MiniBooNE Report

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for the MiniBooNE collaboration

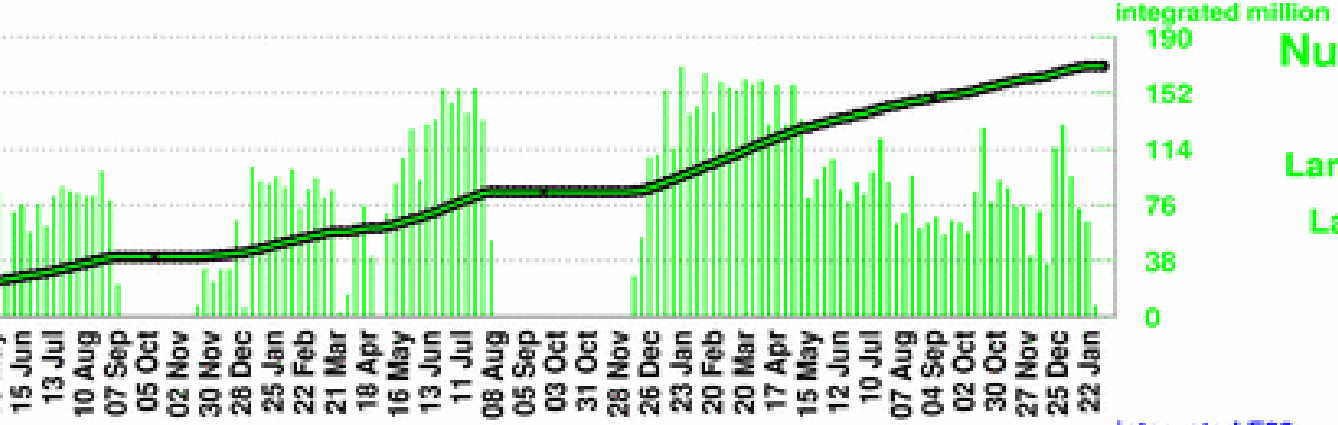
23 January 2006

09 Jan - 16 Jan: 2.8E18 POT, 70% Up.
16 Jan – 23 Jan: 3.1E18 POT, 80% Up.

- Horn off running from Jan 9 to Jan 19:
  - Horn supply switch, beamline work (multiwire setup) and LMC repairs (13 channels fixed).
- Switched to anti-neutrino running (horn current at -175kA) on Thursday, Jan 19:
  - power supply swap and testing went flawlessly. Thanks to Ioanis Kourbanis, Leon Bartleson, Howie Pfeffer, and AD techs.

- Detector triggering problems started Saturday, decreased live-time to 80-90%.
  - Have temporary workaround, will use tomorrows downtime to debug and permanent fix.
- Major beam downtime:
  - 26 hrs: Beam line and LMC work (Jan 12).
  - 8 hrs: Horn power supply testing and LMC (Jan 13).
  - 4 hrs: LMC repairs (Jan 14).
  - 8 hrs: Horn power supply testing (Jan 17).
  - Detector trigger problems, reduced livetime (Jan 21-23).

