MiniBooNE Report

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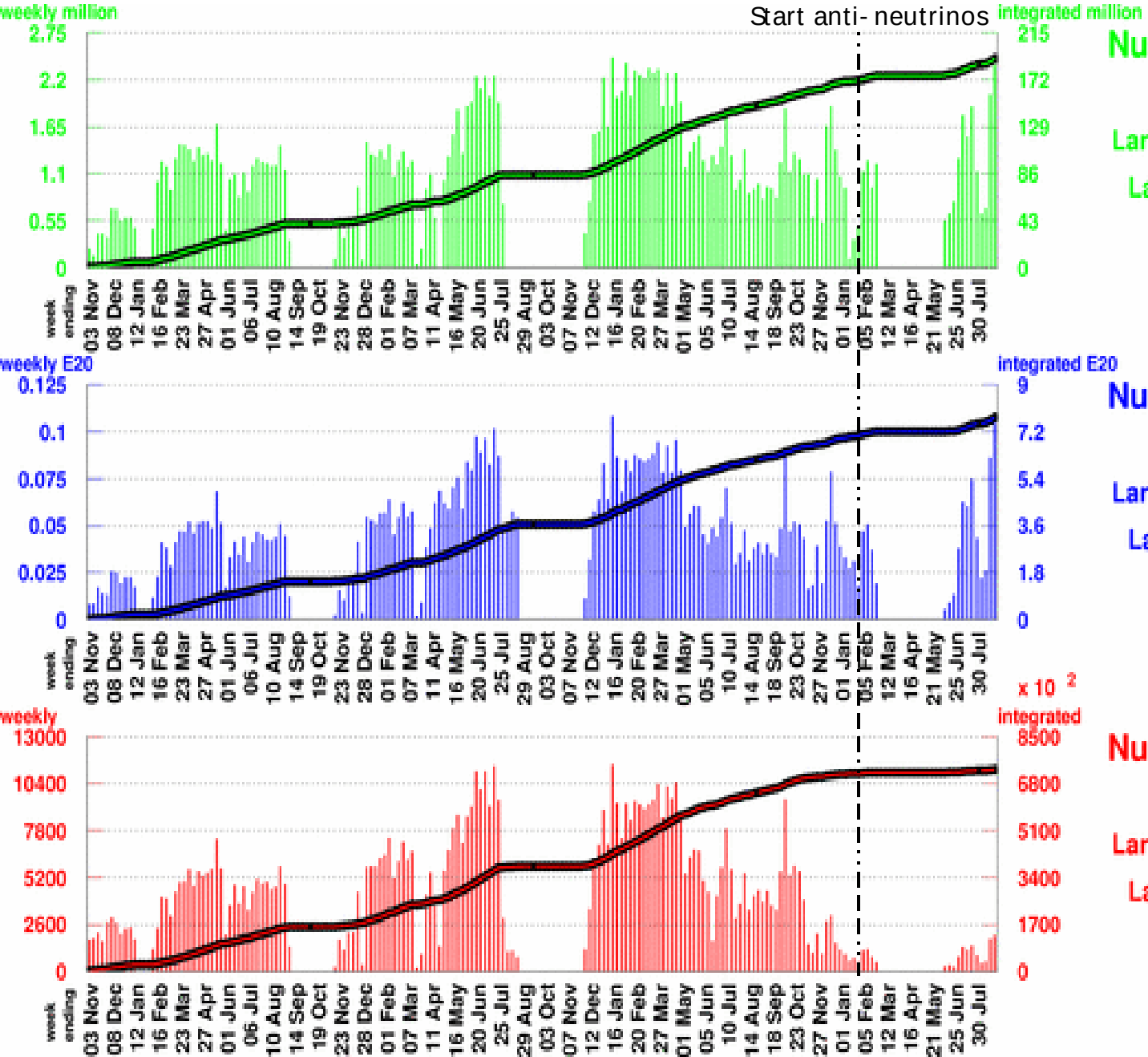
for the MiniBooNE collaboration

28 August 2006

Weekly Summary 21 Aug – 28 Aug
1.09E18 POT, 95% Uptime

- Best ever MiniBooNE peak and integrated week!
  - Reached Champagne goal of 9E16 p/hr for one hour.
  - Highest ever integrated weekly POT!
- Kudos to Proton Source group and operations for these outstanding achievements!
  - A 35 year old machine has been pushed to run 20 times more output while keeping the losses at the same level, amazing....

