

Report on the Run of July / August 1994

Marcel Kunze/K.Peters

Institut for Experimental Physics I, Bochum University

CERN Performance

In total: 5 days lost

LEAR:

- A lot of small problems (extraction, sharing, steering)
- Some major faults (Bending magnet, Septum trips etc.)
- Unexperienced shift crews (extraction, stack loss, bad focus)

PS:

- Water failure for 1h (Magnets went off)

AA:

- No major problems, except stack losses due to some power failures (tempest)

PS208:

- One day main user for maximum rate exposure

JetSet:

- Several accesses of 5-45 min duration (~ once per day)

CB Performance

Target:

- Leak before SoR, **repaired within 4 days**
⇒ No level diode available any more

Counters:

- Low efficiency of Si-Array at 1940 MeV/c
⇒ Use Ken's chamber
- Central counter noisy for two days (self-fixing)

Trigger:

- Fast energysum with Tony's new box, 2 independant thresholds
⇒ Mixed 2-prong/neutral trigger, 1 long track required for charged
- Bad pileup definition (30% @ 150kHz, 80% @ 260kHz)
⇒ Probably meaningless, events look fine after kinematics fit

PWC:

- Wrong cluster multiplicity wiring, **fixed before SoR**
- Many trips due to spill cut-off by the LEAR operator

FACE:

- Multiplicity ok, secret switch pushed at SoR

JDC:

- Short circuit in Sector #29, **not fixed**
- Readout problems, several faults on J1XTAL and MicroSys (CPU in halt state!)

BC:

- Faulty CAMAC cable crate#4-crate#5, bit 2 flaky, **replaced before SoR**
- Overflow missing with 2280 controller in crate#6, **not fixed**
- Unstable 2282 pedestal channel #984, **not fixed**
- 4 crystal channels dead, **not fixed**
- Time-out of 2282 readout after fast reset, **not fixed properly**

Computing:

- Severe problems with StorageTek 4280 tape drives, **momentarily fixed**
- X-Terminal problems, NCD booted several times, Dec VT1200 too slow

Statistics

400k	Min.Bias	(1940 MeV/c)
4,200k	neutrals	(1940 MeV/c, $\Sigma E > (1800+1200)$ MeV)
3,950k	2-prong	(1940 MeV/c, $\Sigma E > (300+1200)$ MeV)
2k	collinear	(1200 MeV/c)
300k	4-prong	(1200 MeV/c, softcut > 2500 MeV)
1,300k	neutrals	(1200 MeV/c)
5	long LP runs	

Counting rates:

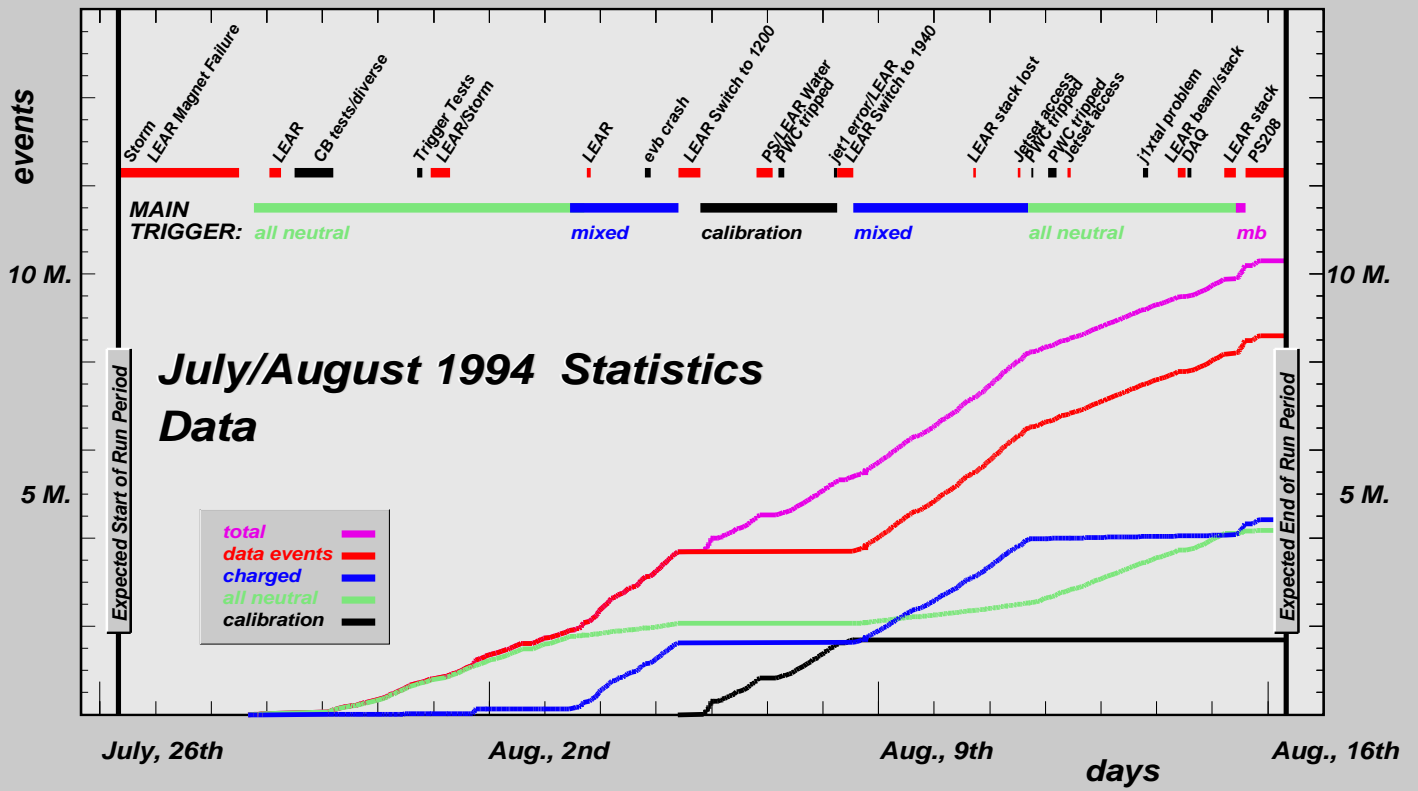
- All neutral 6-10Hz (@150kHz-200kHz)
- Mixed(2-prong/neutral) 30Hz/3Hz (@100kHz)

Efficiency: CB live time / allocated beam time ~ 53%

Conclusions

- Good statistics for all neutral and 2-prong events
- The use of a workstation online is highly recommended (“Quo Vadis”)
⇒ Offline reconstruction + high-C-kin.fit runs in parallel at DAQ-speed **online**
- Replace the StorageTek by a disk array of 9GB disks and stage data off-line
- Replace Ken’s by Schüttrumpf’s chamber (⇒ 8x8 wires position resolution)
- Bad equipment needs to be fixed **between** runs as far as possible

Crystal Barrel in Flight I



Crystal Barrel in Flight II

