

The MINERvA Operations Report

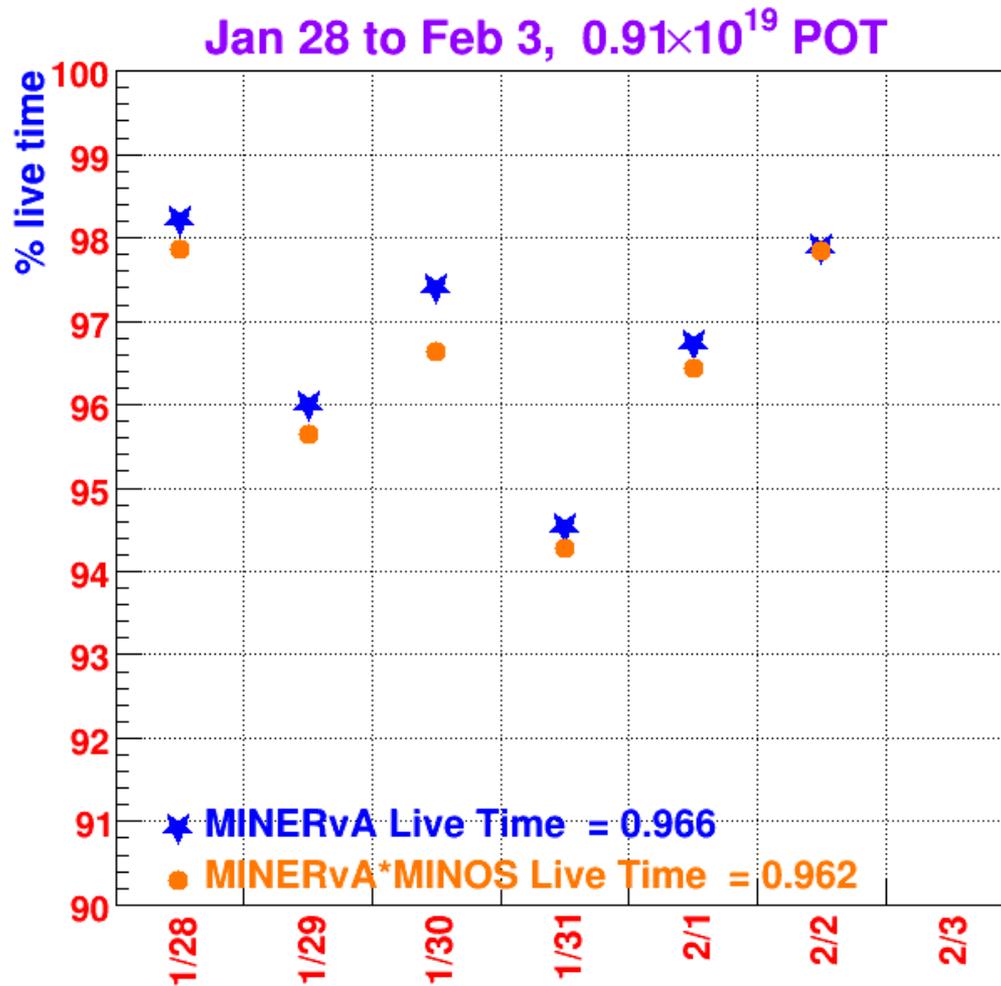
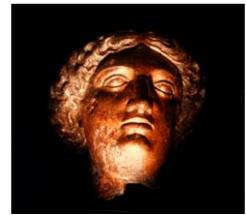
All Experimenters Meeting

Howard Budd, University of Rochester

Feb 8, 2016



v Data



- Live Time – Jan 28- Feb 3, 2016
- 0.91×10^{19} POT
- MINERvA 96.6%
- MINERvA*MINOS 96.2%



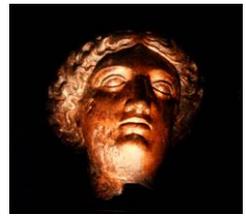
v Data



- We are still getting DAQ errors 1-2 times a day. The errors are communication errors in the daisy chains which reads out the FEBs. These errors cause the DAQ to stop or skip subruns.
 - A chain reads out 5-10 FEBs. There are 59 chains.
 - Virtually all the DAQ errors occur on 2 chains, 1-6-0 & 0-2-2
 - 1 is crate #, 6 is croc #, & 0 is readout cable connector # in croce. This # shows up in the logs and nearline plots.
 - These errors cause a live time loss of a couple %.
 - Jan 29 – 96.0%, DAQ error on chain 1-6-0
 - Jan 31 – 94.5%, DAQ error on chain 0-2-2
 - Feb 1 – 96.7%, DAQ error on chain 1-6-0



Feb 2-4 Beam Downtime



- Chain 1-6-0 has 5 FEBs. We replaced 3 of them. We got a DAQ error, so we replaced the other 2 FEBs. We have not gotten a DAQ error on it since then.
 - One of the replaced FEBs has a TriP chip with high cross talk. This was seen after the beam came back. We will replace this FEB.
- We didn't work on the chain 0-2-2 during the beam downtime.
 - It didn't give a DAQ error during the beam down time while 1-6-0 did.