21 Aug – 28 Aug



Number of Horn Pulses

To date: 191.23 million

Largest week: 2.46 million

Latest week: 2.38 million

Number of Protons on Target

To date: 7.7517 E20

Largest week: 0.1085 E20

Latest week: 0.1085 E20

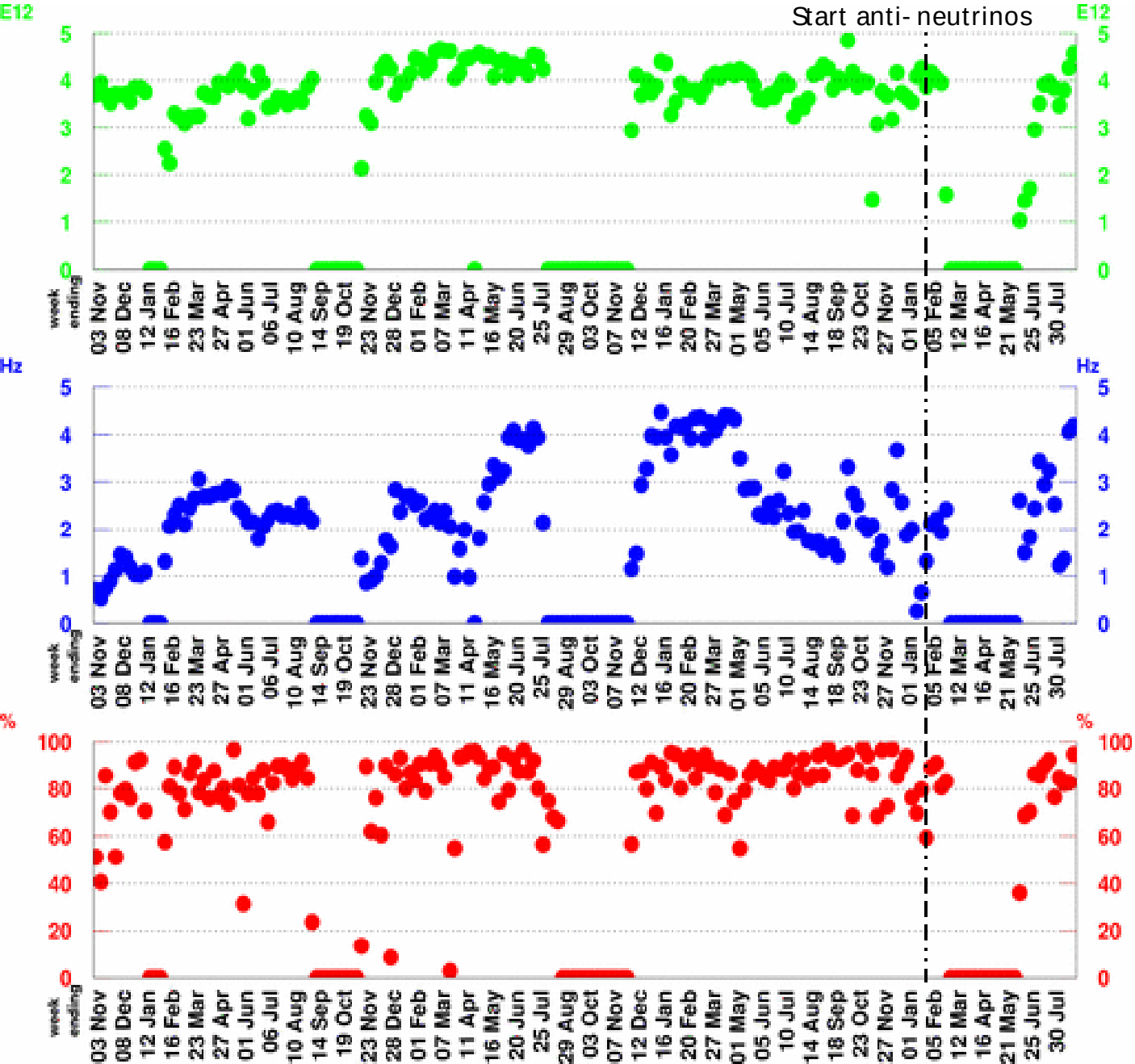
Number of Neutrino Events

To date:732063

Largest week: 11447

Latest week: 1981

21 Aug – 28 Aug



POT per Horn Pulse

Largest week: 4.85 E12

Latest week: 4.56 E12

Horn Rate

(for time periods with beam)

