MiniBooNE Report

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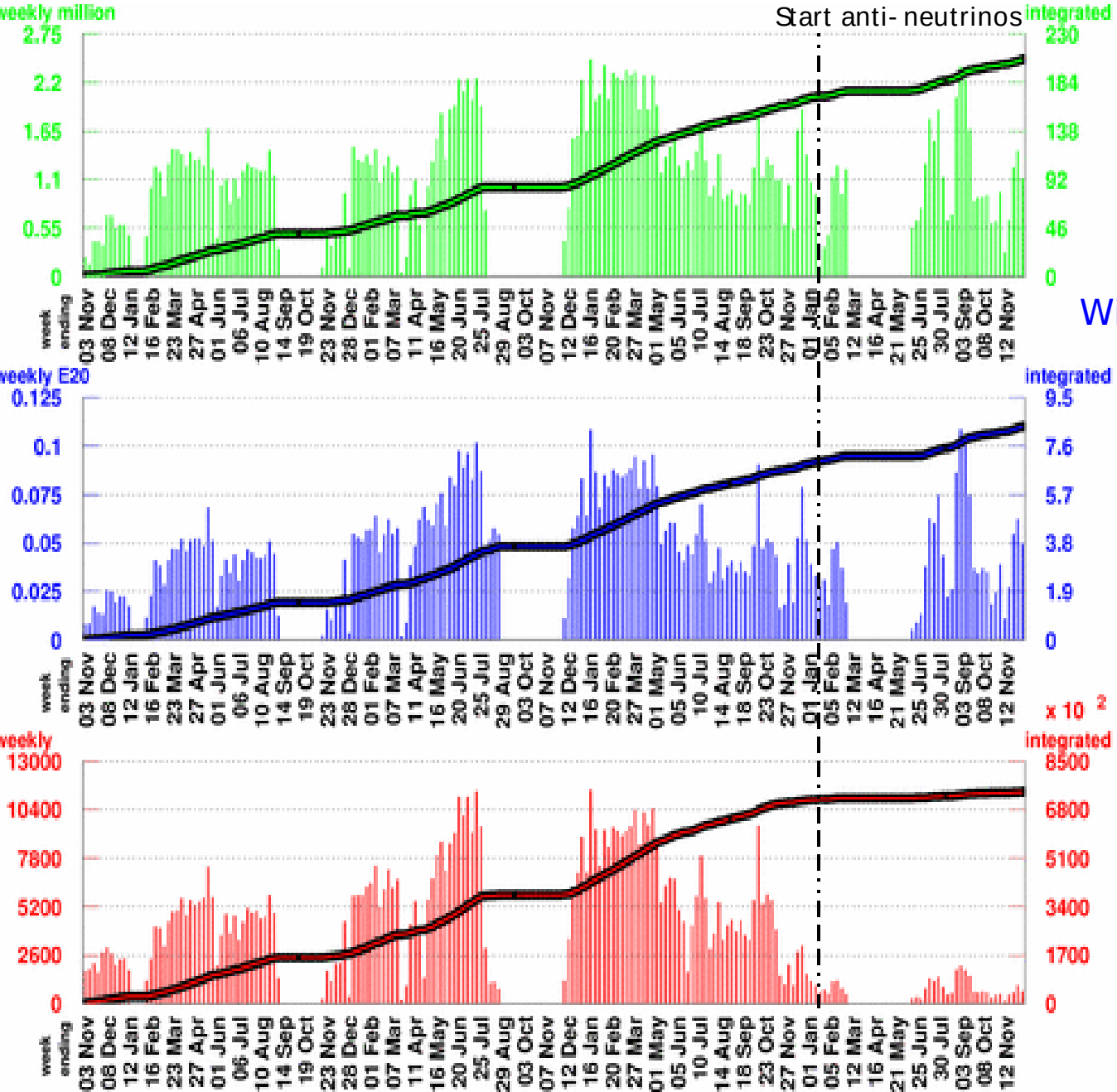
for the MiniBooNE collaboration

04 December 2006

Week Summary 27 Nov – 04 Dec 0.49E19 POT, 87% Uptime

- Good week, good month!
  - Last three weeks around 5E18POT/week with NuMI running. Two times better than previous running.
- Major Downtime:
  - 2 hrs, MI service building fire (Nov 28).
  - 5 hrs, Booster RF problems (Nov 29).
  - 3 hrs, Linac problems (Dec 1).
  - 2 hrs, Detector HVAC problem (Dec 3). Thanks to FESS (S. Pittman) for difficult repair.

