MiniBooNE Report

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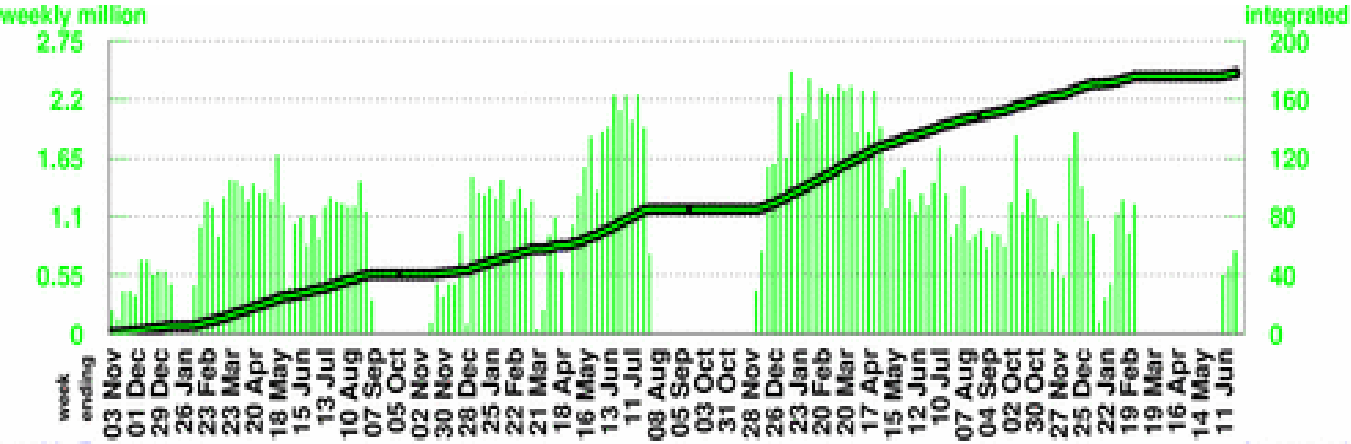
for the MiniBooNE collaboration

26 June 2006

Weekly Summary 19 – 26 June 1.3E18 POT, 70.4% Uptime

- Two day shutdown to repair horn power supply ground fault:
  - Replaced strip line connection (loose bolts?).
  - Thermal image scan shows no new problems.
- Major Downtime:
  - 27 hrs: Horn power supply repairs (June 19).
  - 8 hrs: 400MeV chopper (June 21).
  - 3 hrs: Booster kicker (June 25).
  - 5 hrs: Linac H-source (June 26).
- LMC repaired, 5hr low intensity (1 turn) run on June 21. Data checks out okay.

