloaded Nord, played with software ... we are running again.
18.39 ID soft, Vx-ch. hard trip, TOF-Rate → 2 V
PKR: "Sendeanspall"
After few minutes: background ok. again, ~~start~~ continue run
19.35 Nord hang up, level 8, restart it (forgot to write numbers down from screen; ~ 800 evts were in this run.
R 18789 IBM on-line job check error 2 if this occurs, note!
19.57 beams lost
20.45 new fill, started run 18790
20.48 ID soft trip, VTXCH hard trip
20.49 beams lost
21.15 new fill, start run 18791, FAMP off
21.30 A test version of readout program, with additional debug print for the Level 8 hangups, was loaded. This version cannot run with FAMP, for unknown reasons. (Gives Level 7 hangup, and protect violation; maybe size problem). The old readout was put in again, for the night. J.O.
VVOLTS: HV Supply 15 print: Will be checked tomorrow. Seems harmless, since all blocks respond in other HV check program (LG2 TESTHV). A small program difference may be the cause, will be seen tomorrow ... J.O.
22.17 no triggers, pause – continue run didn't help, started new run 18794
23.11 beams lost VTXCH tripped

0.00 Thursday 25/10/84 Michael Kuhlen & Fred Loebinger

00.40 Nord 50 Stops.
About Nord 50 [AB-50?] & start new run.

01.07 Beams lost

RUN	DATE	START	STOP	AT RUN START I+	AT RUN START I−	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL *10⁶	TØ REJ. *10⁶	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT 2 E_1>6 GeV	T_2 BIT 17 2T·E_4·2TR
18794	24/10/84	22:31	23.11	5.22	5.24	20.4	2900	7869	4226	755	154	3996	4962	865	28
18795	"	23:45	0.36	5.80	5.13	16.6	2991	8002	4285	777	129	4076	5063	915	24
18796	25/10/84	0.36	0.41	5.22	4.59	17.6	189	686	396	49	8.7	349	302	86	2
18797	"	0.47	1.08	5.10	4.48	15.8	1194	3118	1700	310	49	1611	1840	356	17
18798	"	1.49	2.35	6.42	6.32	27.5	2631	8001	4611	684	188	3563	5342	810	26
18799	"	2.39	3.25	5.65	5.56	23.1	2745	8002	4597	713	165	3822	5304	918	24
18800	"	3.25	3.41	5.03	4.95	17.1	968	2630	1420	252	43	1378	1639	343	6
18801	"	4.25	5.09	6.45	6.41	35.0	2573	8001	4845	669	234	3356	5493	852	33
18802	"	5.09	5.55	5.77	5.74	29.7	2610	8002	4714	678477	201	3580	5260	895	36
18803	"	5.55	6.46	5.14	5.12	17.1	2901	8002	4355	755	129	4132	5207	965	29
18804	"	6.46	6.54	4.56	4.55	12.8	223	678	335	58	7.4	353	375	84	4
18805	"	18:27	6/11/84 6.36	5.14	6.36	30.2	1144	3876	2445	298	90	2053	2586	1014	83
18806	"	CRAP TEST RUN WRITTEN													
18807	"	12:08	12:58	4.56	5.66	18.3	3013	8002	4554	784	146	3968	4877	922	24
18808	"	12:59	13:27	3.96	4.94	25.2	1637	3782	2042	426	107	1988	2180	442	21
18809	"	13:37	13:43	3.58	4.48	20.7	313	798	394	82	17	450	407	105	21
18810	"	13:47	14:08	3.48	4.37	13.4	1203	2926	1480	313	42	1563	1630	334	10
18811	"	15.57	16.40	5.94	5.69	21.0	2355	6861	4014	613	129	3239	3987	667	22
18812	"	16.50	17.39	5.26	5.03	18.4	2884	8002	4481	751	138	3902	4716	878	27
18813	"	17.40	17.48	4.71	4.49	14.2	481	1335	715	125	18	712	718	143	4
18814	"	17.50	18.46	4.60	4.39	12.9	3306	8002	4093	860	111	4481	4557	894	24
18815	"	18.46	19.47	4.09	3.89	12.6	3608	8002	3859	939	119	4765	4364	904	20
18816	"	19:49	19:51	3.62	3.44	9.4	89	222	108	23	2	127	103	26	3
18818	"	20.33	21.28	6.52	6.03	34.7	2583	8002	4779	672	233	3237	5679	776	25
18819	"	21:29	22:20	5.62	5.72	26.7	2667	8002	4581	694	185	3782	5208	989	214
18820	"	22:20	23:22	4.91	5.01	19.5	3051	8002	4299	794	155	4357	4813	1004	35
18821	"	23:22	23:33	4.24	4.34	12.3	601	1451	722	156	19	813	896	196	4
18822	26.10.84	2:55	4:24	5.24	5.76	18.4	3026	8002	4499	788	145	4053	4463	799	28
18823	"	4:24	4:54	4.73	4.84	15.5	1769	4507	2412	461	71	2409	2488	557	18
18824	"	5:30	5:38	3.81	4.29	11.0	412	956	477	107	12	571	526	113	1
18825	"	7.57	8.44	5.85	5.93	18.8	2810	8002	4539	731	137	3825	5152	769	26
18826	"	8.44	9.33	5.23	5.32	18.1	2914	8002	4428	758	137	4018	4958	853	31
18827	"	9.34	9.56	4.64	4.73	13.5	1285	3231	1626	335	45	1782	1955	370	12
18828	"	10.07	10.24	4.25	4.37	14.2	929	2425	1238	242	34	1326	1349	265	9