27 Nov – 04 Dec



Number of Horn Pulses

To date: 205.56 million

Largest week: 2.46 million

Latest week: 1.11 million

With Beam Information Cuts

Number of Protons on Target

To date: 8.3582 E20

Largest week: 0.1085 E20

Latest week: 0.0493 E20

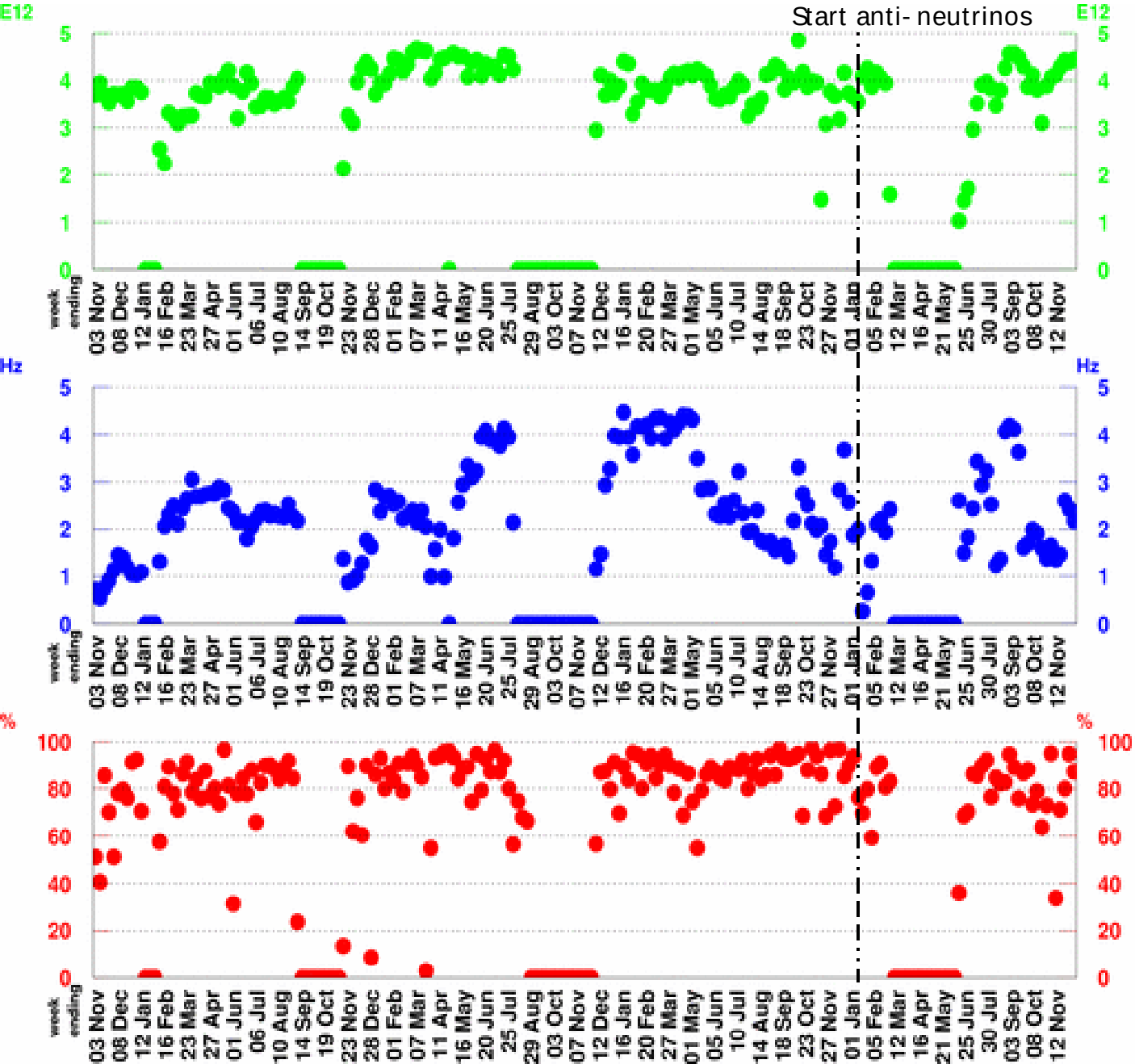
Number of Neutrino Events

To date:741760

Largest week: 11447

Latest week: 625

27 Nov – 04 Dec



POT per Horn Pulse

Largest week: 4.85 E12

Latest week: 4.44 E12

Horn Rate

(for time periods with beam)

