MiniBooNE Report

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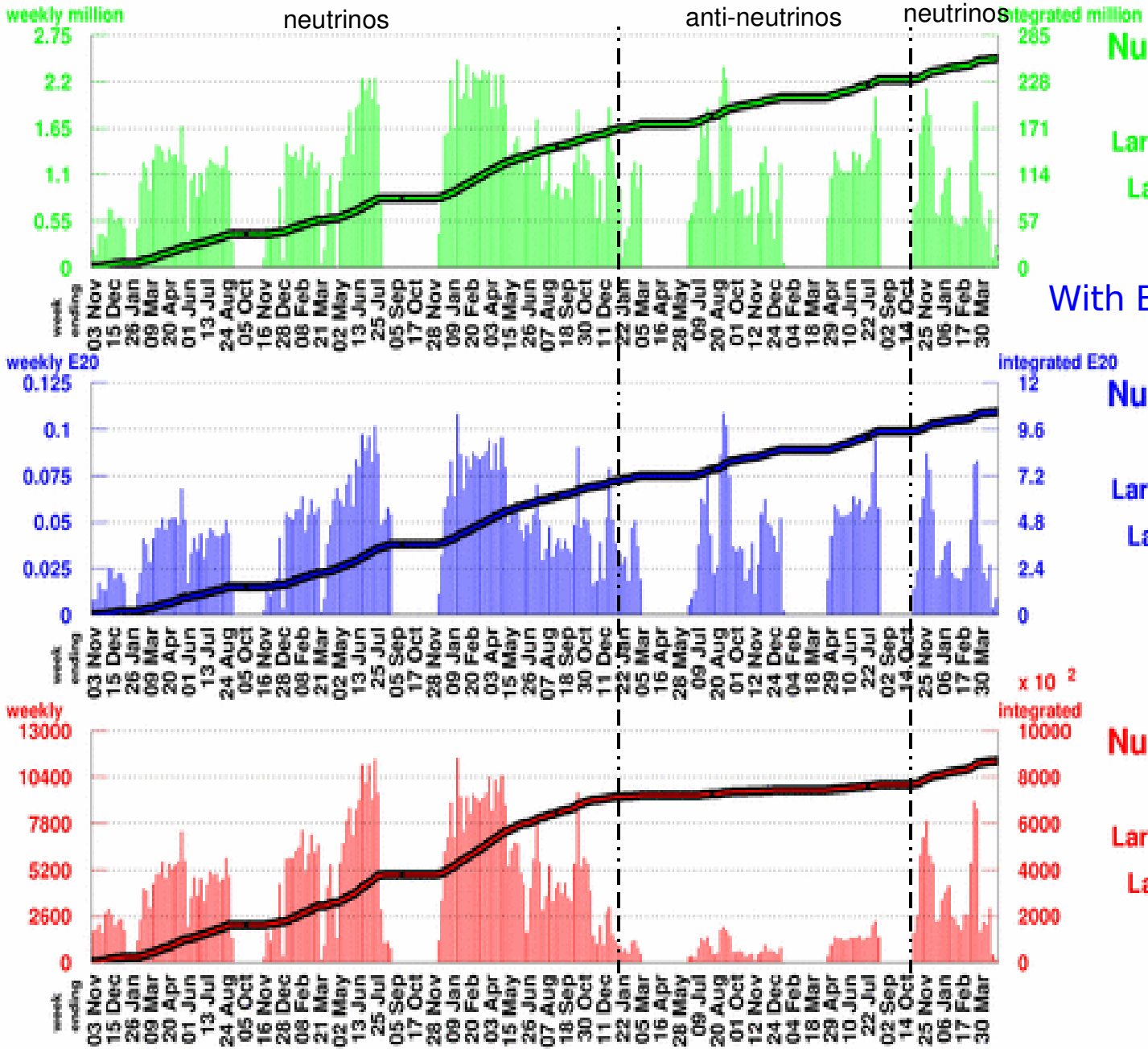
for the MiniBooNE collaboration

21 April 2008

Week Summary 14 April – 21 April 0.9E18 POT, 67% Uptime

- Horn work completed April 15.
  - Huge thanks to Al Russel, Howie Pfeffer, Ken Seivert and EE tech team for completing the horn polarity switch in record time!
- Pulsing horn at -174 kA, 5 kV, and ~10 usec pulse, timed to beam on target.
- Running low intensity ~0.6E16 p/hr.
  - Booster time line changed to help debug MP02. Restored this morning.
- Major Downtime:
  - 40 hrs, Completing horn polarity switch (April 14/15).