09 Jan – 23 Jan

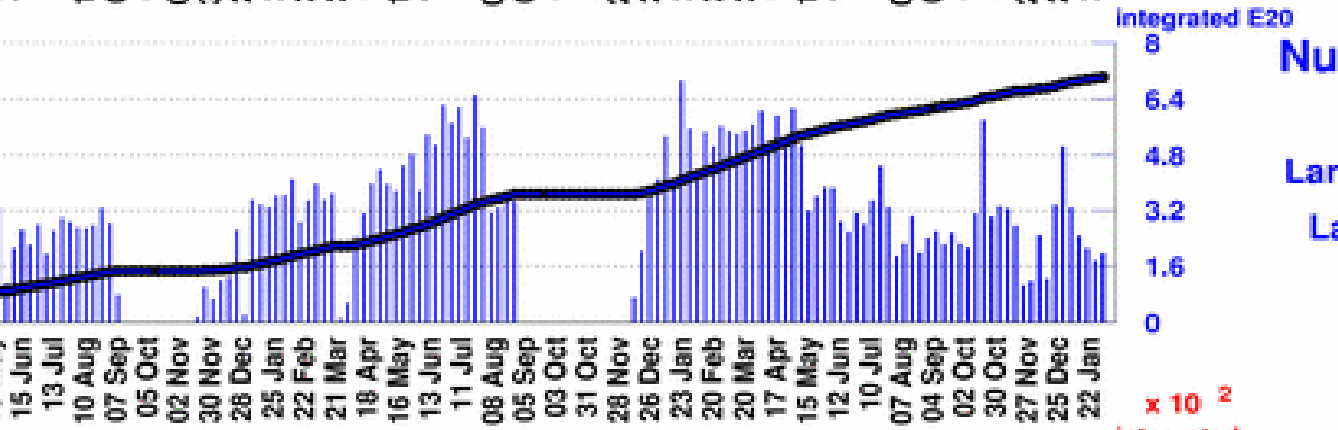


Number of Horn Pulses

To date: 170.6 million

Largest week: 2.46 million

Latest week: 0 million

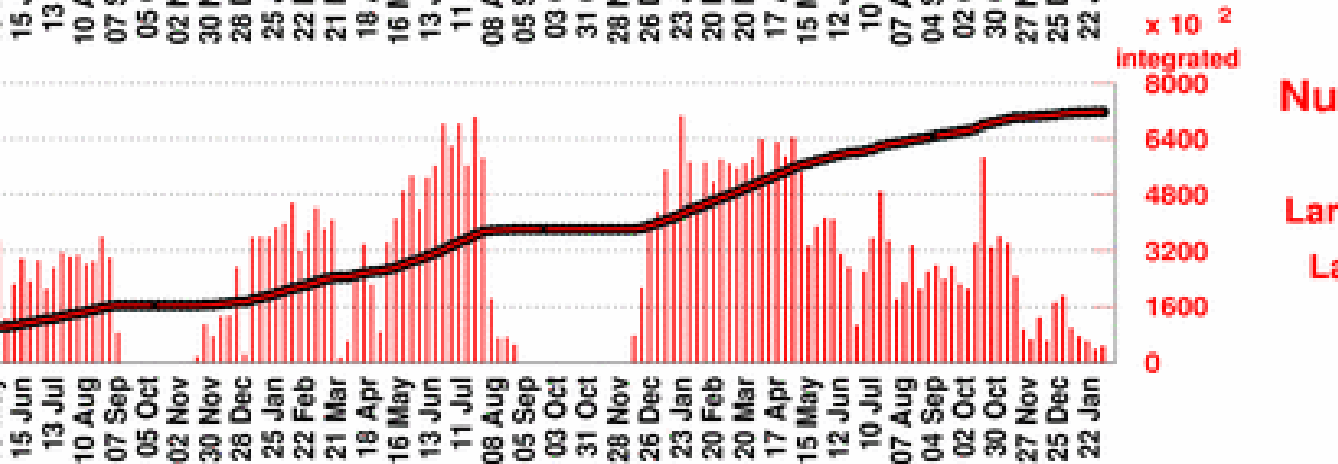


Number of Protons on Target

To date: 7.031 E20

Largest week: 0.1084 E20

Latest week: 0.031 E20