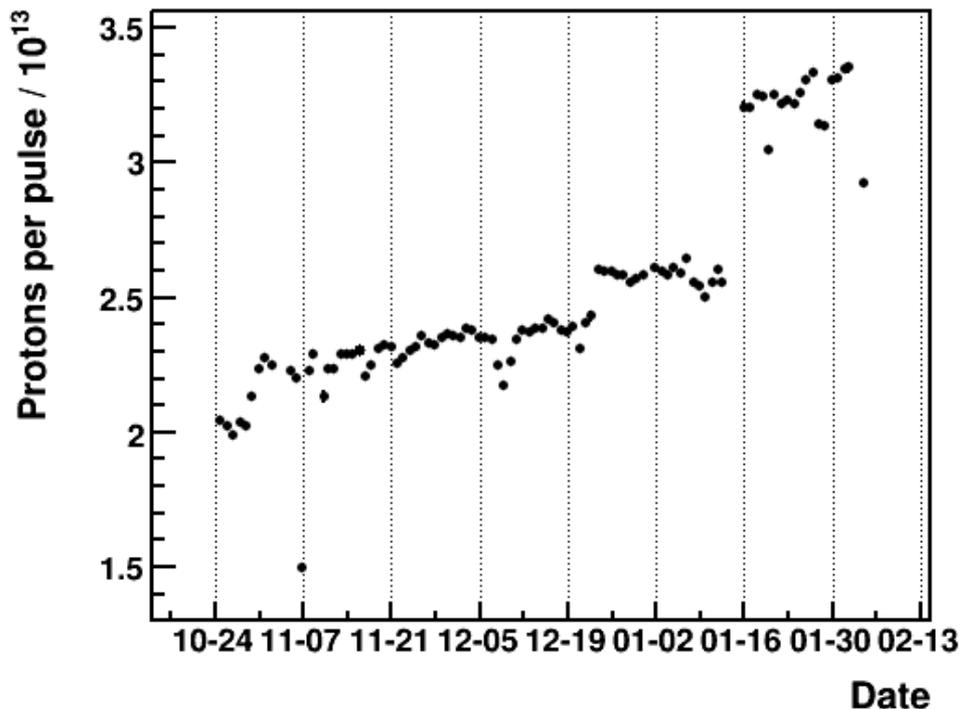
Feb 2-4 Beam Downtime



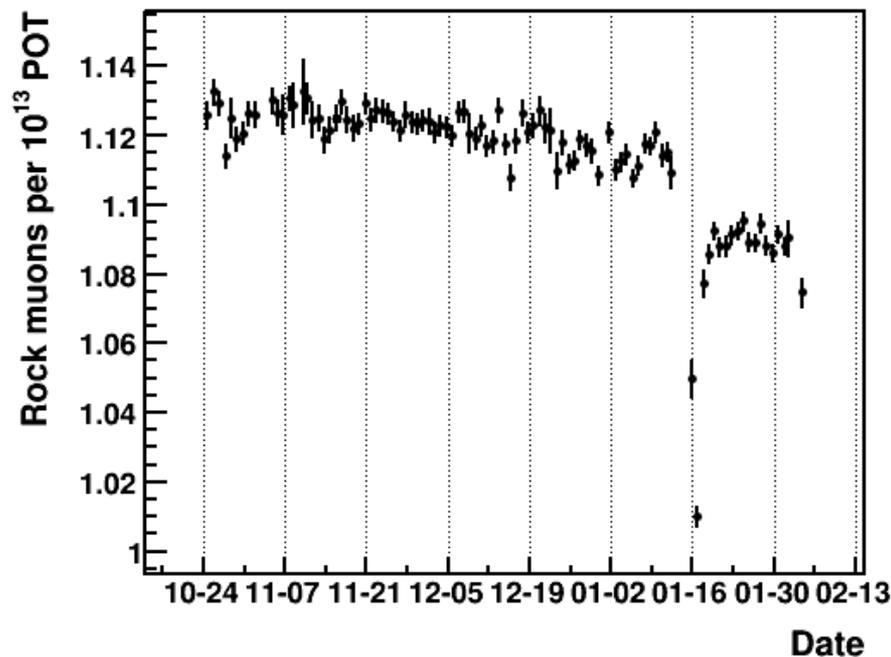
- We replaced a PMT which has some high voltage (HV) variation. The Cockcroft-Walton (CW) frequency for this tube was high. This meant the CW was working hard to keep the tube on the correct HV.
 - This required removing the roof
- We replaced a FEB which had a dead channel.
- We replace a FEB for PMT box with occasional HV spikes. Although the PMT box is usually the problem, first we usually replace the FEB. We haven't seen the spike since then, but the spike is rare enough that we would not expect it after ½ week. Often , these spikes go away.