Processors N50	Processors MIP	Processors TOF	Processors Fanp	<L>	∫Ldt	∫Ldt Exp	IBM/Tape OUTPUT	AT Run ID (nA)	Start TOF (V)	Online Rejection MIPROC (T_2)	Online Rejection NORD50 (T_1·T_2)	Σ Bhabha	MH	E_{Beam}	Magnet Field	REMARKS
ON	ON	ON	OFF	2.86	8.30	2963.61	IBM	2.0	0.54	38	51	96	3	22.100	4171	beams lost
"	"	"	ON	2.58	7.71	2971.32	"	2.1	0.6	38	51	96	0	"	4174	
"	"	"	"	2.52	0.48	2971.80	"	1.8	0.50	24	50	7	0	"	4199	Nord 50 crash.
"	"	"	"	2.51	3.00	2974.80	"	1.8	0.50	40	52	30	2	"	4155	Beams lost.
"	"	"	"	3.58	9.41	2984.21	"	2.4	0.70	34	48	85	6	"	4203	
"	"	"	"	3.10	8.51	2992.72	"	2.1	0.60	37	48	100	2	"	4198	
"	"	"	"	2.94	2.85	2995.57	"	1.8	0.50	38	51	36	0	"	4208	Beams lost
"	"	"	"	3.13	8.07	3003.64	"	2.4	0.70	35	46	104	2	"	4184	
"	"	"	"	2.78	7.25	3010.89	"	2.1	0.60	36	47	91	4	22.100	4188	
"	"	"	"	2.75	7.98	3018.87	"	1.8	0.55	40	50	92	2	"	4158	
"	"	"	"	2.50	0.56	3019.43	"	1.8	0.50	30	56	8	0	"	4177	Beams lost
"	"	"	"	2.74	3.13		"			50	45	38	3	"	4165	Both CRAP due to trigger anomalies
TO TAPE									V34	Power Path failure & DL8 not present						
ON	ON	ON	OFF	2.80	8.43	3027.86	IBM	1.8	0.70	38	49	81	11	"	4171	This run was also written to Tape F47137 (for testing purpose)
"	"	"	"	1.98	3.24	3031.10	"			42	53	32	2	"	4174	
"	"	"	OFF	1.81	0.57	3031.67	"			54	56	6	1	"	4172	No vertexchamber.
"	"	"	ON	2.09	2.51	3034.18	"	1.7	0.55	44	52	31	1	"	4175	
"	"	"	"	3.58	8.72 (Bhabha)	3043.60	"	2.2	2.58	35	49	96	9	"	4166	
"	"	"	"	2.91	9.90	3053.50	"	2.2	0.52	36%	51%	109	5	"	4165	
"	"	"	"	2.65	1.91	3055.41	"	2.0	0.46	33	52	21	0	"	4137	
"	"	"	"	2.32	8.17 (Bhabha)	3063.58	"	2.0	0.41	40	54	90	2	"	4175	
"	"	"	"	1.98	5.81	3069.39	"	1.8	0.39	40	57	64	5	"	4163	
"	"	"	"	1.61	0.54	3069.93	"			—	57	6	0	"	4139	18817 does not exist
"	"	"	"	2.93	6.54 (Bhabha)	3076.47	"	2.4	0.75	34	46	72	6	"	4176	
"	"	"	"	2.79	8.81	3085.28	"	2.0	0.65	39	49	97	2	"	4192	
"	"	"	"	2.51	7.66	3092.94	"	2.0	0.55	40	52	89	4	"	4166	
"	"	"	"	2.27	1.36	3094.30	"			41	54	20	0	"	4194	Beams lost.
"	"	"	"	2.36	7.15	3101.45	"	2.2	0.60	38	51	71	2	"	4170	
"	"	"	"	2.09	3.69	3105.14	"	1.8	0.40	39	54	85	4	"	4164	
"	"	"	"	1.96	0.81	3105.95	"	1.6	0.35	41	54	12	0	"	4189	
"	"	"	"	3.65	10.25	3116.20	"	2.3	0.6	35	48	106	6	"	4184	
"	"	"	"	3.15	9.19	3125.39	"	2.0	0.50	37	45	120	4	"	4174	
"	"	"	"	2.94	3.78	3129.17	"	2.0	0.46	37	53	47	0	"	4179	
"	"	"	"	2.66	2.47	3131.64	"	1.8	0.44	35	54	26	1	"	4183	

RUN	DATE	START	STOP	AT RUN START I+	AT RUN START I-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL *10^6	TØ REJ. *10^6	T1 ACC SUM	T2 ACC SUM	T1 BIT2 E>6GeV	T2 BIT 17 2T·EL·Σ2TR

01.50 Vertex chamber trip – reset OK.
03.40 Beams lost
05.10 Vertex chamber trip – reset OK.
+06.15
+07.45

Throughout night shift "normal" errors i.e. JDAS readout errors 33, 46, 74 & Pb glass HV. mainframe 11 & 15 happened quite frequently, but without obvious detriment

06.20 HV. error message says may tagging volts wrong (all on MFR 61). Checked manually and all found to be at correct voltages.

07.50 Beams lost.

8.00 Nye + Kado on shift

9.20 Jan Olsson's testversion of the readout program was loaded again (see page 173) so FAMP has to stay OFF!

12:00 Runs 18805 & 18806 : Power pack on V34 's failed - data useless because of trigger anomalies caused by this.

N.B. YVOLTS ERROR MSG for MAINFRAME 61 : ± 30V
If the values are only slightly wrong then ignore this message. This is due to oscillating HV channels - will be fixed soon! JMNye

FIXED! DON'T IGNORE THEM ANY LONGER.

12:49 JDAS 46 MP-16 out of sequence, YY = Ø
12:58 JDAS 33 missing LAM br. 1, cr. 1
13:00 every 3 minutes on colour TV : LG Barrel > 250 Hits
13.15 JDAS 33 missing LAM br 3, cr 2
13:16 " " " " " "
13:17 " " " " " " /again 13:22
14 07 Z-chamber was on during beam dump. Where is the shift crew ?!!
13:30 problem with Vtx chamber : short circuit in HV distribution box. After switching on and off 3 times it works again !? probably a hanging HV-relay was the reason. If this happens again we will exchange it. (HV)
→ run 18809 without Vertexchamber ←

Processors ON/OFF N50	MIP	TOF	FAMP	<L>	∫Ldt	∫Ldt Exp	IBM TAPE OUTPUT	AT Run ID (nA)	Start TOF (V)	ONLINE REJECTION MIPROC (T2)	NORD-50 (T1·T2)	Σ Bhabha	MH	F BEAM	MAGNET FIELD	REMARKS

15.00 Tagging HV, MFR 61 repaired (1 slope) - any trouble with it — phone John Nye.
16.00 Whittaker & Kines

16.40 Vertex chamber caused ~~voltage~~ trip. Reset ~~ring~~ unit in rucksack & ran it again.
16.45 Heatshield alarm came on in hardware room. Reset – OK. (Gould plotter is dodgy — had 3 attempts to get a readable run summary)
16.58 JDAS READOUT ERROR 33 – missing LAM branch 3 crate 2 : muon chambers
17.15 We have 4 error messages on the control screen :
→ JDAS READOUT ERROR 33 - missing LAM branch 3 crate 2 : Muon chambers] occurs 3 times
" " " " " " 1 1 : Vertex chamber – once.
17.25 And again
Watching the flashing lights on branch 3 crate 2 — sometimes the middle row of lights stick on for a few seconds. Not always all of them. Also the heatshield alarm often trips on when this happens!
17.43 JDAS Read out error 53 – Syst crate watchdog flag on PARM = 000002
18.51 JDAS Readout error 46 – MP-16 out of sequence : YY = 1.
19.00 YSPY error - Muon digitisers missing : 143 144 146 147 149 150 152 153
19.15 " " " " " " " " " " " " " " " "
19.17 JDAS readout error 53 / HV read error.
19.18 MUON CRATE MISSING / FAULTY PART : 13 Have been on the show screen for some time.
19.24 No triggers – Event accepted light permanently on – pause / continue cleared the problem. (cured by resetting crate FKL)
19.31 Again
21.10 Vertex chamber HV went down
21.42 Vertex chamber tripped again
22.34 " " " "
22.45 " " " " , and ID Jet chamber tripped
23 ~ JDAS Read out error 53 and 33 keep occurring, with a rate of ~ 1 per 15 minutes
23.15 Vertex chamber tripped
23.30 Beams lost HV alarm / anode current alarm fired — the anode current alarm wouldn't reset, finally it was reset by pressing stop/start/single/reset in random order. The vertex chamber alarm was on in the ~~control~~ hardware room but not in the rucksack. The vertex chamber anode current meter was off the scale in the hardware room but the digital voltmeter in the rucksack was reading zero ??!!

