

NOvA Experiment Status

All Experimenter's Meeting

Jaroslav Zalesak, FNAL

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Operations – Summary



❑ BEAM:

- Getting 470/520 kW with 6+4 slip stacking.
- We extensively used the 2.5-days beam-off for the maintenance.

❑ NearDet:

- Swapped electronics parts, repair on the water chiller system.
- Kept detector a day HV off and warm to reduce noise

❑ FarDet: running in high gain mode (150)

- Underwent maintenance during beam shutdown.
- The SCD worked on the DAQ Application stability. Since this point we are able deploy 130+ (all new) buffer nodes.
- Vast and long power outage in the Ash River area caused the Far site w/o power and put down detector for more 14 hours down.

❑ Control Room(s): Still working on the stability improvement of VNC connections from the ROCs.

Far detector



□ DAQ Application Manager (DAM) crashes:

- Number of DAM crashes was very low (2 per week).
- The 2-days SCD effort stabilized the DAM at level where we can deploy almost all computing power – buffer nodes. After DDT/exotics group updated their software we now have bigger trigger latency (8.5 sec) and the look-back possibility of 16.7 min of past data.

□ Power outage at Ash River:

- We faced to the (so far) biggest power outage at Ash River. The electricity was down for 7 hours (3-10am on Sun). The recovery of detector, computing till we could take first good (w/ not full detector) data took another 7.5 hours of down-time.

□ Maintenance – the failed electronics replacement (Tue/Wed):

- After more than month Ash River crew swapped many electronics parts (25 FEBs, many channels were tested)
- Also they maintained one of Dry gas circuit (supplied 128 APDs) had shown low and decreasing pressure and found 3 leaked APDs.

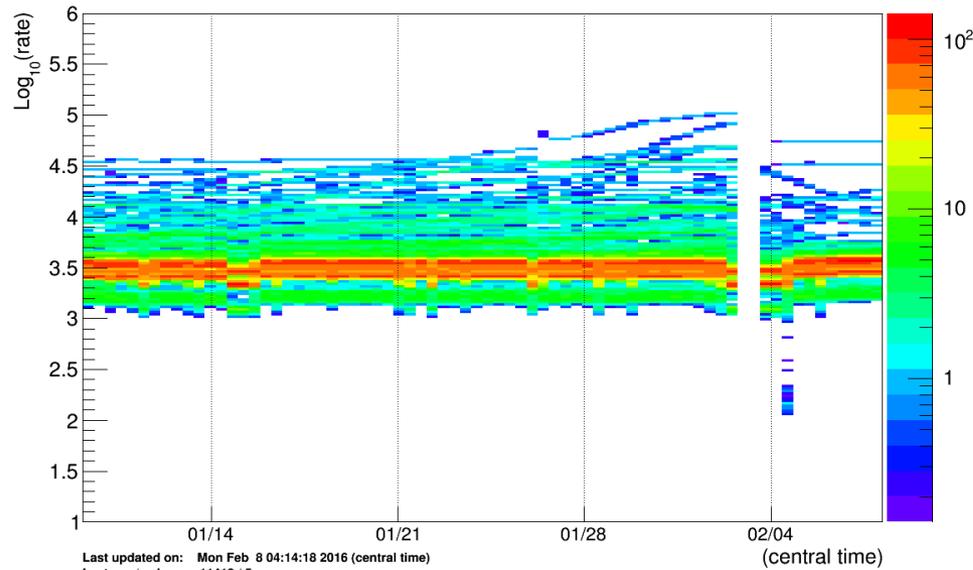
Near detector



Noise reduction with keeping the detector w/o HV and warm:

- Switched (APD bias) HV off and warmed up detector for 24+ hours.

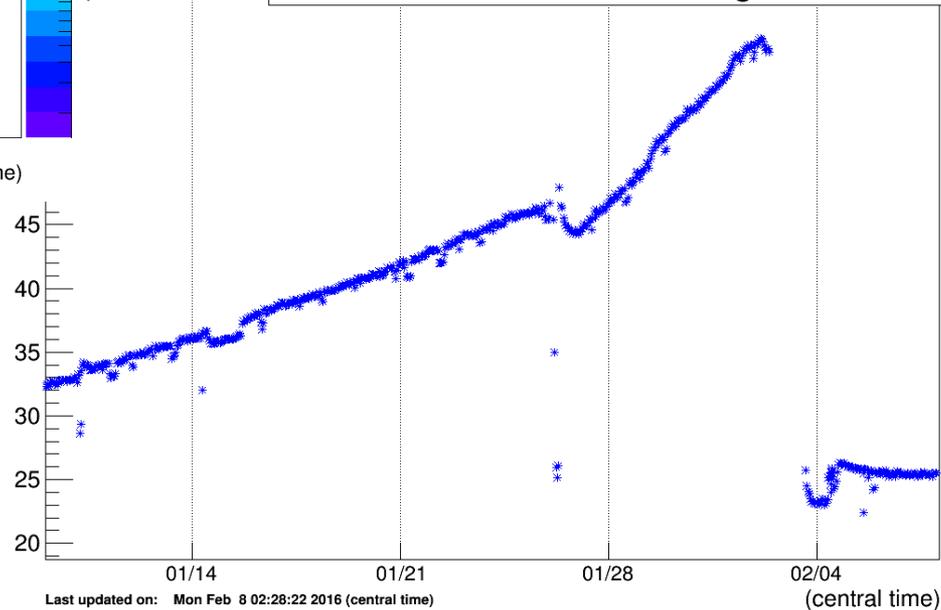
DDActivity FEB Hit Rate Spectra vs. Time - partition 1