Rock Muons/POT



POT/Pulse

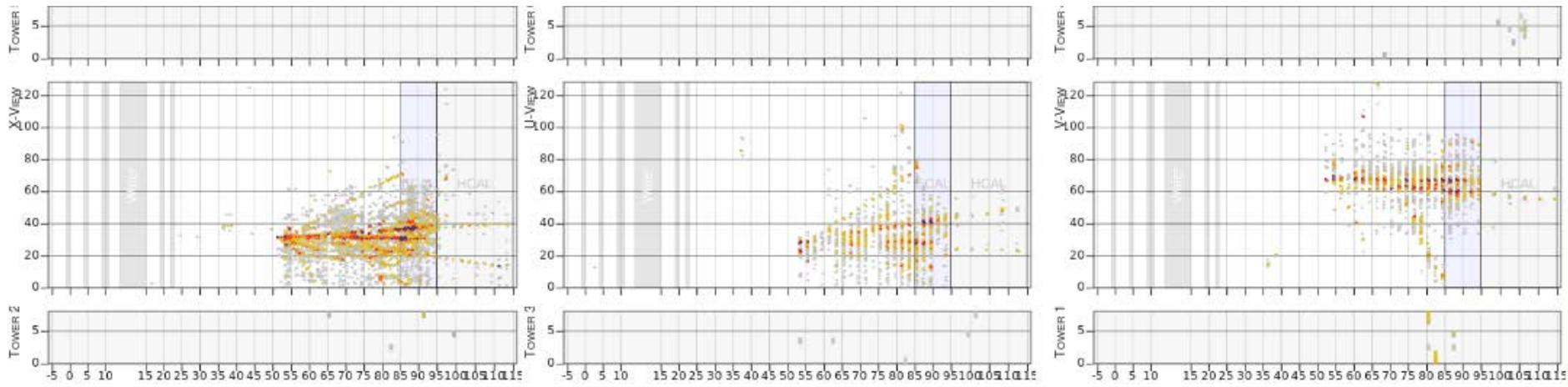


Rock Muons/POT

- The higher proton power from 4+6 slipstacking beam causes $\sim 2\%$ decrease in rock muon tracking efficiency



Event Display



X View

V View

U View

Tracker DIS



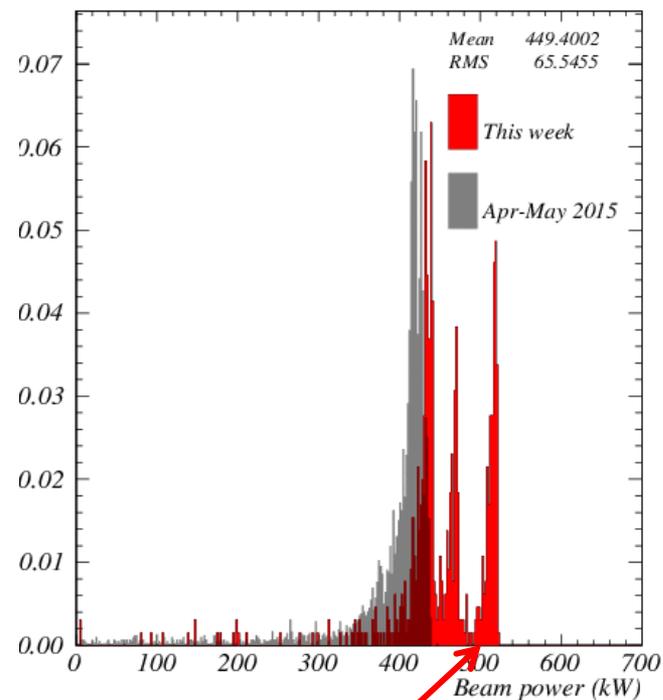
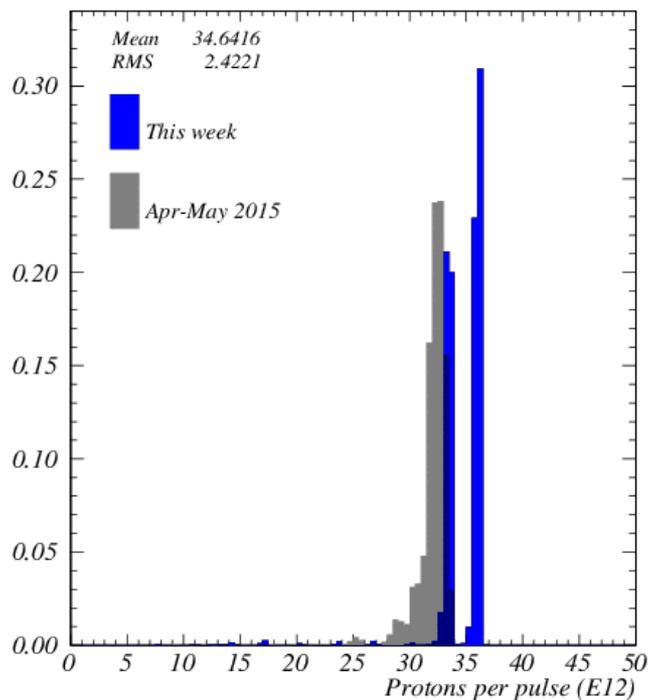
NuMI Beam Plots