0:00 26.10.84 Kleinert + Tabarelli
shot beam (water leakage)

RUN	DATE	START	STOP	AT RUN START I+	AT RUN START I-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL *10^6	TØ REJ. *10^6	T1 ACC SUM	T2 ACC SUM	T1 BIT2 E1>6GeV	T2 BIT 17 2T·E4·≥2TR

2:00 Injection
2:50 beams ready
3:00 VTXC - hardtrip
3:10 "
3:15 " (new background optimization) 3:19 VTXC hardtrip again → Background optimization
3:43 Run continued
3:47 JDAS 33 Missing Lam Br. 3 Cr. 2 Muon Chambers
3:55 " " 1 1 VTXC
4:31 " " " " 4:39 again
4:35 During Run 18823 LG-HV overflow occurred at HV-Power Supply #3 (DIST #4). We pulled out about 60 cables and finally found one ~~dead~~ source of over current. This is 14-T-2 DIST4 ch43.

08.00 26/10/84 Dieter Haidt & Fred Loebinger.

08.45 µ crate 13 missing at start of run — had to be reset at crate (reset of corner unit in hardware room did not help).
09.00 IBM error 54 flashes on TV screen but no error message on VDU and normal data taking continues with events being transferred to IBM & DISC usage increasing normally.
This message gets overwritten by 'display searching for data run' on "wrong" (i.e. right-hand side) of TV screen.

09.56 Run stopped to (:) Rebuild Colour TV program
(::) " data reading tasks (Jan O). — for testing.
(:::) Exchange a DL8 (H. Rieckberg) #43, wires 344-351 because of illegal bits

10.00 All above done and normal run restarted.
10.25 Jan Olsson loads another new version of data reading tasks.
11.00 Continuous missing LAM for vertex chamber. Microprocessors need to be reloaded so stop run.
11.15 " " " " " " " " " " " "
12.50 Vertex chamber hard trip.
13.00 Beams lost
14.45 µ Crate 13 missing reset at crate.
15.25 Run stopped for Jan O to load new test prog + NORD. — FAMP off for next run (18835)

Processors ON/OFF N50	MIP	TOF	FAMP	<L>	∫Ldt	∫Ldt Exp	IBM TAPE OUTPUT	AT Run ID (nA)	Start TOF (V)	ONLINE REJECTION MIPROC (T2)	NORD-50 (T1·T2)	Σ Bruchteil	MH	F BEAM	MAGNET FIELD	REMARKS

14.10 Vertex chamber hard trip.

16.00 26/10/84 Ambrus & Hagemann

16.15 Vertex chamber HV-problem
16.28 Run 18837 without vertex chamber
16.31 JDAS - Readout Error 33 - Missing LAM branch 3 crate 2: Muon chambers
18.41 Vertex chamber hard trip + jet chamber ~~hard~~ soft trip
19.36 JDAS - Readout Error 33 - Missing LAM branch 1 crate 1: Vertex Chamber
" " " 45 - MP-16 analysis incomplete ; YY=1
19.37 Vertex chamber hard trip
19.43 JDAS - Readout Error 33 - Missing LAM branch 1 crate 1: Vertex chamber
20.00 " " " " " " " " " "
20.18 " " " " " " " " " "
" " " 53 - System crate watch dog flag on PARM = 000024 (oct)

COUZR :

177777	177777	177777	177777	177777
177777	067563	067563	000002	000024

20.39 → again

20.49 JDAS Readout Error 33 - missing LAM branch 2 crate 4: TOF2 counters
20.53 " " " 33 " " branch 1 crate 1: Vertex chamber
20.59 " " " 33 - missing LAM " 3 " 2: Muon chambers
21.00 The recent YVOLTS errors were found to be due to a bad connection on distributor-driver-module
22.33 Vertex chamber hard trip 30/T.T
22.39 "
22.51 "

27/10/84 0^00 — 8^00 R. Felst + S. Yamada
0.07 VTX ch. trip.
0.45 several hard VTX ch trips, but no indication of high currents in the meter, pickups? TTTK II

RUN	DATE	START	STOP	AT RUN START I⁺	AT RUN START I⁻	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL *10⁶	TØ REJ. *10⁶	T₁ ACC SUM	T₂ ACC SUM	T₁ BIT2 E₁ >6GeV	T₂ BIT 17 2T. E₄ .>2TR
180															
18829	26/10/84	10.29	10.59	4.04	4.17	13.8	1793	4292	2185	467	64	2521	2346	531	11
18830	"	11.02	11.16	3.75	3.88	12.5	783	1787	924	204	26	1046	981	231	8
18831	"	11.17	12.00	3.63	3.76	10.3	2555	5256	2433	666	69	3273	3061	636	17
18832	"	12.51	13.03	5.69	4.30	16.8	568	1339	1213	148	25	677	834	137	6
18833	"	13.57	14.47	5.43	5.86	15.4	2977	8002	4353	775	120	4256	4760	907	22
18834	"	14.47	15.24	4.80	5.20	14.1	2098	5424	2866	546	79	2998	3270	648	17
18835	"	15.28	15.36	4.35	4.74	13.4	456	1090	579	119	16	618	658	109	3
18836	"	15.36	16.11	4.27	4.65	12.9	2065	4898	2474	538	69	2822	2900	587	18
18837	"	16.29	17.30	3.78	4.14	8.5	3612	7607	3412	941	80	4918	4556	988	23
18838	"	18.06	18.40	6.29	6.38	20.1	2006	5874	3148	523	105	2969	4184	792	22
18839	"	18.41	19.29	5.76	5.85	23.6	2629	8001	4476	684	162	3782	5128	876	33
18840	"	19.37	20.33	4.98	5.07	17.3	3002	8002	4230	781	135	4214	4941	986	29
18841	"	20.34	21.29	4.30	4.39	14.3	3277	8002	4290	853	122	4573	4828	1027	33
18842	"	21.29	21.49	3.77	3.86	13.2	1172	2785	1415	305	40	1613	1566	345	11
18843	"	22.11	23.18	6.22	6.11	24.1	9071	8001	4558	709	171	3684	5383	595	20
18844	27.10.84	23.21	0 52	5.30	5.26	15.8	2989	8002	4168	777	123	4286	5703	1008	25
18845	"	0 52	1 32	4.11	4.03	14.5	2093	4857	2370	544	79	2884	2876	658	19
18846	"	2 14	3 11	5.59	4.65	14.7	3703	8002	4199	806	118	4256	5133	928	30
18847	"	3 12	4 18	4.87	4.10	13.9	3293	8002	4142	856	114	4387	4808	949	27
18848	"	4 18	5 01	4.37	3.68	12.4	2260	5291	2598	588	73	3121	2948	661	11
18849	"	5 29	6 26	6.10	6.26	25.3	2667	8002	4920	674	126	3656	5175	908	38
18850	"	6 27	7 11	5.23	5.43	23.5	1033	3375	2031	269	63	1834	1907	690	8
18851	"	8 37	9 26	6.11	5.49	18.2	2918	8002	4633	760	139	3864	5240	841	32
18852	"	9 26	10 27	4.63	4.40	12.1	3621	8002	3694	942	114	4542	4961	814	29
18853	"	10:28	10:34	3.62	3.53	12.2	334	811	397	87	10	478	435	73	1
18854	"	11:03	11:59	5.78	6.27	26.0	2680	8002	4630	698	182	3619	5396	875	26
18855	"	11:59	12:51	5.03	5.49	20.8	2791	8001	4634	726	151	3965	5055	978	25
18856	"														
18857				RUN's stopped after 9 events — FAMP hangup !?											
18858															
18859	"	13:07	13:55	4.26	4.68	19.3	2592	7811	4120	674	130	4897	3898	2240 ?	27
18860	"	14.27	14:48	6.03	6.23	31.4	970	2809	1689	252	79	1220	1869	332	11
18861	"	14.48	15:46	5.74	5.94	33.7	3016	8002	4690	785	264	3752	5426	1023	26
18862	"	15:45	16:42	5.02	5.22	19.2	2970	8002	4452	772	148	4146	5399	1049	32