Largest week: 4.48 Hz

Latest week: 4.19 Hz

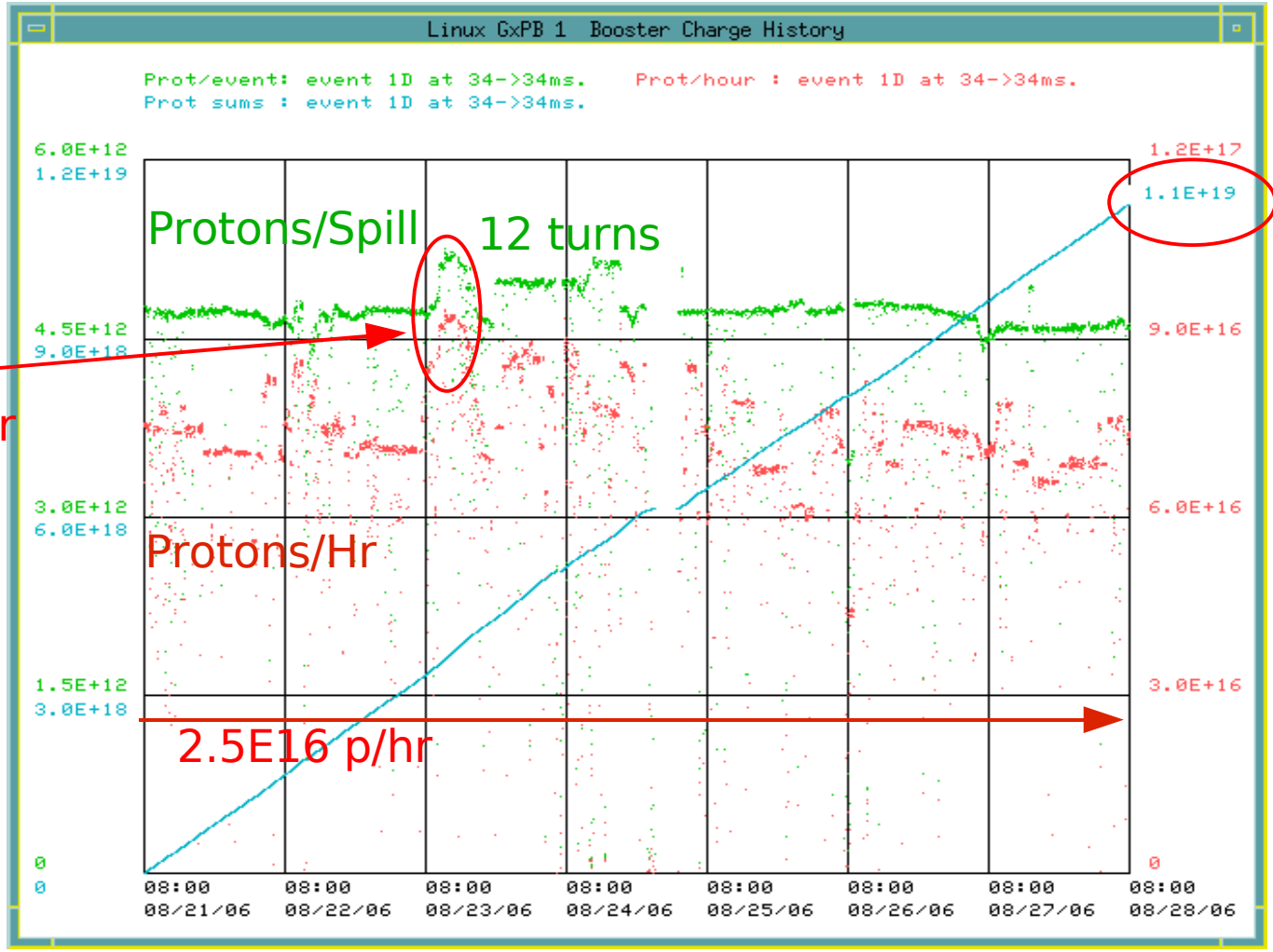
Beam Uptime Fraction

(fraction of time with beam)