14 April – 21 April



Number of Horn Pulses

To date: 256.12 million

Largest week: 2.46 million

Latest week: 0.26 million

With Beam Information Cuts

Number of Protons on Target

To date10.4993 E20

Largest week: 0.1085 E20

Latest week: 0.0092 E20

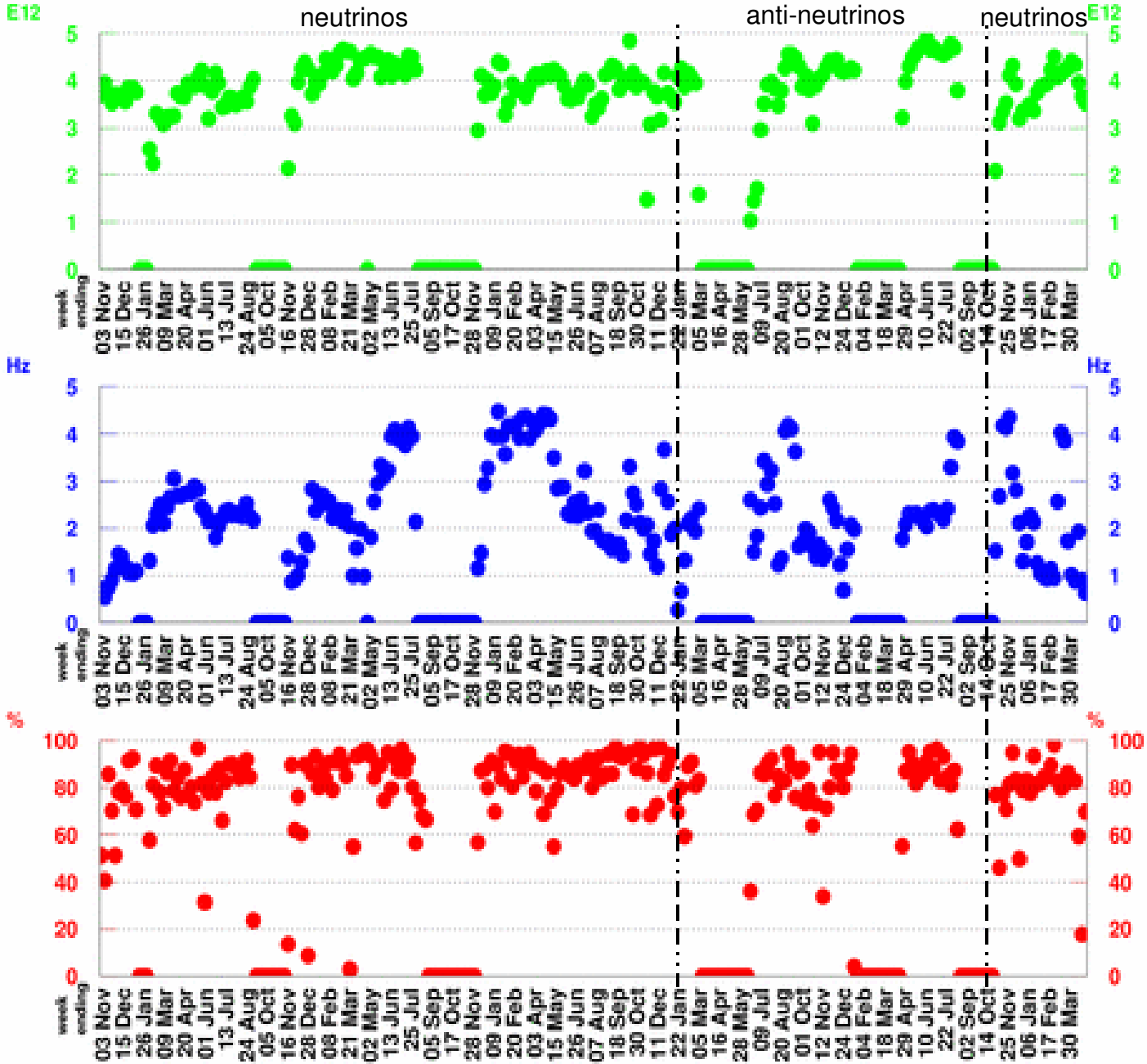
Number of Neutrino Events

To date:868257

Largest week: 11447

Latest week: 178

14 April – 21 April



POT per Horn Pulse

Largest week: 4.89 E12

Latest week: 3.53 E12

Horn Rate

(for time periods with beam)