Processors ON/OFF N50	MIP	TOF	FAMP	⟨L⟩	∫Ldt	∫Ldt Exp	IBM/TAPE OUTPUT	AT RUN START ID (μA)	AT RUN START TOF (V)	ONLINE REJECTION MIPROC (T₂)	ONLINE REJECTION NORD-50 (T₁·T₂)	Σ Bhabha	MH	E Beam	MAG FIELD	REMARKS
																181
ON	ON	ON	ON	2.19	3.92	3135.56	IBM	1.6	0.42	42	54	51	1	22.100	485	
"	"	"	"	1.94	1.52	3137.08	"	1.6	0.40	43	54	16	0	"	477	
"	"	"	"	1.82	4.64	3141.72	"	1.5	0.37	46	57	60	2	"	475	Beams dumped.
"	"	"	"	1.91	1.09	3142.81	"			36	54	17	0	"	4148	Beam lost — NO E chamber
"	"	"	"	3.67	10.94	3153.75	"	2.2	0.6	36	50	129	4	"	4181	
"	"	"	"	2.99	6.68	3160.03	"	2.0	0.5	38	51	74	5	"	4187	
"	"	"	OFF	2.92	1.33	3161.36	"	1.8	0.45	42	51	18	1	"	4180	
"	"	"	ON	2.40	4.95	3166.31	"	1.8	0.45	40	53	64	3	"	4183	Run stopped due to VTX-HV-problem beams dumped
"	"	"	"	2.01	7.26	3173.57	"	1.6	0.40	46	57	89	3	"	4190	Run without vertex chamber
"	"	"	"	3.42	6.86	3180.43	"	2.4	0.75	40	50	71	4	"	4183	Run without vertexchamber
"	"	"	"	2.98	7.85	3188.28	"	2.2	0.63	35	50	98	2	"	4186	Vertex chamber on
"	"	"	"	2.75	8.26	3196.54	"	2.0	0.55	37	52	92	1	"	4180	
"	"	"	"	2.24	7.34	3203.88	"	1.8	0.49	42	50	94	3	"	4174	
"	"	"	"	1.99	2.33	3206.21	"	1.6	0.42	43	55	26	0	"	4168	beams dumped
"	"	"	"	3.39	9.23	3215.44	"	2.3	0.74	36	48	97	0	"	4170	
"	"	"	"	2.56	7.65	3223.09	"	2.0	0.58	35	40	76	2	"	4171	
"	"	"	"	1.86	4.07	3227.16	"	1.5	0.50	36	37	35	2	"	4177	beams dumped
"	"	"	"	2.65	8.17	3235.33	"	1.8	0.57	34	39	90	5	"	4159	
"	"	"	"	1.94	6.72	3242.05	"	1.8	0.44	41	54	74	2	"	4162	
"	"	"	"	1.77	4.00	3246.05	"	1.5	0.40	44	56	43	0	"	4167	beams dumped
"	"	"	"	3.49	9.90	3255.95	"	2.2	0.65	44	35	116	3	"	4156	
"	"	"	"	2.95	3.05	3259.00	"	2.0	0.58	36	44	42	2	"	4145	beams dumped.
"	"	"	"	3.33	8.99	3267.99	"	2.0	0.62	37	53	99	6	zap! 82	4178	
"	"	"	"	1.73	4.55	3272.54	"	1.8	0.40	42	56	50	2	"	4183	
"	"	"	"	1.76	0.59	3273.13	"	1.4	0.35	40	57	9	1	22100	4185	beams dumped
"	"	"	"	3.38	10.62	3283.75	"	2.2	0.64	35	53	117	1	"	4185	
"	"	"	"	2.96	8.26	3292.01	"	2.0	0.60	38	53	91	0	"	4198	
								1.8	0.55						4178	
"	"	"	off	2.25	5.83	3297.84	"	1.8	0.50	42	43	71	2	"	4174	without FAMP
"	"	"	off	2.80	2.54	3300.38	"	2.4	0.80	36	54	28	0	"	4171	
"	"	"	off	2.16	7.54	3307.92	"	1.8	0.80	40	51	83	2	"	4144	
"	"	"	OFF	2.08	6.17	3314.09	"	1.8	0.80	42	49	56	0	"	4143	

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ. $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT 2	T_2 BIT 17
182															

2^{55}, 3^{00} VTX-ch HV trip
///

5^{00} reject fraction 73%, but found nothing wrong in the histograms

5^{15} VTX-ch. trip ///

6^{18} JDAS Read out error 53 - system crate watching flag on PARM=000024 (oct)
CONZR:

177777	177777	177777	177777	177777
177777	067563	067563	000010	000024

6^{20} ~ 7^{00} VTX-ch hard trip /// /// / ← Beams were partly lost.
PETRA has a transmitter problem. The beam condition is rather bad. High ID current.
VTX-ch trip occured almost continually.

7^{15} short break because of an access to PETRA.

8^{00} Bellenbrand, Weber

8^{45} JDAS Read out error 53 PARM=000002 (oct.)

CONZR 177777	177777	177777	177777	177777
177777	067563	067563	000002	000002

8^{50} JDAS Read out error 33 missing LAM branch 1 crate 1: Vertex-Chamber

9 16 "Energie-Anhebung" E_B = 22,112 due to "Synchrotron(all". We continue run 18851
9 19 E_B = 22.114
9 26 ~~CONZR~~ JDAS ERROR 53 - System crate watching flag on PARM=000024 (oct)

CONZR 177777	177777	177777	17777	177777
	067563	067563	00002	000024

9 48 JDAS read out error 45 - MP-16 analysis incomplete YY=1
9 56 JDAS ~~read~~ read out error 53 ... (same as at 9.26)
10 04 JDAS " " " " 45 - MP-16 (same as at 9 48)
10 07 " " " " 33 (same as at 8.50)
10 08 during run 18852 energy set back to E_b = 22.100 GeV
10 14 "no triggers for ...." go through 'Olsson' procedure and continue
11:20 RUN 18854 JDAS read error 53 PARM: 000002 (oct!)
CONZR last two numbers second row 000214 000002
——" —— PARM= 000024
CONZR 000002 000024

Processors ON/OFF N50	MIP	TOF	FAMP	<L>	$\int Ldt$	$\int Ldt_{Exp}$	IBM TAPE OUTPUT	AT Run ID (nA)	Start TOF (V)	ONLINE REJECTION MIPROC (T_2)	NORD-50 (T_1 T_2)	Σ Buchung	MH	F_{BEAM}	MAGNET FIELD	REMARKS