Largest week: 4.48 Hz

Latest week: 2.17 Hz

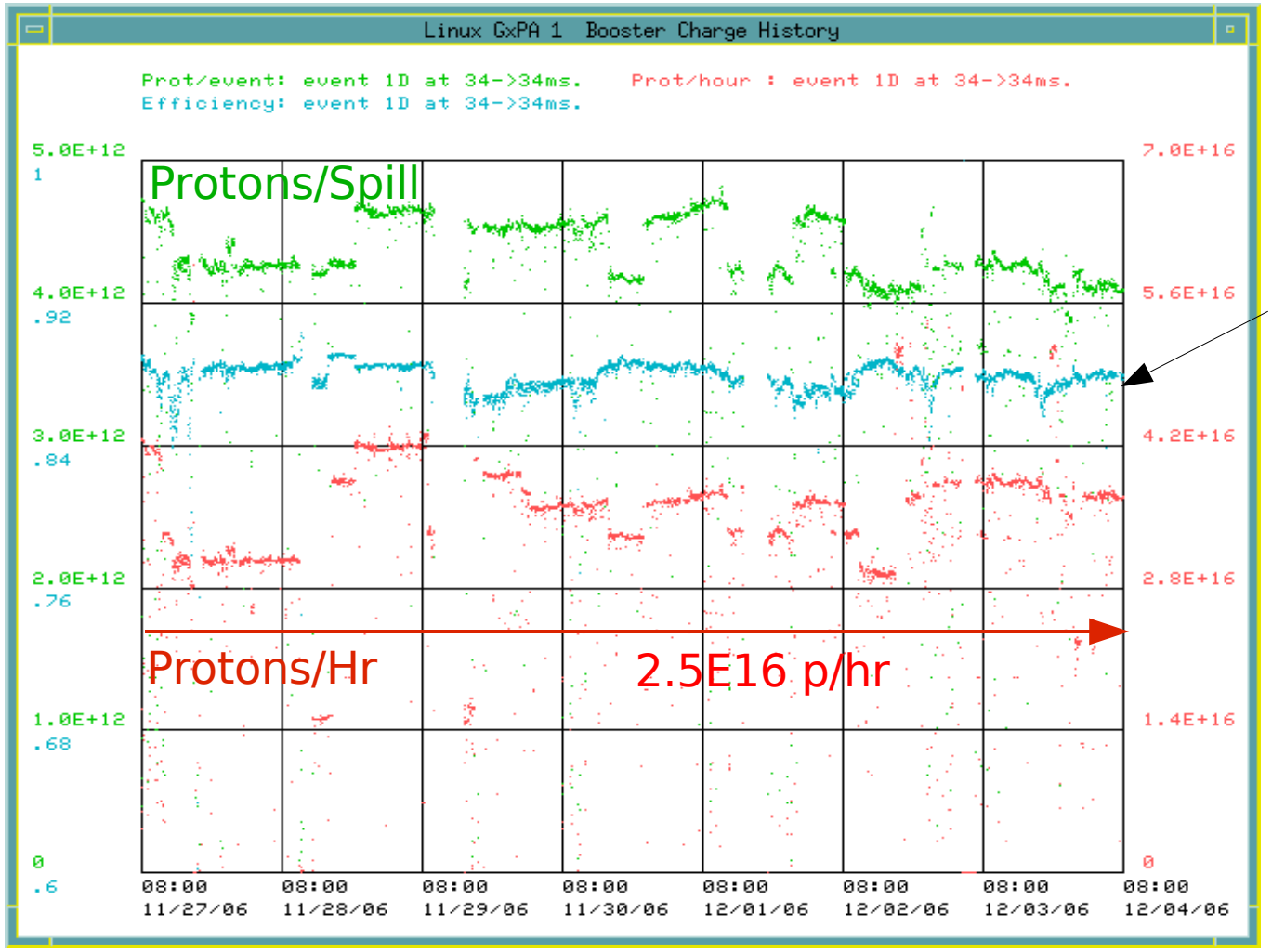
Beam Uptime Fraction

(fraction of time with beam)