Feb 1-7, 2016



Week ending 00:00 Monday 08 February 2016

Week ending 00:00 Monday 08 February 2016



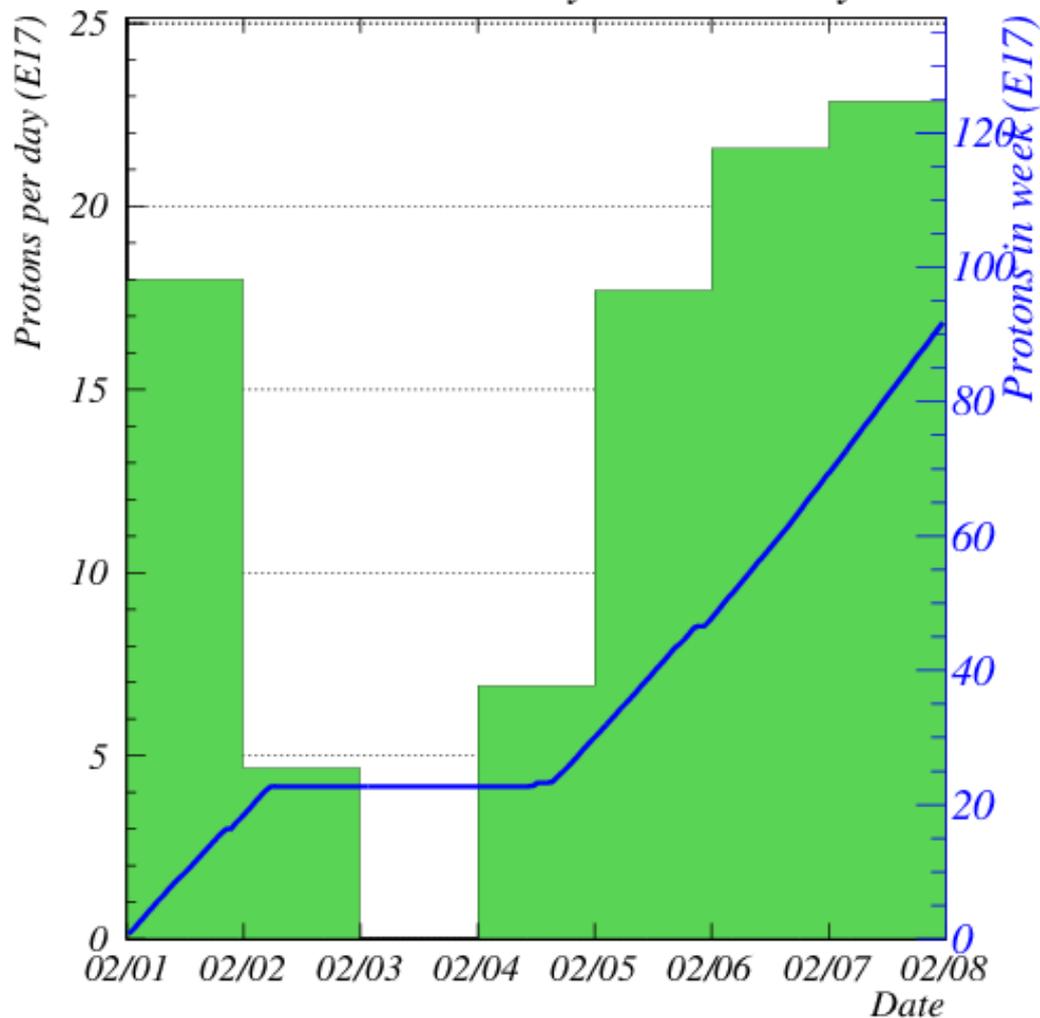
- Phil made some changes: increased beam power axis to 700 MW & the grey average is now the best 2015 running.
- NuMI was running ~ 520 KW was the last 2 ½ days, breaking records on POT
- Congratulation to AD on this record.