183

11.50 vertex chamber trip during run 18854; pause, reset and continue.
12.05 JDAS READOUT ERROR 33 - Missing fam branch 1 crate 1 - vertex chamber
12.07 " " " " " " " " " "
12.09 vertex chamber trip. as above
12.14 JDAS READOUT ERROR 33 as above
12.21 vertex chamber trip. as above
12.28 ERROR 33 as above
12.33 JDAS READ OUT ERROR 45 - .. .. as above
13:00 RUNs 18856, 18857, 18858 stopped after 9 events
we continued without FAMP
13.20 JDAS Read out error 53 as at 11.20
13.26 vertex chamber trip during run 18859; pause, ~~reset~~ reset and continue
FAMP reloaded during RUN 18859
13.32 'no events for ... sec" pause and continue. o.k.
13.37 IDAS Readout error 33 - Missing fam Branch 2 crate 3 : TOF1 counter

14.13 vertex chamber trip; pause reset and continue
14.37 JDAS ERROR 33 - Missing fam Branch 1 crate 1 : Vertex chamber
14.46 Debug print (CONZR) removed from YTEXT and task rebuilt. J.-O.
14.56 ID7 V.C. - trip reset -
15:10 Hard ID+ Vertex chamber trip; pause; reset; continue
15.33 We are getting "IBM busy" a large fraction of the time; complaint at the computer centre does not help, since there are only operators, but no experts; TASSO does not have this problem; we may have to go to tape! dead time 86%;
15:37 Situation with IBM slightly better, inst. dead time 23%, so we continue to pause to IBM;
15:50 we are getting quite a few ~~JDAS~~ JDAS readout errors 33 and 53, but ignoring them does not seem to be of any consequences.
15:52 V.C. - trip, pause, reset and continue;

16:00 Kawagoe / Junge

16:22 JDAS READOUT ERROR 33 - Missing LAM branch 1 crate 1 : Vertex Chamber coincident with Vertex-chamber-trip; PAUSE - RESET - CONTINUE
16:30 some JDAS READOUT ERROR 33 and 53; PAUSE / CONTINUE ⇒ O.K.

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $\times 10^6$	TØ REJ. $\times 10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT 2	T_2 BIT 17

17:15 Break for ~ 7 min. because consol-LINE-button was accidentally pressed OFF
17:51 Run # 18864 was terminated because of IBM ONLINE ERROR CHECK 4
19:25 VTX-chamber trip
20:57 JETCH-and VTX-chamber hard trip
20:52 'short break' for ~ 10-15 min. because of faulty power supplies for correction coils, but beams are still saved; they cannot keep longer the beams ⇒ 21:15 beams dumped
22:03 VTX-chamber trip because beams lost
22:37 Run 18870 started, IBM LINKED SUCCESSFULLY but: IBM BUSY always ⇒ no triggers; may be that is something wrong with the IBM-link; we terminate this and try the next run; same problem for ~ 2 min, then it works.
23:10 VTX-chamber trip; they lost the beams partially
28/10/84
0:00 Whittaker and Kado on shift
0:15 FAMP reloaded and ON again
00:28 IDAS READOUT ERROR 33 - missing LAM branch 3 crate 2 Muon chambers.
00:31 " " " " " " " " 1 " 1: Vertex chamber
00:40 " " " " " " " " " "
00:52 " " " " " " " " " "
1:05 no triggers... PAUSE/CONTINUE does not help; while "event accept" lamp on trigger box is on. so we start a new run, but after 9 (pedestal) events again "no triggers...", next run → same result we switched FAMP OFF and... it works! (seems to be the same problem as 27/10/84 13:00)
1:20 FAMP reloaded
2:04 Vertex chamber tripped also jet chamber.
2.10 Energy wandered up to 22.185. and back

VTXC alarms altered →
$I \geq 20$ MA/a ⇝ soft trip
$I \geq 37$ MA/a ⇝ hard trip
HW

2:45 same problem with FAMP as 1:05, FAMP OFF
2:50 a lot of missing LAM's br. 1, cr. 1 or br. 3, cr. 2
3:00 something new! missing LAM br. 2 cr. 3 : TOF1 counters
3.40 Vertex chamber tripped soft! — beam energy was changing again.
5.11 ID + Vtxc. soft trip
5.20 FAMP reloaded (third and last try)
5.49 ~ 3 minutes "IBM busy"
6.23 Vertex chamber soft trip

Processors ON/OFF N50	MIP	TOF	FAMP	<L>	$\int Ldt$	$\int Ldt$ Exp.	IBM TAPE OUTPUT	AT Run ID (nA)	Start TOF (V)	ONLINE REJECTION MIPROD (T_2)	ONLINE REJECTION NORD-50 (T_1,T_2)	Σ Bhabha	MH	F BEAM	MAGNET FIELD	REMARKS

6.23 The NORD abruptly hung - active address light 8 was on and rolling flashing. No response from the console. Reloaded the NORD but the console was still dead. Resurrected by pressing the line button.
7.10 IDAS readout error: 33 missing LAM 1/1, 46 MP-16 out of seq. TY=1, SI System code wdchdog PARM=0024.
7.16 IDAS readout error 33 missing LAM 2/4
7.25 Run 18883 finished but gave no run summary. Tried to print it manually but got the message 'device 5 busy'. Switched it off and on, and after a few more unsuccessful attempts the run summary appeared.
7.35 Vertex chamber soft trip.

8:00 Haidt + Heinzelmann
N 14:30 Collimators "links innen" and "rechts innen" moved from position -50 → -4
⇒ no obvious improvement on Vtxchambers currents. Collimators back to position -50.
16:20 Vtx hv Board trip - IDAS control terminal stopped working which caused us some confusion! Couldn't pause the run - switched it on/off → OK.
- in fact magnet was switched off!
16:00 Nyga & Zorn on shift.

⇒ No magnet because of water leak!
As the man from MKK said "Water, water everywhere And not a drop to drink"

21^{00} All HV's are off (including μ-system)
Most of water removed from pit
We have no beam-pipe / magnet heatshield cooling system ⇒ the temperature of the beam-pipe must be monitored - must be below 39°C else it trips
Retra rotaxo. The temperature display is located below main HV controls - 2nd rack on the right as you walk into the hardware room. PK would like to be informed (~28°C) before "alarm" if possible. The alarm reset button is next to the LED display but is not effective until temperature falls

Please check the temperature of the inner pipe of the Inner Detector (over the Muon Crate # 5 in the Rackroom) during the night. It should not exceed +30°C.
Riesenberg

29/10/84 Davies / Timpe
03:05 Air-condition-control 'Alarm 2'; Temp. 19.5°C; MKK 3 nobody available
03:12 Temp. falling; Alarm off; 03:15 Temp. down to 17.1°C