Largest week: 97.4 %

Latest week: 94.6 %

One Week MB Proton/Hr Summary



Integrated week record POT

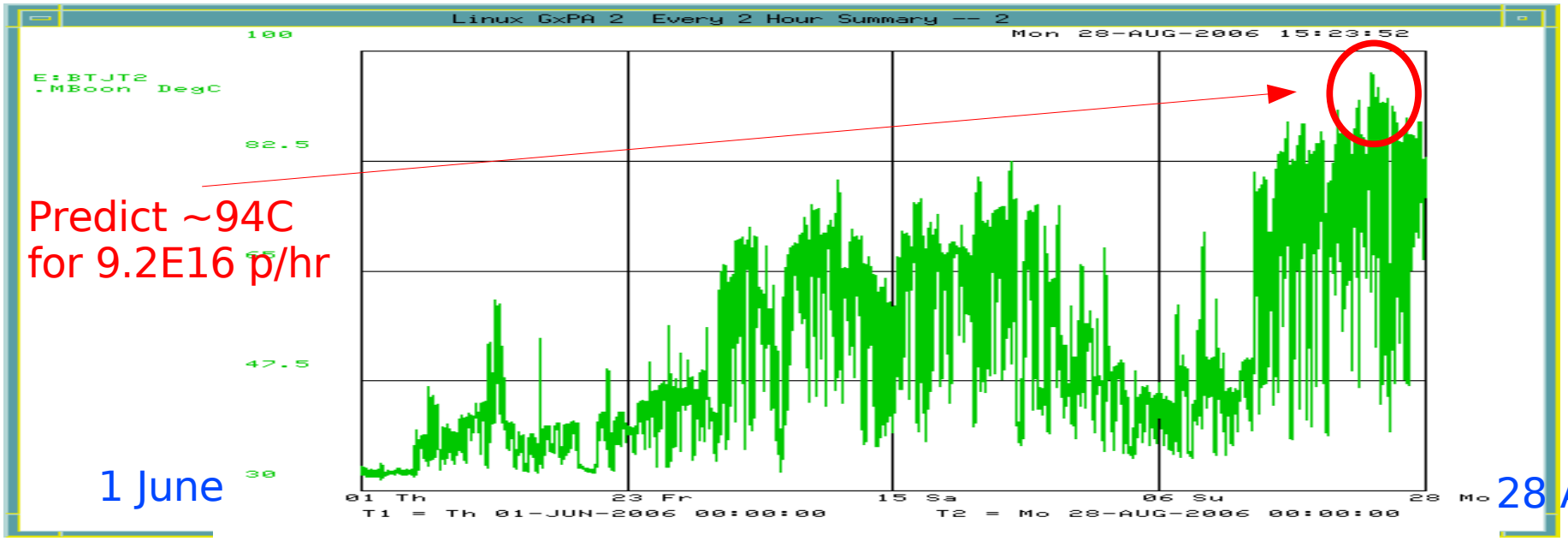
Record 9.2E16p/hr

21 Aug

28 Aug

Outstanding Linac/Booster running!

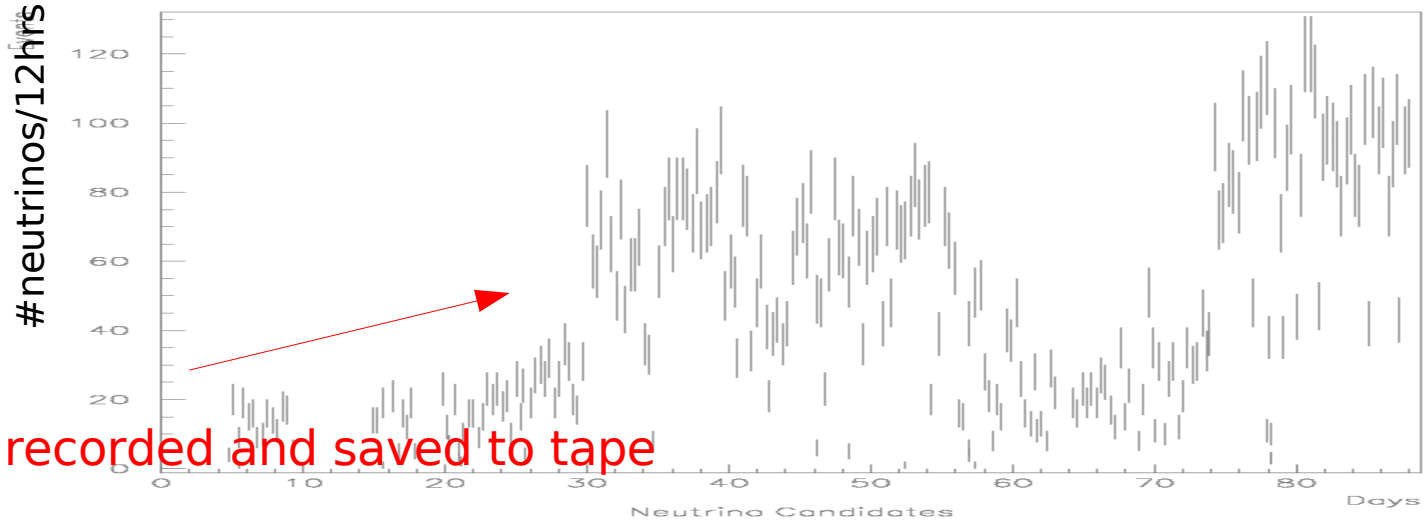
Target temp and neutrinos...the protons delivered are being put to good use!



