

SPS

Running conditions

- $2 \cdot 10^{13}$ ppp to 450GeV
- Cycle efficiency around 98%
- Clients behind all targets since early July
- SSE extended for NA48

Other features

- LHC MD cycle set up for hadrons **or** leptons June 2
- LHC MD cycle set up for hadrons **and** leptons June 30

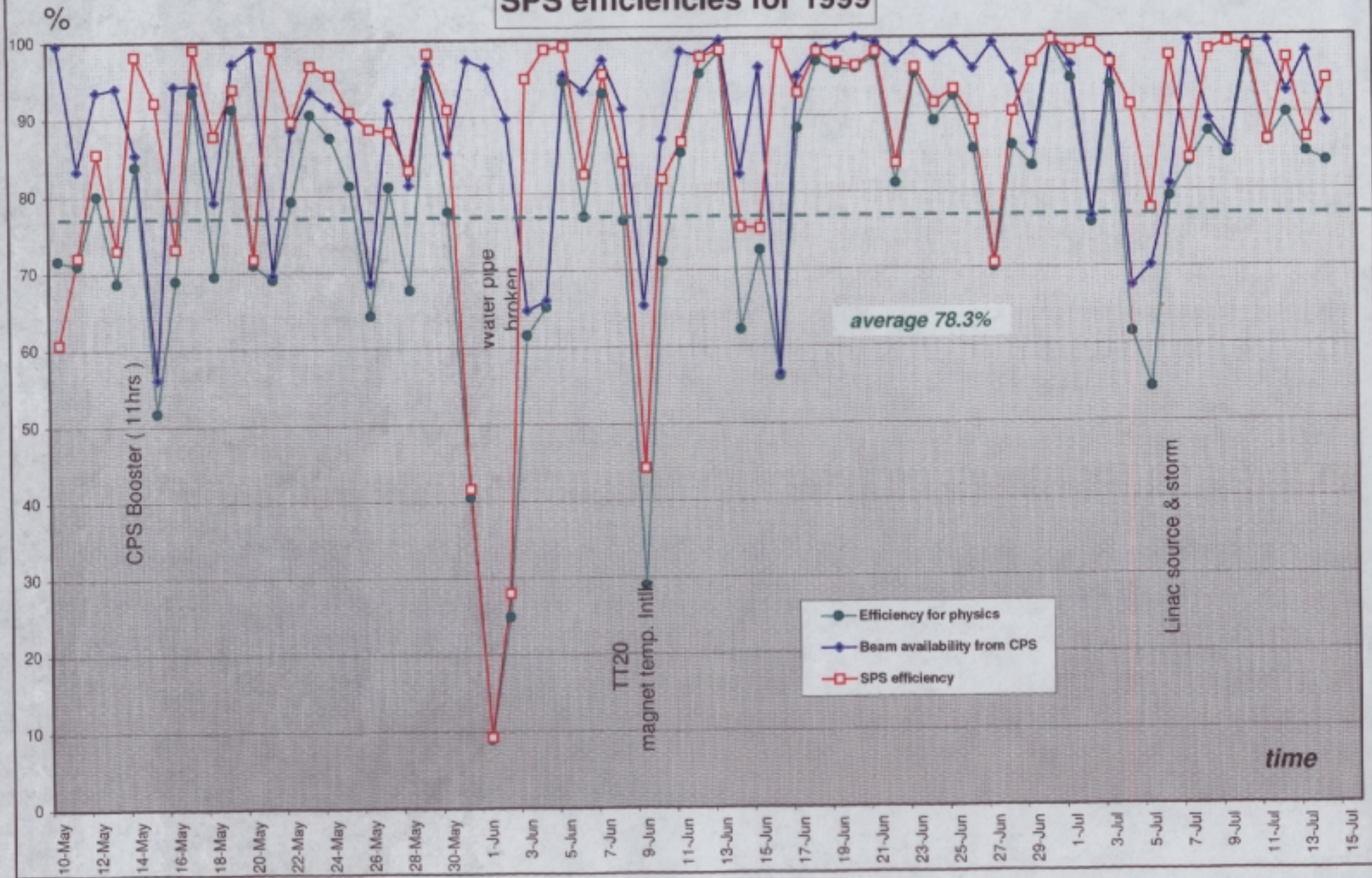
Problems

- Magnet temperature interlock June 8/9
 - Short circuit caused by water infiltration in a connector
 - Water from a leak on a nearby cooling system
 - Leaks in the roof of BA3 also suspected
 - Some radiation damage to cables in the tunnel also noticed
- CPS water leak June 9
- False vacuum interlock June 10
- Storms June 14
- Water leak on quadrupole in North area line June 15/16
- Cooling problem on SPS main ring June 24
- Proton source in CPS July 4
- Electrical problem BA2 July 4
- Storms July 5, 13

Overall result

- Efficiency for physics 78% and rising
- Clients happy

SPS efficiencies for 1999



LEP

Running (mostly) at 98GeV since June 8

- Currents in physics up to 6.2mA
- Beam-beam tune shifts up to .083
- Luminosities over $10^{32} \text{ cm}^{-2} \text{ s}^{-1}$ and over $3.5 \text{ pb}^{-1} / \text{ day}$
- 3200 MV of RF provide adequate 2-halfunit margin (2980 needed)
- Pushing volts, reached 3250 MV so far, need 3300 for a shot at 100GeV

Other features during cryogenic interventions

- Energy calibration by resonant depolarisation
- Machine studies

Cryogenics problems

- Point 6 de-icing June 7
- Point 4 June 12
- Point 6 cooling automat June 13
- Point 6 de-icing June 14
- Point 4 AVS installed week 25 June 21/28
- Point 6 de-icing June 22
- Point 8 false alarm on oil separator / electrical problem June 24
- Point 2 cooling problem / cooling problem June 25
- Point 6 de-icing June 30
- Point 4 oil pump failure and oil spillage July 8
- Point 6 de-icing July 12
- Point 8 LEP1 system July 13

Other problems

- DELPHI magnet June 10
- ALEPH magnet June 26,27
- Point 6 transformer July 1/2
 - Several perturbations to the electrical networks
 - Difficulties for cryogenics (finally back midnight Friday)
 - Difficulties for RF (finally back Saturday @ 96, Sunday @ 98)
- OPAL magnet July 3,4,5
- Vacuum valve control card July 5
- Storms July 5, 13
- Cooling water point 6 (transformer) July 9
- False fire alarm July 10
- ALEPH magnet, twice July 13

Overall result

- Down time ~30%, but when it works, it works very well