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL $*10^6$	TØ REJ. $*10^6$	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT2 $E>6$GeV	T_2 BIT 17 $2T_1 E_L \geq 2T_2$
186															
18863	27/10/84	16:43	17:45	4.43	4.62	26.4	3599	8001	4352	937	247	4212	5119	974	29
18864	"	17:45	17:51	3.92	4.10	16.5	315	835	478	82	14	431	467	105	3
18865	"	17:51	18:10	3.87	4.05	17.3	1062	2682	1502	277	48	1447	1470	376	6
18866	"	18:34	19:18	6.26	6.29	25.1	2540	8001	5180	662	166	3390	5442	921	32
18867	"	19:19	20:06	5.68	5.71	25.7	2235	8002	4540	772	183	3670	5620	964	41
18868	"	20:06	20:53	5.07	5.11	16.2	2777	7325	3981	723	117	3938	5159	979	27
18869	"	21:58	22:06	6.24	6.42	38.0	353	1247	742	92	35	588	658	286	4
18870	"	22:37	22:39	6.43	6.31	53.1	28	74	47	7	4	24	44	3	0
18871	"	22:41	23:14	6.38	6.27	38.0	1864	5620	3618	485	184	2283	3565	636	30
18872	28/10/84	0:27	0:50	5.88	6.11	28.0	2078	6374	3946	540	152	2816	3855	643	18
18873/4	"	—	—	—	—	—	—	—	—	—	—	—	—	—	—
18875	"	1:01	1:47	5.33	5.55	25.9	2757	8002	4766	718	186	3645	4850	839	31
18876	"	1:48	2:44	4.75	4.96	17.4	2985	8001	4518	777	642	4057	4697	905	24
18877	"	2:44	2:47	4.74	4.27	17.2	129	393	233	34	58	206	189	49	0
18878	"	—	—	—	—	—	—	—	—	—	—	—	—	—	—
18879	"	2:49	3:50	4.10	4.23	17.0	3268	8001	4307	850	149	4407	4311	948	24
18880	"	3:50	4:53	3.60	3.72	12.0	3784	8002	3872	985	118	4840	4550	946	20
18881	"	4:55	5:18	3.17	3.28	12.1	1270	2453	1157	315	38	1491	1356	274	7
18882	"														
18883	"	6:38	7:26	5.17	5.34	17.2	2922	8002	4386	760	131	4064	4981	963	23
18884	"	7:34	8:31	3.97	4.15	14.2	3200	8002	4128	833	118	4331	4876	854	27
18885	"	8:33	8:33	only 1 pedl. event											
18886	"	8:35	9:36	3.92	4.10	14	3635	7796	3856	946	131	4545	4727	883	25
18887	"	10:08	10:35	5.79	6.11	27.5	1615	4847	2933	420	116	2231	2930	511	12
18888	"	10:35	11:36	5.37	5.68	16.8	2895	8002	4402	784	127	4118	5199	938	32
18889	"	11:37	12:31	4.35	4.61	14.1	3176	8001	4209	826	116	4474	4793	930	30
18890	"	12:31	13:34	3.83	4.08	13.5	3594	8002	4016	835	126	4728	4628	951	33
18891	"	14:19	15:09	5.08	5.76	16.6	2988	8002	4429	778	129	4162	5179	1037	37
18892	"	15:09	16:08	4.80	5.14	14.5	3253	8002	4030	846	123	4350	5108	894	30
18893	"	16:09	16:18	3.93	4.52	12.5	581	1445	758	146	18	855	795	175	33
18894	29.10.84	20:48	21:29	5.55	5.77	48.9	2287	8002	6185	595	291	5895	2561	1331	14
18895	"	21:30	22:31	5.01	5.22	20.1	3090	8001	4527	804	162	4170	4501	1080	33
18896	"	22:31	23:17	3.52	3.51	22.2	2506	8001	3986	652	145	6135	2700	2877	19
18897	"	23:18	23:28	3.22	3.22	11.8	636	1359	658	165	19	861	730	246	3

Processors ON/OFF N50	MIP	TOF	FAMP	<L>	$\int L dt$	$\int L dt$ Exp	IBM TAPE OUTPUT	AT RUN START ID μA	AT RUN START TOF V	ONLINE REJECTION MIPROC (T_2)	ONLINE REJECTION NORD-50 (T_1&T_2)	Σ Bhabha	MH	E_{BEAM}	MAGNET FIELD	REMARKS
187																
ON	ON	ON	OFF	1.57	5.66	3379.75	IBM	1.6	0.65	44	52	58	3	22.100	4142	
"	"	"	"	1.63	0.51	3320.26	"	1.4	0.55	45	52	5	0	"	4146	TERMINATED IBM ONLINE ERROR CHECK 4
"	"	"	"	1.42	1.51	3321.77	"	1.4	0.55	45	52	20	0	"	4145	beam dumped
"	"	"	"	2.58	6.57	3328.34	"	2.1	1.2	34	40	59	3	"	4167	
"	"	"	"	2.32	6.34	3334.68	"	1.9	0.95	39	49	74	2	"	4165	
"	"	"	"	2.31	6.43	3341.11	"	1.7	0.75	44	50	59	2	"	4184	beams dumped
"	"	"	"	2.23	0.79	3341.90	"	2.0	1.25	34	50	7	0	"	4161	beams lost
"	"	"	"	0.85	0.02	3341.92	"	2.0	1.2	34	51	1	0	"	4164	terminated; IBM busy
"	"	"	"	2.44	4.55	3346.47	"	2.0	1.2	37	44	57	1	"	4145	beams lost
ON	ON	ON	ON	3.29	6.83	3353.30	"	2.2	0.7	36	46	65	5	"	4199	no trigger
"	"	"	"	—	—	—	—	—	—	—	—	—	—	—	—	no triggers during pedestal events FAMP OFF → ON
"	"	"	OFF	2.79	7.69	3360.99	"	2.0	0.6	37	48	76	2	"	4198	
"	"	"	ON	2.28	6.87	3367.80	"	1.8	0.54	41	51	75	6	"	4155	
"	"	"	"	2.03	0.26	3368.06	"	1.6	0.42	40	50	4	0	"	4185	no trigger...
"	"	"	"	—	—	—	—	—	—	—	—	—	—	—	—	same as run 18873/4
"	"	"	OFF	1.81	5.81	3373.87	"	1.6	0.42	43	54	64	1	"	4193	
"	"	"	"	1.57	5.70	3379.57	"	1.4	0.36	46	58	60	2	"	4162	
"	"	"	"	1.19	1.44	3381.01	"	1.2	0.30	48	59	15	0	"	4156	beams dumped
ON	ON	ON	ON				"	2.3	0.70					"		NORD hung? Run running lost.
"	"	"	OFF	2.72	9.62	3390.69	"	2.0	0.55	38	50	106	4	"	4190	
"	"	"	"	2.12	6.79	3397.48	"	1.7	0.50	41	54	85	2	"	4145	
"	"	"	"	1.64	5.95	3403.43	"	1.6	0.4	45	55	58	4	"	4150	
"	"	"	"	3.62	5.84	3409.27	"			35	46	60	2	"	4152	
"	"	"	ON	3.09	8.96	3418.23	"	2.0	0.65	38	49	86	3	"	4183	
"	"	"	"	2.36	7.50	3425.73	"	1.7	0.5			83	2	"		
"	"	"	"	1.89	6.79	3432.52	"			344	54	81	5	"	4161	
"	"	"	"	2.96	8.84	3441.36	"	2.2	0.65	39	49	92	7	"	4173	
"	"	"	"	2.30	7.48	3448.84	"	1.8	0.5	41	54	78	2	"	4174	
"	"	"	"	2.01	1.12	3449.96	"	1.6	0.45	413	52	13	1	"	4167	Water leak
"	"	"	"	2.27	4.90	3454.80	"	2.3	1.0	37	24	54	1	"	4184	
"	"	"	"	2.28	7.44	3462.24	"	2.0	1.0	40	51	82	3	"	4193	
"	"	"	"	1.43	3.81	3466.05	"	1.4	0.7	46	53	42	1	"	4156	
"	"	"	"	1.33	1.08	3467.14	"	1.2	0.5	50	57	12	0	"	4184	

RUN	DATE	START	STOP	AT RUN START I+	AT RUN START I-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL *10^6	TØ REJ. *10^6	T_1 ACC SUM	T_2 ACC SUM	T_1 BIT2 $E_1 > 6$ GeV	T_2 BIT 17 $2T \cdot E_4 \cdot \geq 2TR$
1886															
1886															
1886															
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8⁰⁰ T. Greenshaw and H. Rieseberg

There were two fillings during the night starting with ~2×3.2 mA and ending with 2×1.8 mA (second is still running)

Beam pipe temperature has a maximum of 38°C about 1 hour after the start; see plots.