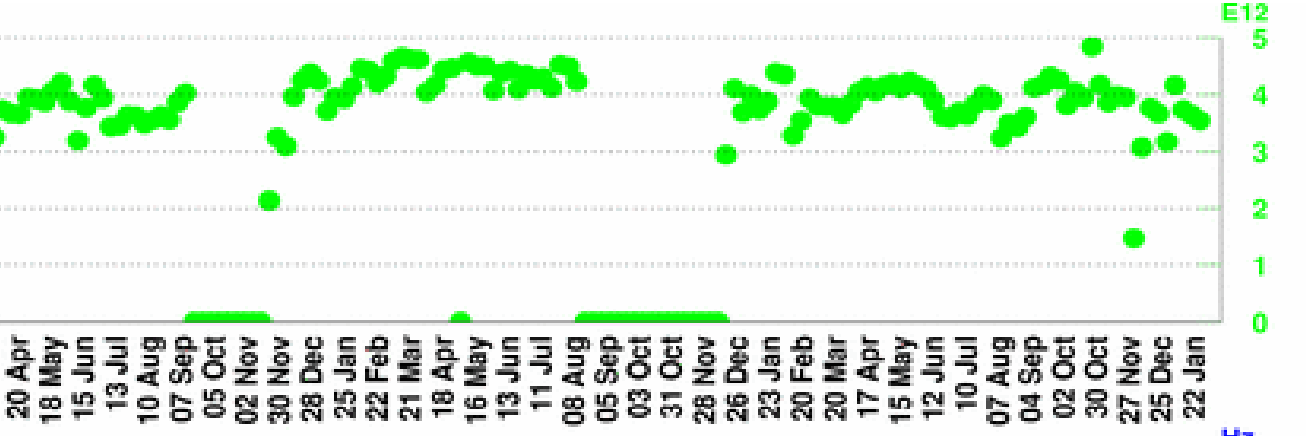
Number of Neutrino Events

To date: 716521

Largest week: 11447

Latest week: 725

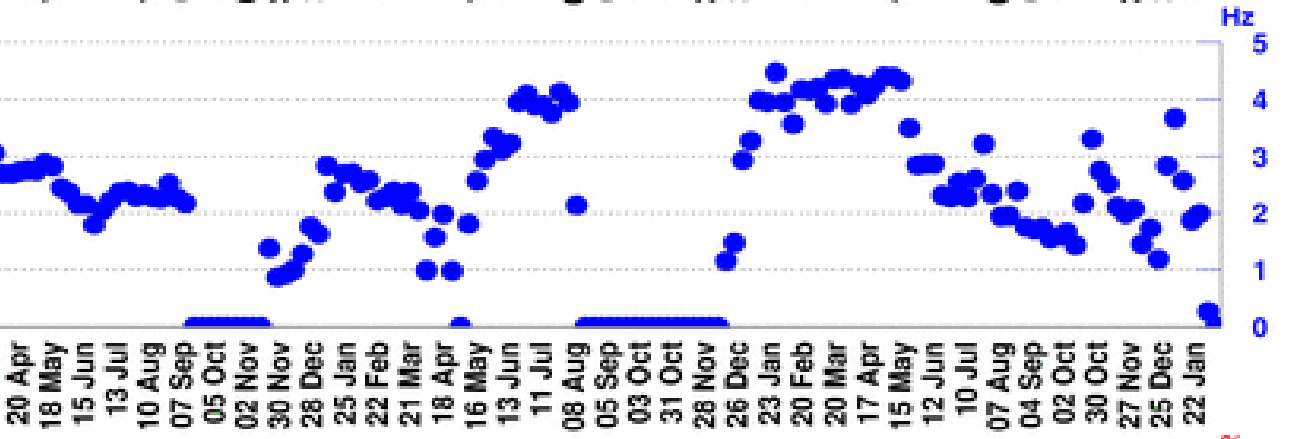
09 Jan – 23 Jan



POT per Horn Pulse

Largest week 2060.31 E12

Latest week 2060.31 E12

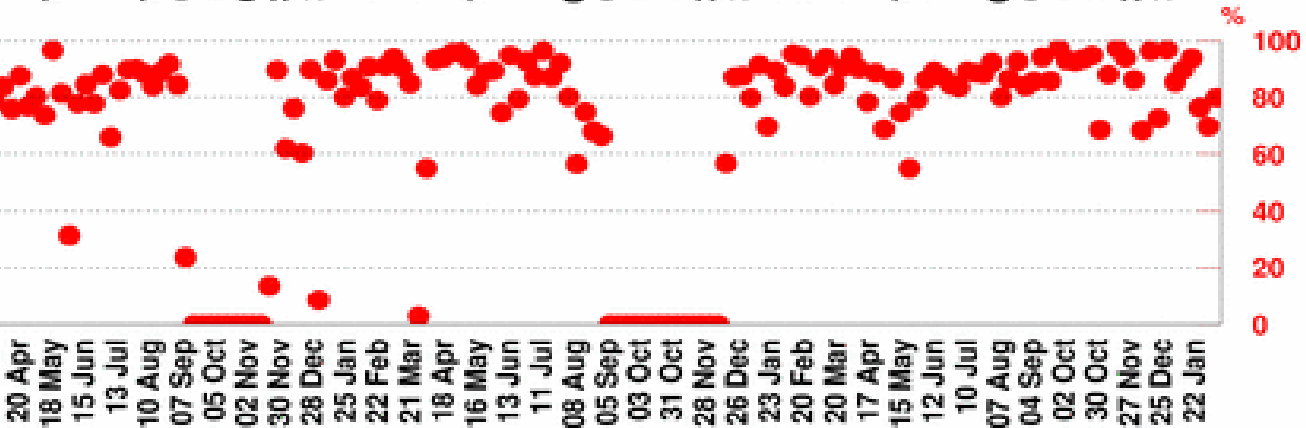


Horn Rate

(for time periods with beam)