19 June – 26 June

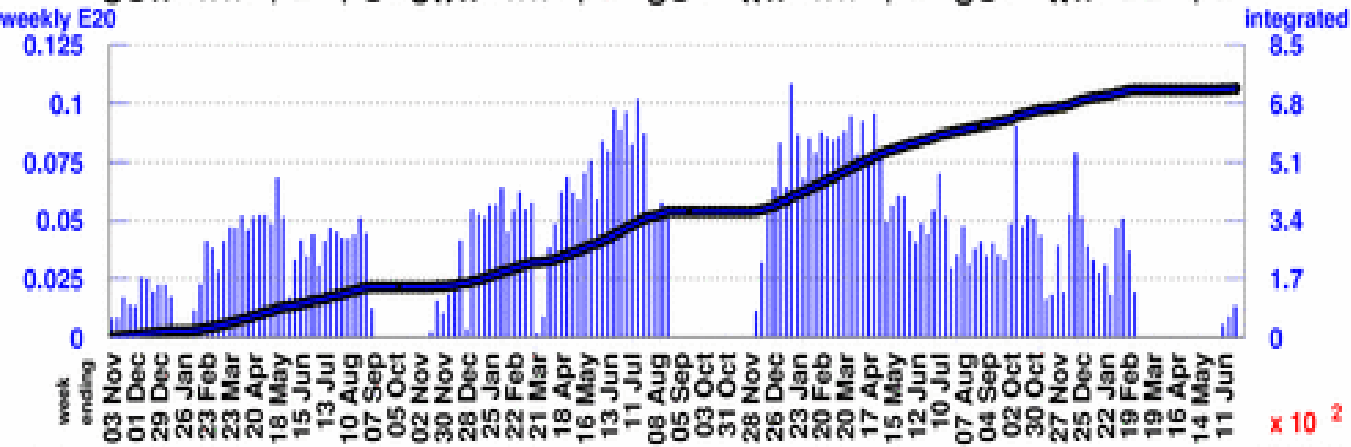


Number of Horn Pulses

To date: 177.89 million

Largest week: 2.46 million

Latest week: 0.78 million

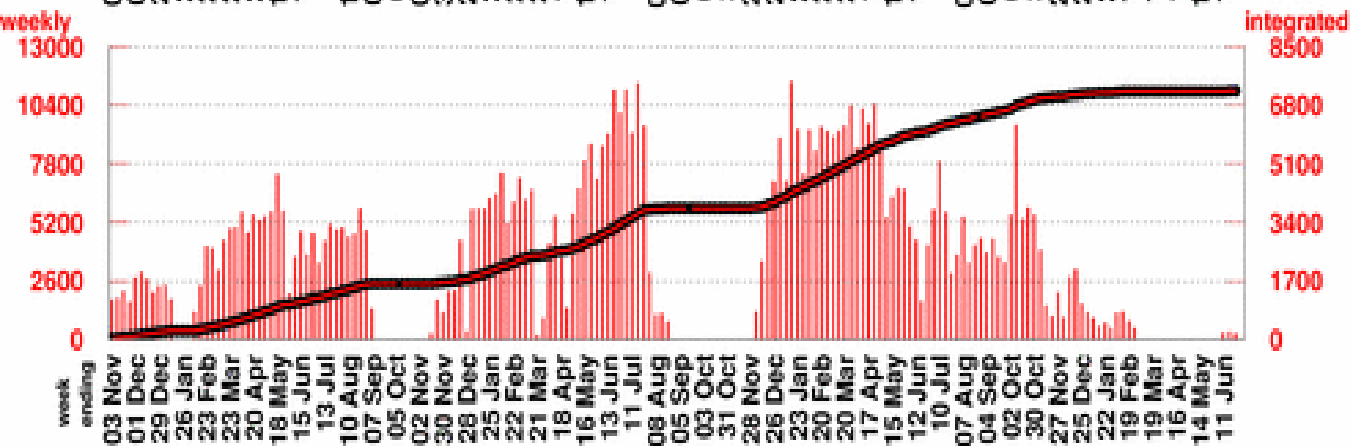


Number of Protons on Target

To date: 7.2304 E20

Largest week: 0.1084 E20

Latest week: 0.0133 E20