The temperature of the inner pipe of the ID is now a little over 30°C

8⁵⁰ Beams lost.

Mrs. Seidel + Pillat + Co are testing the beam pipe water circuit. (Abdrücken mit Stickstoff)

- Beam pipe water tube is tight.
- Water circuit of the heat shield is also tight!

9²⁰ New filling 2×3.17 mA , 41°C in electronics compartment of Beam Pipe Chamber
35°C beam pipe

- Magnet water circuit leaks

10⁰⁰ Beam dumps for access. 38.7°C beam pipe

10¹⁵ A water hose of the magnet water input (on the +z-side) is off.

We will try to repair till to night 6 pm.

15³⁰ Alu-waterpipe inlet piece was electrolytically corroded and got thinner till the two clamps sprang off! It was waterinlet # 5, rubber hose ~1 m long (originally 1 MΩ/m)

Possible way of the ejected water (explanation by R. Hedgecock):
small part of the water flow over the tops of the magnet and a rather big fraction over the plates of the plinth to the other (-z) side of the magnet.

Astonishingly the TOF and EC bases and the ID-slots are dry - according to fast inspection.

16⁰⁰ H. Mills & L. Becker on shift

TG PH

In the above flood 60 muon chambers were soaked, they cannot be turned on at the moment. There will thus be HOLES IN THE MUON STANDARD HISTOGRAMS — IGNORE THEM. The Y spy program has been edited so it will ignore these holes; likewise the T3 trigger check has been disabled.

Processors ON/OFF N50	MIP	TOF	FAMP	<L>	$\int Ldt$	$\int Ldt_{Exp}$	IBM TAPE OUTPUT	AT Run ID (μA)	Start TOF (V)	ONLINE REJECTION MIPROD (T_2)	NORD-50 ($T_1 \cdot T_2$)	Σ Blubby	MH	F BEAM	MAGNET FIELD	REMARKS

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...tched off:

...done,
...the Latch

...TDC 2.

...d and

...moment HV of these counters
...f)

WELL ACCOME IF YOU WISH!!

RUN	DATE	START	STOP	AT RUN START I+	AT RUN START I-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL *10^6	TØ REJ. *10^6	T_4 ACC SUM	T_2 ACC SUM	T_1 BIT 2 $E_1 > 6$ GeV	T_2 BIT 17 $2T \cdot E_4 \cdot \geq 2$TR

Beam Pipe Temperature 28/10/84

18:00 19:00

Beam Pipe Temperature 29/10/84

01:00 02:00 03:00

Processors ON/OFF N50	MIP	TOF	FAMP	<L>	$\int$Ldt	$\int_{Exp}$Ldt	IBM TAPE OUTPUT	AT Run ID (μA)	Start TOF (V)	ONLINE REJECTION MIPROD (T_2)	NORD-50 ($T_1 \cdot T_2$)	Σ Beating	MH	E BEAM	MAGNET FIELD	REMARKS

After the waterleak the following TOF counters were switched off:

59	=	17 +	70	= 28 +	67
63	=	21 +	73	= 31 +	
64	=	22 +	74	= 32 +	
66	=	24 +			

The counters should now trigger only on the - side alone.
There should be no holes in the TOF hit map and the Latch hit map.
There will be 7 holes in the mean ADC and mean TDC 2.

1 Forward Muon Counter is also off. HV was checked and worked all right for TOF, LG, TWPU, TAG.

ID 02 Reg. AND 7 wet-LG counters are found in the same ~~area~~ region (for the moment HV of these counters are off) Yamada, Kawagoe and Takeshita

19^{34} Suddenly the counting room is empty. Its lonely here after the crowd! WE'LL ALL COME BACK IF YOU WISH!!

20^{07} Beams ready

20^{23} still >1V on TOF rate. Mark-J say background normal. TASSO say its terrible.

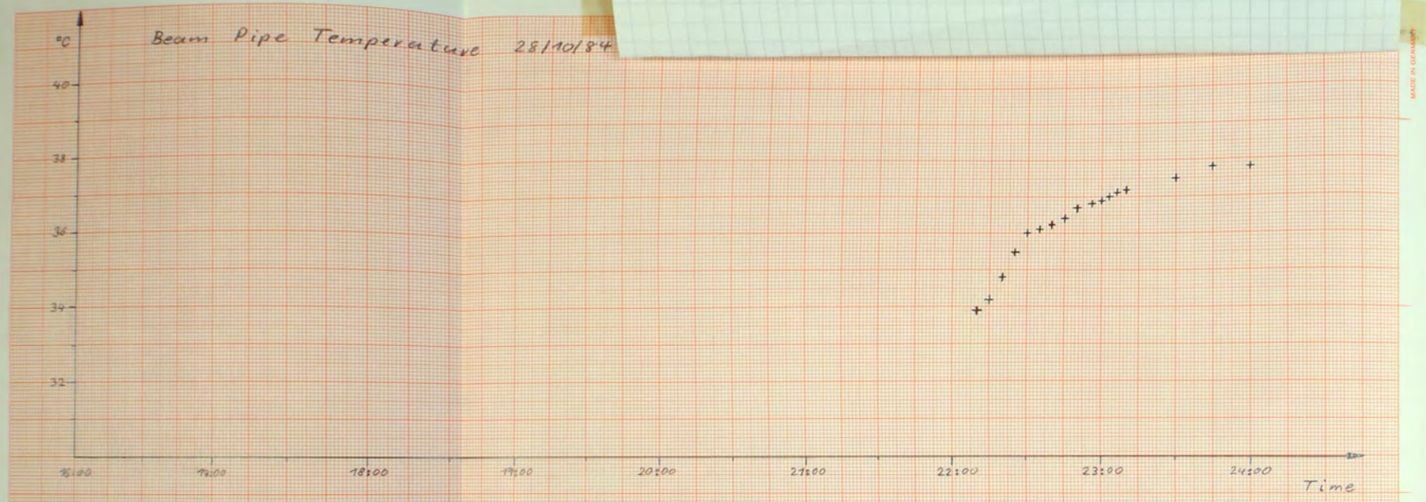
20^{35} TOF rate ~ 1 V : switch on I.D. : 2.3 μA
" " VTXCH : clear on - reset
" " 7-CH.