Largest week: 97.4 %

Latest week: 87.4 %

One Week MB Proton/Hr Summary



High Eff. ~89%

27 Nov

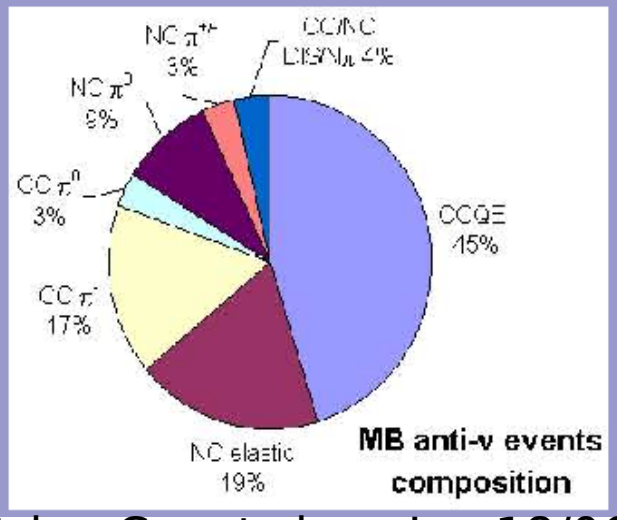
04 Dec

Running at 10-11 turns, high efficiency.

Antineutrino Scattering with MiniBooNE

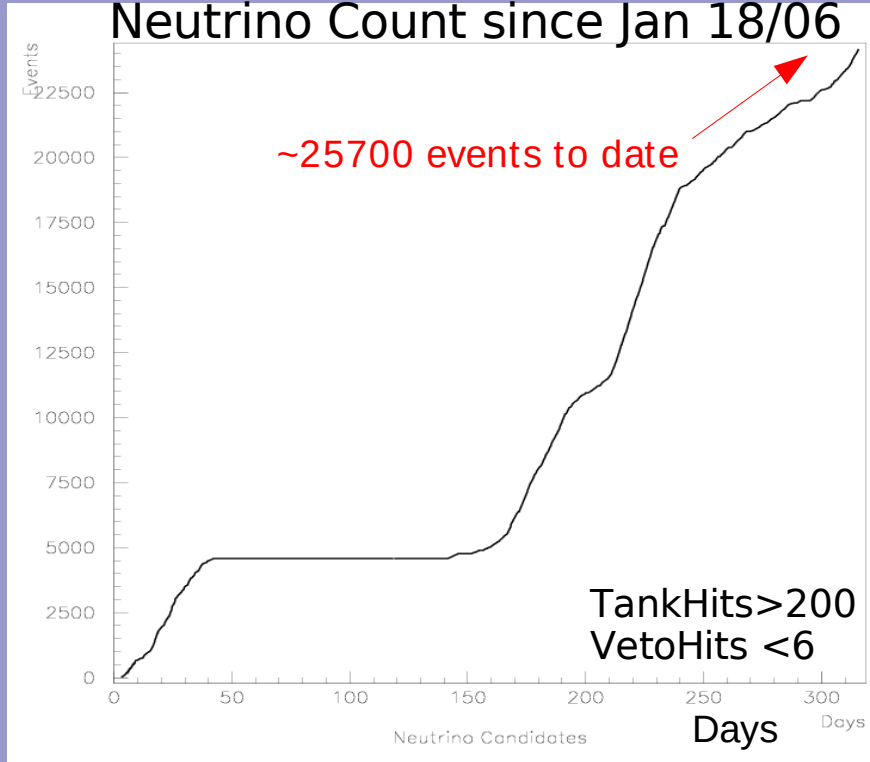
$\bar{\nu}$ events expected in next year:

- 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



1.35E20 POT collected so far....

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

This Week's Plan

- Maintain high uptime to take advantage of good Booster output.
- Continue taking quality anti-neutrino physics data!