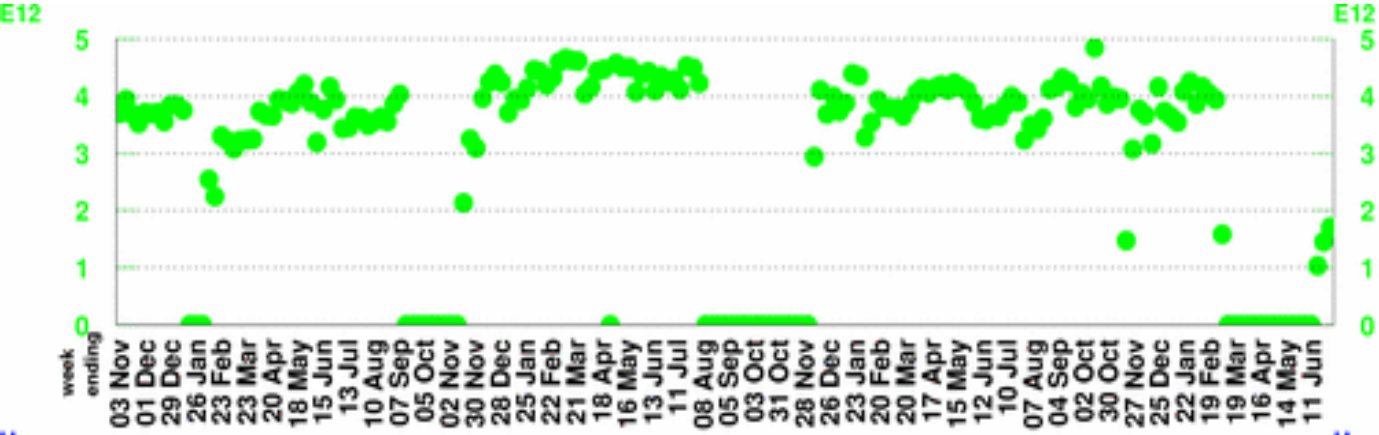
Number of Neutrino Events

To date: 721621

Largest week: 11447

Latest week: 273

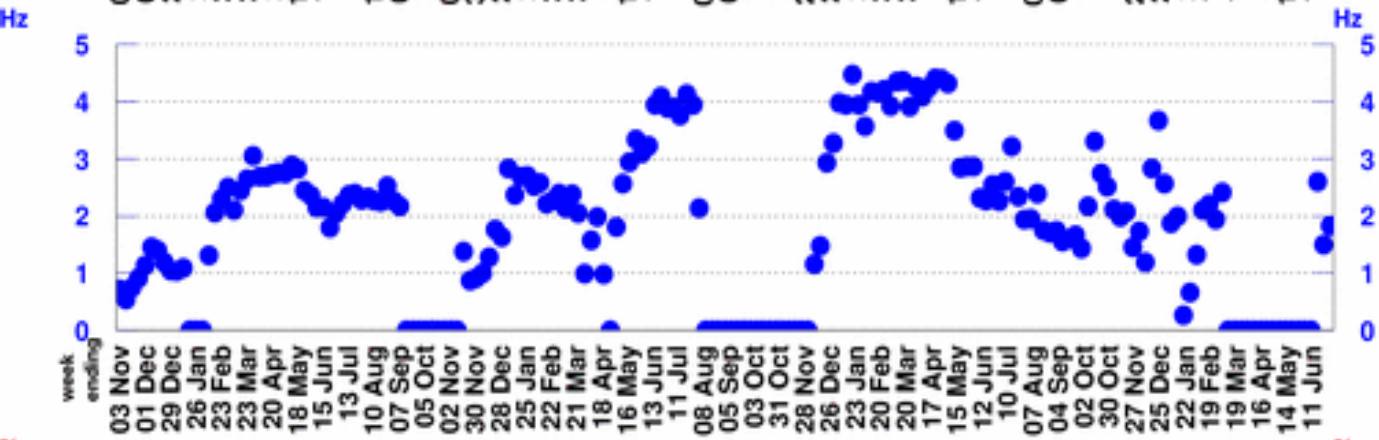
19 June – 26 June



POT per Horn Pulse

Largest week: 4.85 E12

Latest week: 1.71 E12

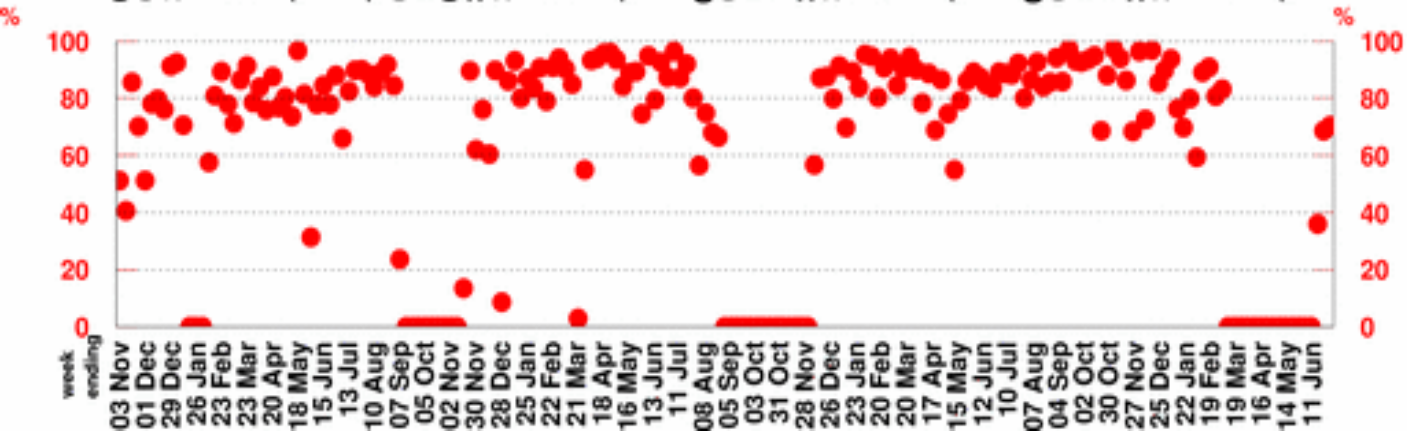


Horn Rate

(for time periods with beam)