Predict ~94C
for 9.2E16 p/hr

1 June

28 Aug

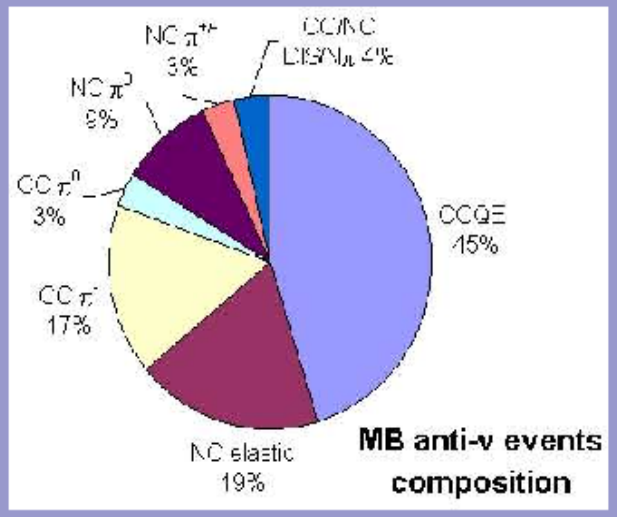


Neutrinos recorded and saved to tape

Antineutrino Scattering with MiniBooNE

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

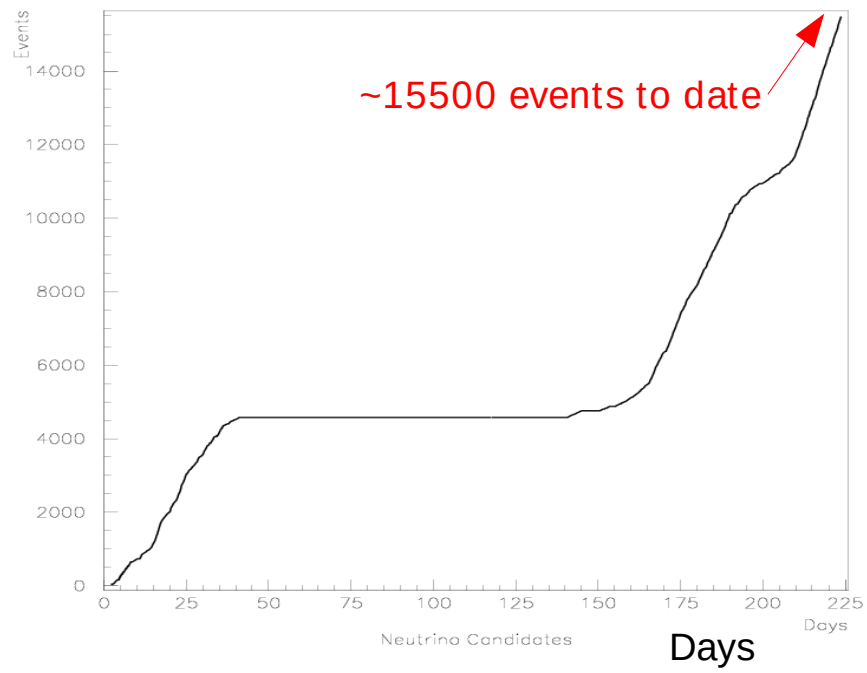
- from 2E20 "protons-on-target" (POT)
- with fiducial radius of 500cm
- before cuts
- ν event (wrong-sign) contribution not included



$\bar{\nu}$ 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

Neutrino Count since Jan 18/06



0.74E20 POT collected so far....

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

This Weeks Plan

- Try to maintain good uptime to take advantage of excellent beam.
- With improved Booster performance, expect decent rates when NUMI comes back online.
- Continue taking quality anti-neutrino physics data!