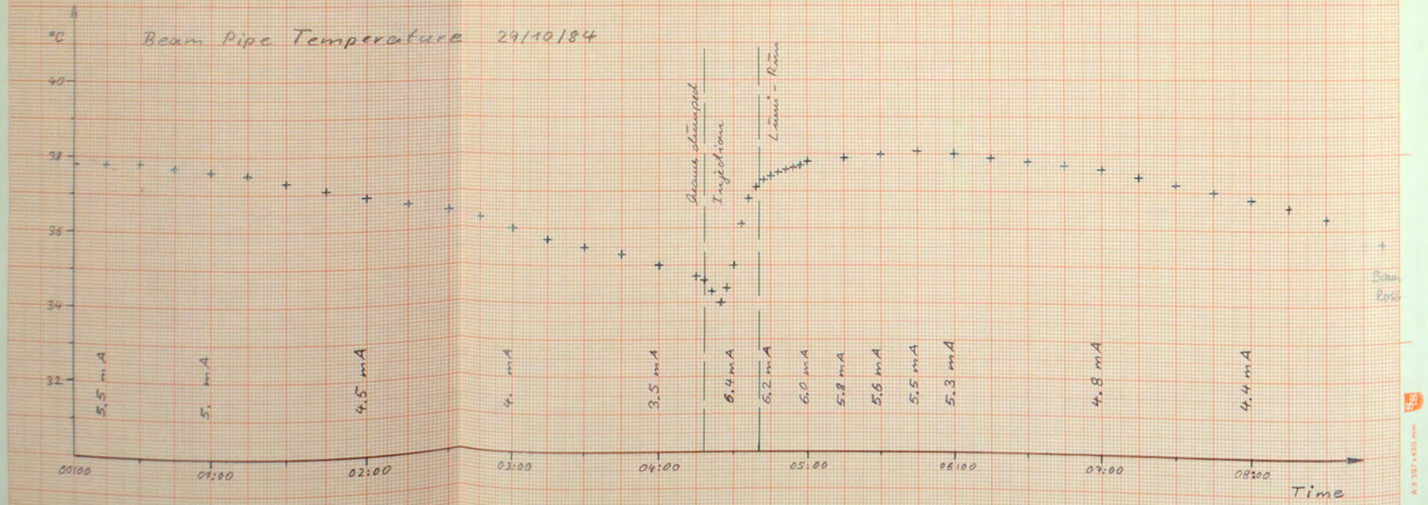
20^{50} HV error TAG MF 56, Ch. 1 - reset by JDAS
JDAS READOUT ERR. 45
" " " 33
ISPY error: TOF TDC not hit: 1 4 5 8 12 18 19 31 ...
Trigger 1 Input missing : 25
" 1 Output " : 33 36 38 50 54 69
" 2 Input " : 150
2 Output " : 2 7 9 12 28 34 ..

20^{54} JDAS readout err. 46
" " " 45

RUN	DATE	START	STOP	AT RUN START I^+	AT RUN START I^-

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Processors ON/OFF N/50	MIP	TOF	FAMP	$\langle L \rangle$	$\int Ldt$	$\int Ldt_{Exp}$	IBM TAPE OUTPUT	AT Run ID (μA)	Start TOF (V)	ONLINE REJECTION MIPROC (T_2)	NORD-50 ($T_1 \cdot T_2$)	$\leq$ Bruting	MH	F BEAM	MAGNET FIELD

After the waterleak the following TOF counters were switched

59	=	17 +	70	=	28 +
63	=	21 +	73	=	31 +
64	=	22 +	74	=	32 +
66	=	24 +			

67

The counters should now trigger only on the - side alone
There should be no holes in the TOF hit map and the L
hit map.
There will be 7 holes in the mean ADC and mean TDC 2

1 Forward Muon Counter is also off. HV was checked a
worked all right for TOF, LG, TWIN, TAG.

ID 02 Reg. AND 7 wet-LG counters are found in the same ~~sector~~ region (for the moment
Yamada, Kawagoe and Takeshita are off)

19^{34} Suddenly the counting room is empty. It's lonely here after the crowd! welc
Back iF

20^{07} Beams ready

20^{23} still >1V on TOF rate. Mark-J say background normal. TASSO say, its terrible.

20^{35} TOF rate ~ 1 V : switch on I.D. : 2.3 μA
" " VTXCH : alarm on - reset
" " 7-CH.

20^{50} HV error TAG MF 56, Ch. 1 - reset by FDAS
FDAS READOUT ERR. 45
" " " 33

YSPY error: TOF TDC not hit: 1 4 5 8 12 18 19 31 ...
Trigger 1 Input missing : 25
" 1 Output " : 33 36 38 50 54 69
" 2 Input " : 150
2 Output " : 2 7 9 12 28 34 ...

20^{54} FDAS readout err. 46
" " " 45

RUN	DATE	START	STOP	AT RUN START I+	AT RUN START I-	DEAD TIME (%)	TIME (sec)	RECORDS IN	RECORDS OUT	ALL *10⁶	TØ REJ. *10⁶	T_4 ACC SUM	T_2 ACC SUM	T_1 BIT2 E>6GeV	T_2 BIT 17 2T·E$_L$·≥2TR

21^{08} VTX-Ch. - soft trip
21^{21} ƒDAS readout err. 53
21^{23} VTX-Ch. - soft trip
21^{30} HV error : TAG, MF 56, CH 1
ƒDAS readout err 33

message : LG BARREL > 250 hits often appears
- These are 'pickup' events

Dead time was high in run 15994. The trigger rate was fairly high. Note that 'J.O.' trigger has high rate and rejection on it low (17% - normally 80%). Looks as it this trigger is the problem.

21^{49} Soft trip - discovered that the trigger box STOP cable was out
'Sender ausfall'

YVOLTS says TAG-MFR56 channel 1 - HV= 0.001 - reset as requested.

High deadtime due to IBM BUSY - coencides with Dump job.

22^{09} Setc soft trip - beams unstable.
22^{33} HV err.(TAG) MF 56 CH 1 - reset by ƒDAS
22^{36} " " " " again!

High dead time for several seconds - Events had a lot of LG blocks on - Hongarian one by LG>250 blocks pickup event & things returned to normal.

22^{31} Hard ID trip

Constanty get messages about TAG-MFR56 channel 1 at zero. Despite resetting.
Try to phone John Nye. His phone is always engaged!
despite the words of the message MFR56 was forward muon counts and not tagging.

Processors ON/OFF N50	MIP	TOF	FAMP	<L>	∫Ldt	∫Ldt Exr	IBM TAPE OUTPUT	AT Run ID (μA)	Start TOF (V)	ONLINE REJECTION MIPROC (T_2)	NORD-50 (T_1·T_2)	≤ Bhabha	MH	F BEAM	MAGNET FIELD	REMARKS

Programs altered: YEDISPA YLIST to cure Faultin OUTBNK (listing of event banks)
ZDAS & YMENU to include new histograms in displays.
YRUNSM to include error msgs for vertex chamber.

Note for night shift :- The Nord-50 is loaded with a test version. If the Nord is restarted the default (trusted) version will be loaded which is Ok.

30/10/84 Yamada + Bethke enjoying nightshift ??

— E. O. B. — (End of book) Business?



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