Largest week: 4.48 Hz

Latest week: 1.83 Hz



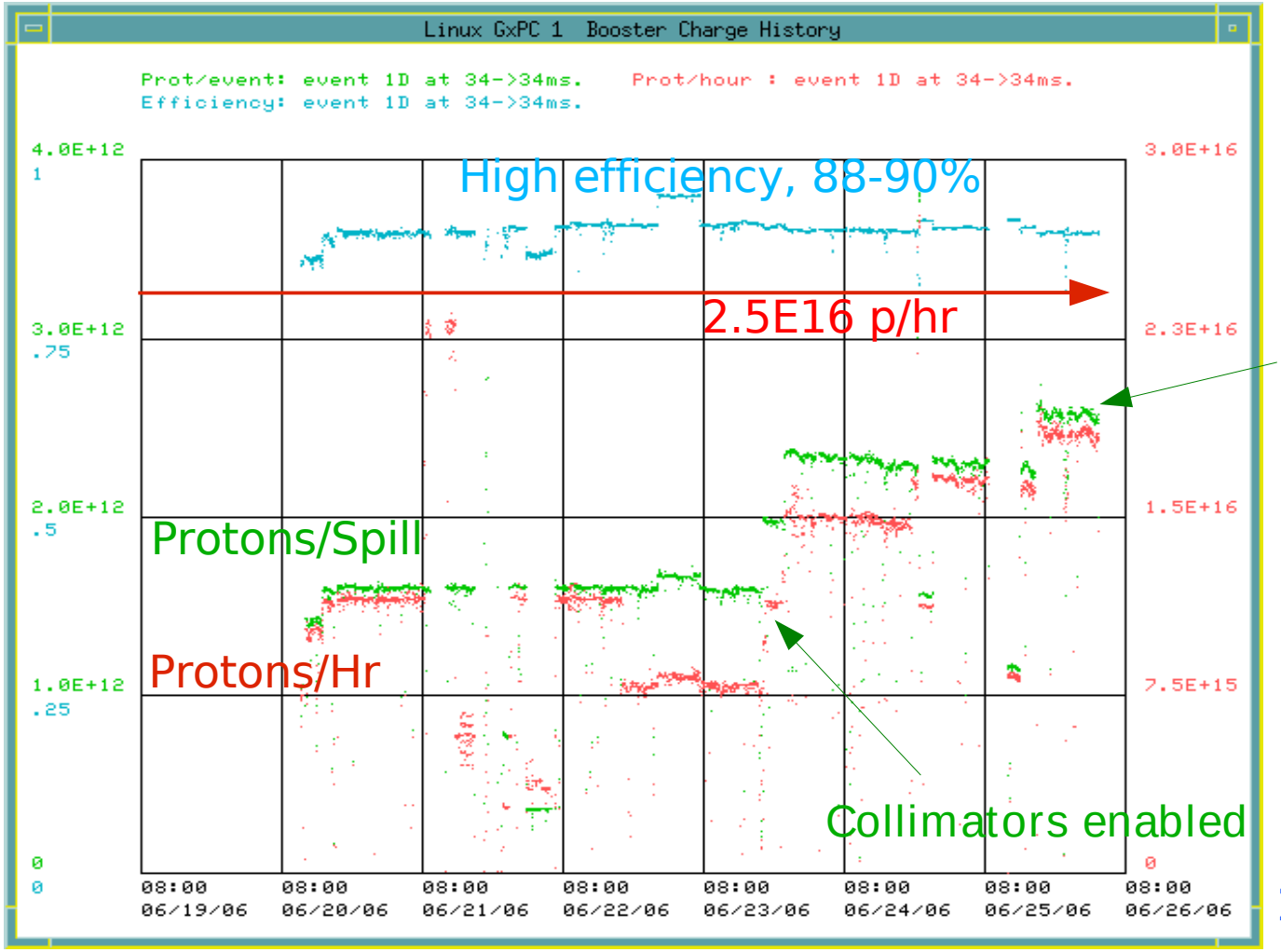
Beam Uptime Fraction

(fraction of time with beam)