Largest week: 4.48 Hz

Latest week: 0.63 Hz

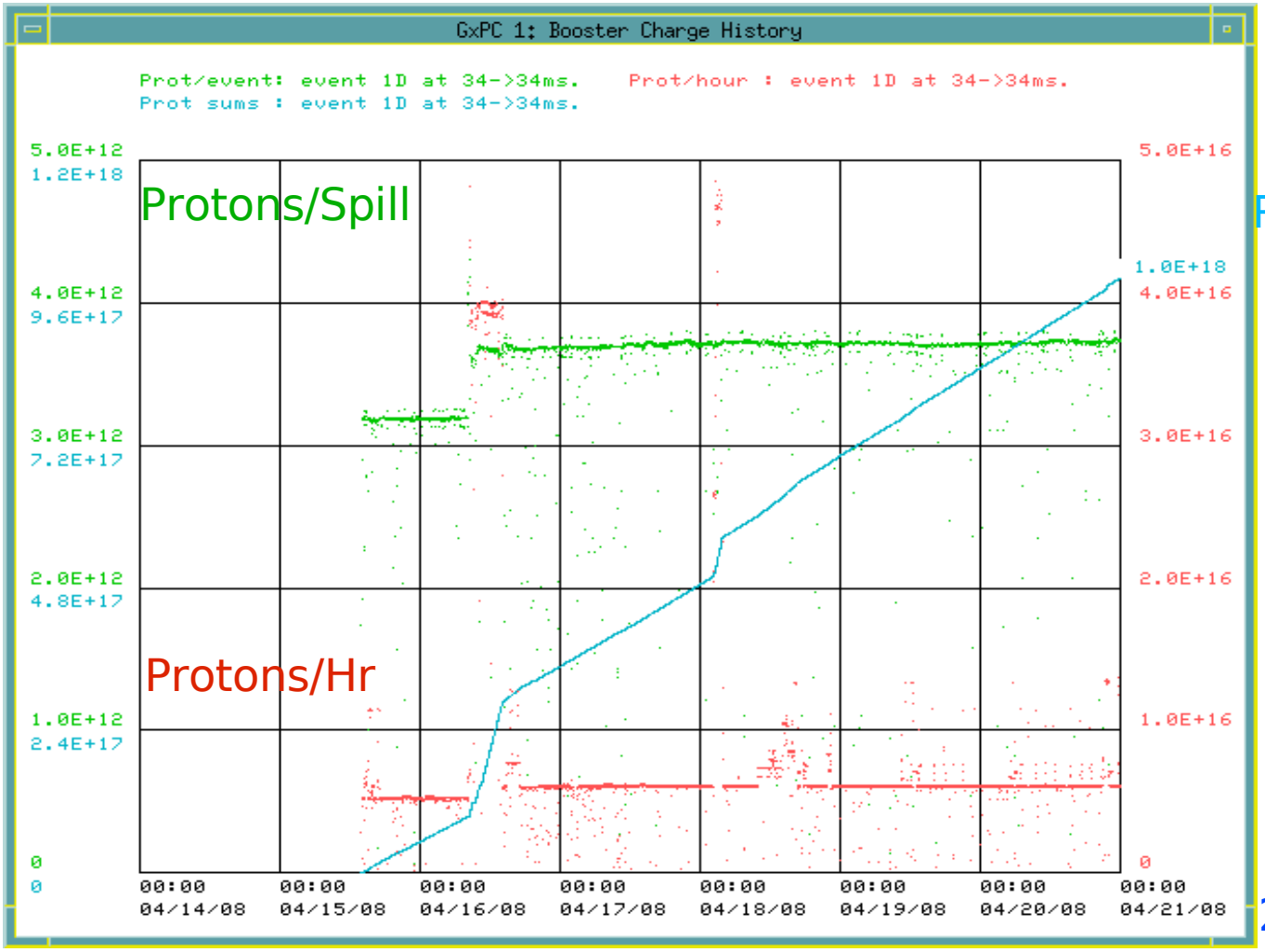
Beam Uptime Fraction

(fraction of time with beam)

Largest week: 98.1 %

Latest week: 69.7 %

One Week MB Proton/Hr Summary



POT/week

14 April

21 April

Low intensity 8 turns, ~0.6E16 p/hr, but steady!

Expected AntiNeutrino Rates

- Neutrino rate ~1100/1E18 POT
- Last weeks antineutrino rate= 207/1E18 POT
- Expect a reduction of ~2 for flux, and ~2.5 for cross sections.
- With a years worth of data ~2E20POT, can double antineutrino statistics!

Condition	Total $\times 10^{20}$ POT	Corrected $\times 10^{20}$ POT
No absorber	1.15	1.15
One absorber plate down	0.57	0.45
Two absorber plates down	0.61	0.43
Totals	2.33	2.03

Corresponds to ~50,000 antineutrinos

Antineutrino data on tape (Jan 06 to June 07).

This Week's Plan

- Continue stable running
  - With time line restored, and booster tuned up (10 turns), anticipate better beam intensity ~1.4E16 p/hr.