Largest week: 4.48 Hz

Latest week: 0 Hz



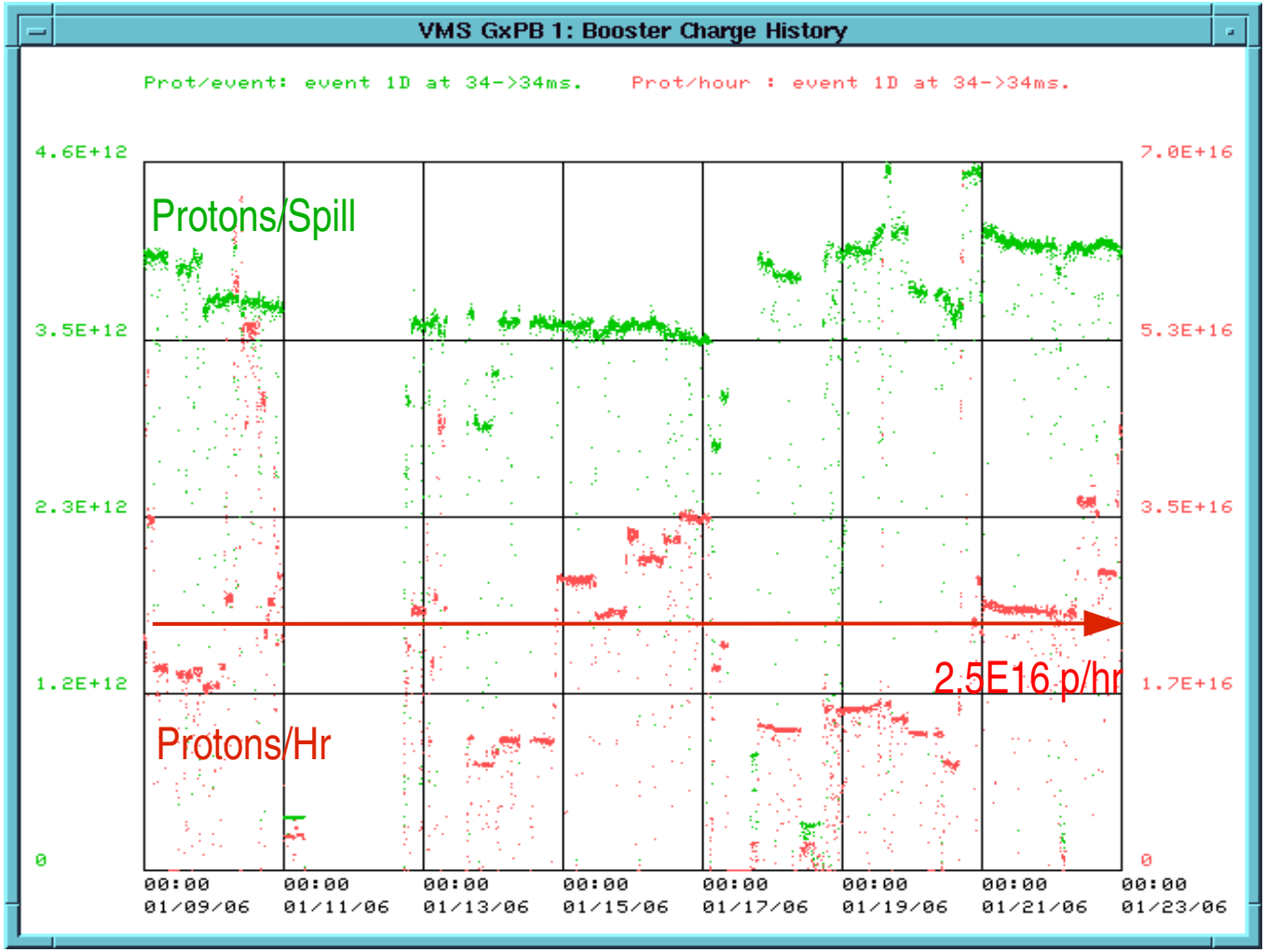
Beam Uptime Fraction

(fraction of time with beam)