Largest week: 97.4 %

Latest week: 70.4 %

One Week MB Proton/Hr Summary



19 June

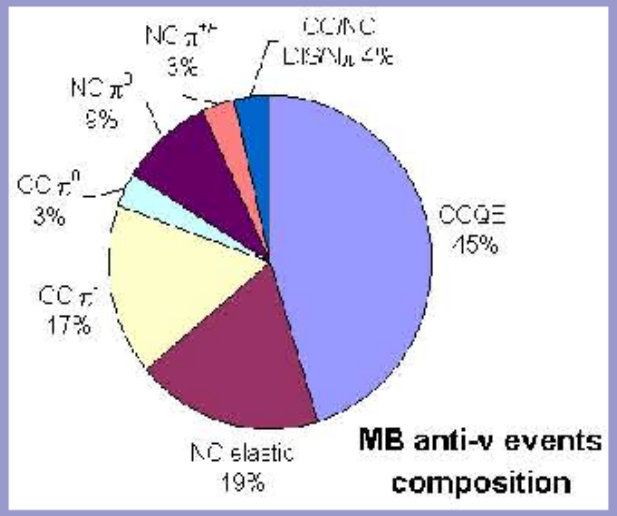
26 June

Steadily improving Booster Performance.

Antineutrino Scattering with MiniBooNE

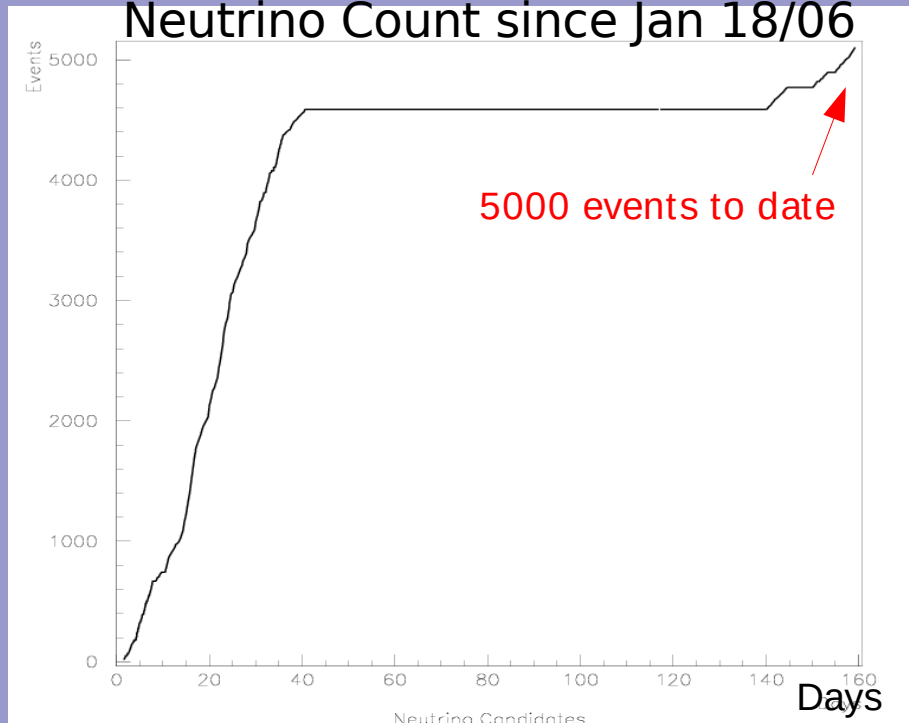
$\bar{\nu}$ events expected in next year:

- from 2E20 "protons-on-target" (POT)
- with fiducial radius of 500cm
- before cuts
- ν event (wrong-sign) contribution not included



$\bar{\nu}$ channel	events
all channels	54k
CC quasielastic	24k
NC elastic	10k
CC π^-	8.9k
CC π^0	1.7k
NC π^0	4.9k
NC $\pi^{+/-}$	1.8k

"CC" = charged current
"NC" = neutral current



0.2E20 POT collected so far...

2.5E16 Pr/Hr => 1.5E20 POT/yr

This Weeks Plan

- When Booster can deliver high intensity, perform target scan with 90^0 monitor.
- Take a special 2hr beam off target LMC run to study beam-air backgrounds.
- Begin process of putting target in spare horn. Current horn has 93M pulses, need to have spare complete and ready.
- Continue taking quality anti-neutrino physics data.