Protons for the Week



Week to 00:00 Monday 08 February 2016



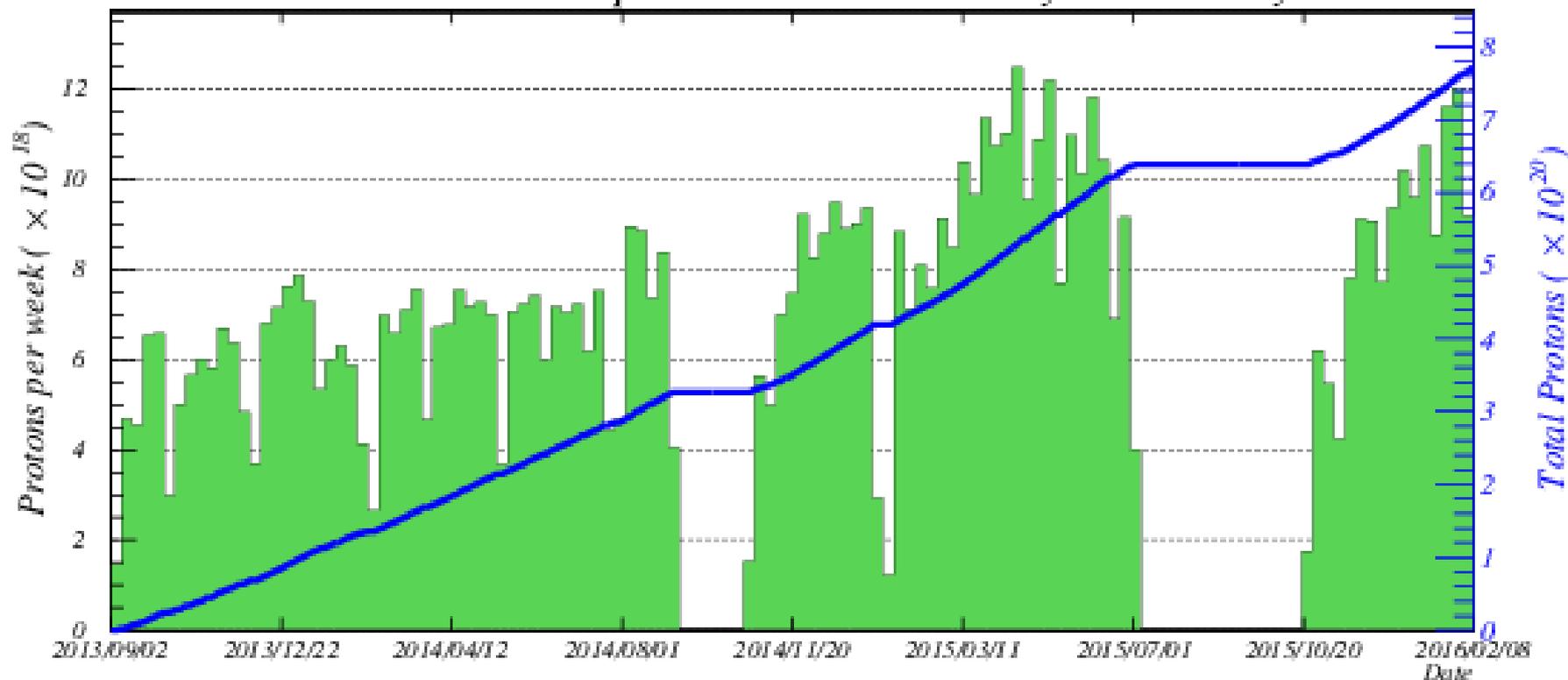
0.92×10^{19} POT
Feb 1-7, 2016



Protons for ME Run



Total MINOS+NOvA protons to 00:00 Monday 08 February 2016



77.14×10^{19} POT - Sep 6, 2013 – Feb 7, 2016