Largest week: 97.4 %

Latest week: 79.9 %

Two Week Proton/Hr Summary



09 Jan

23 Jan

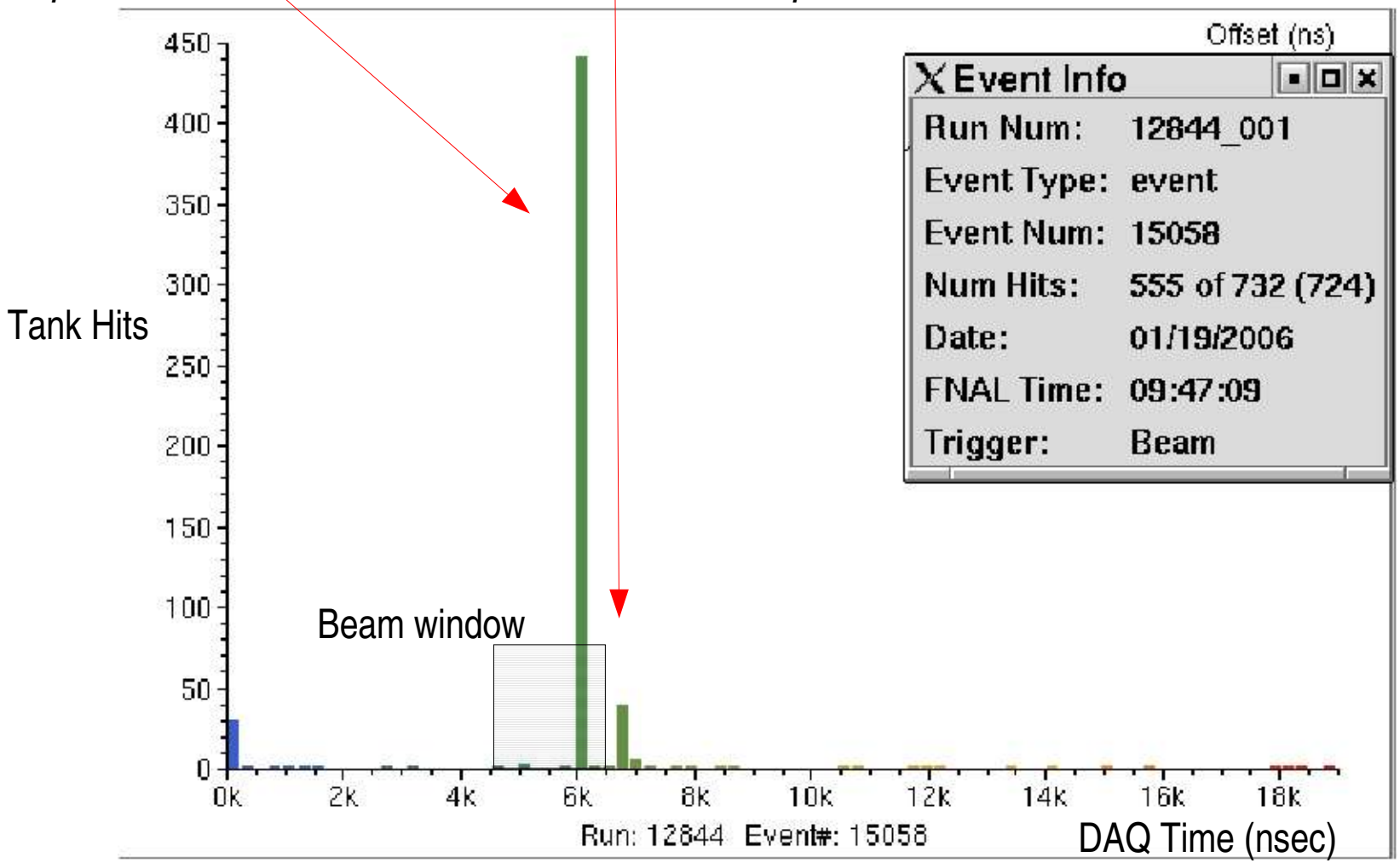
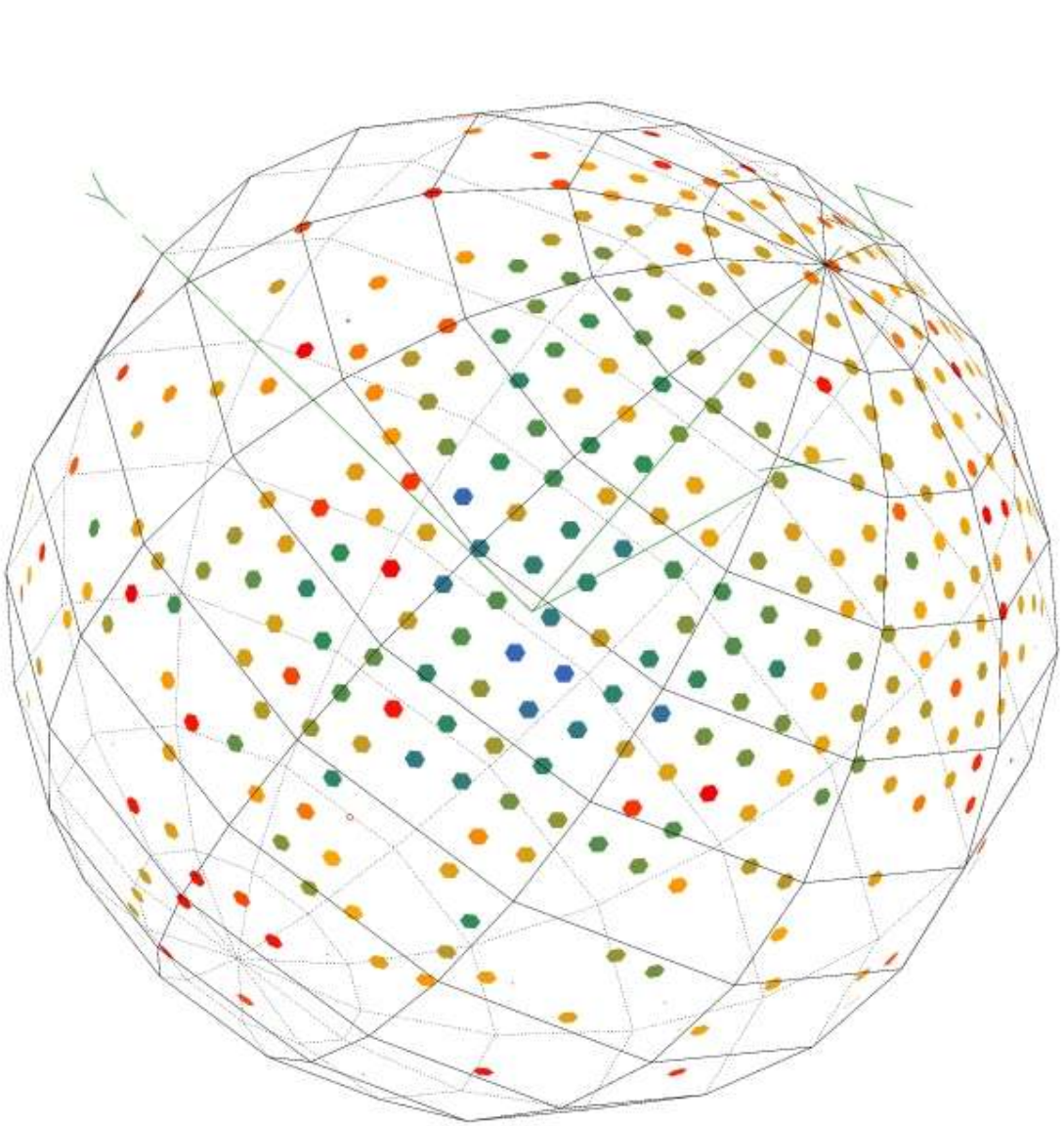
Good periods of running! Horn off, then polarity switch 1/19/06.

Summary, Plan of the Week

- Finished neutrino runs:
  - collected 7.0E20 POT, about 0.5E20 POT are special systematic runs.
- Running anti-neutrinos to shutdown, and after.
  - ~1000 anti-nus per weeks. Will have worlds largest anti-nu data set in a few weeks!
  - measure x-sections and form factors, anti-neutrino oscillations, systematic checks of neutrino analysis.
  - First anti-neutrino event...

First Anti-neutrino Event (probably ~75%)

- $\bar{\nu}_\mu$ p -> μ^+ n ; μ^+ -> e^+ ν_e $\bar{\nu}_\mu$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