Last updated on: Mon Feb 8 04:14:18 2016 (central time)
Last run / subrun: 11418 / 5

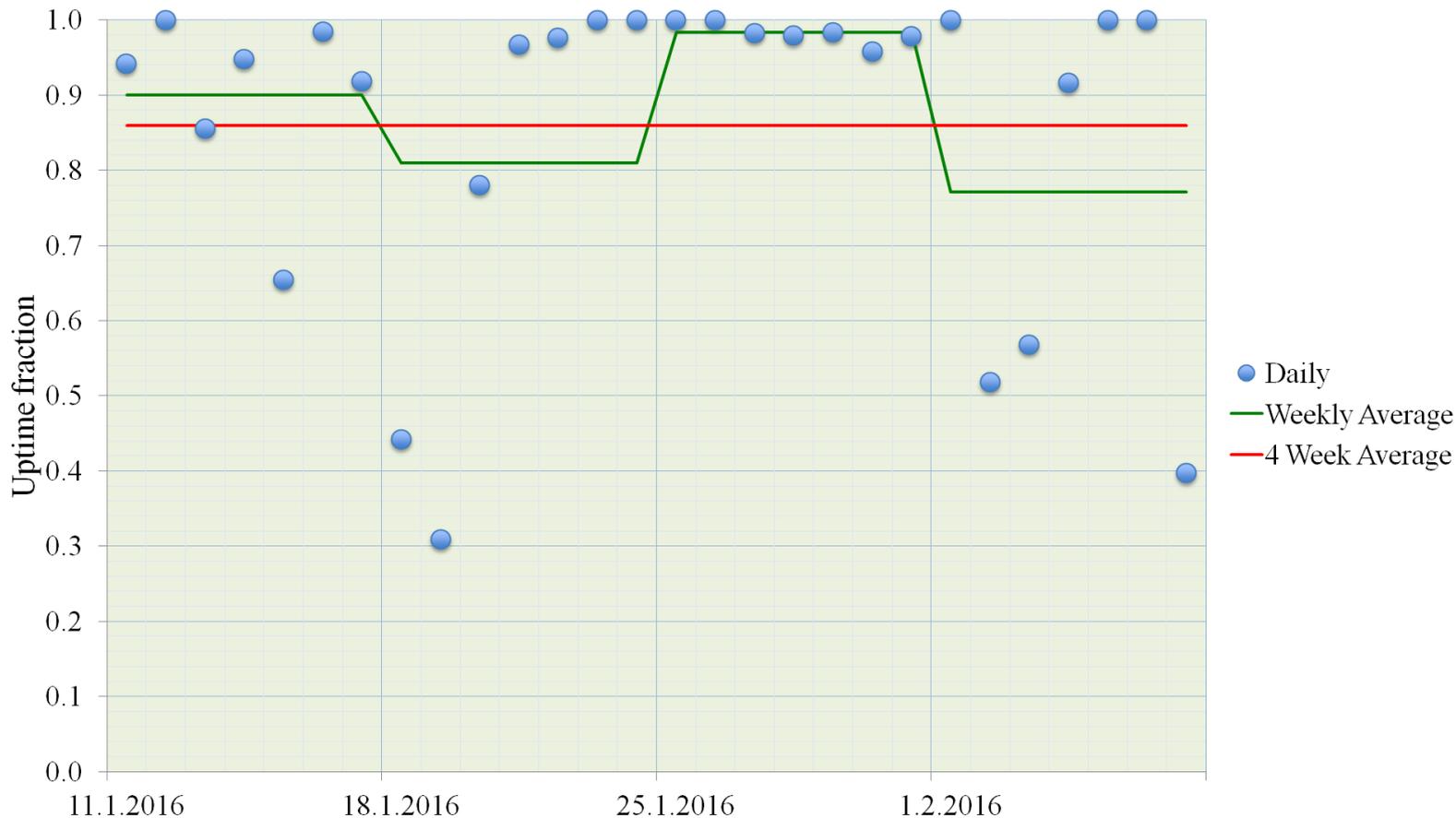
DDActivity Number of Noise Slice Hits per Subrun - partition 1

Last Point = 25.521313 / Average = 39.645886



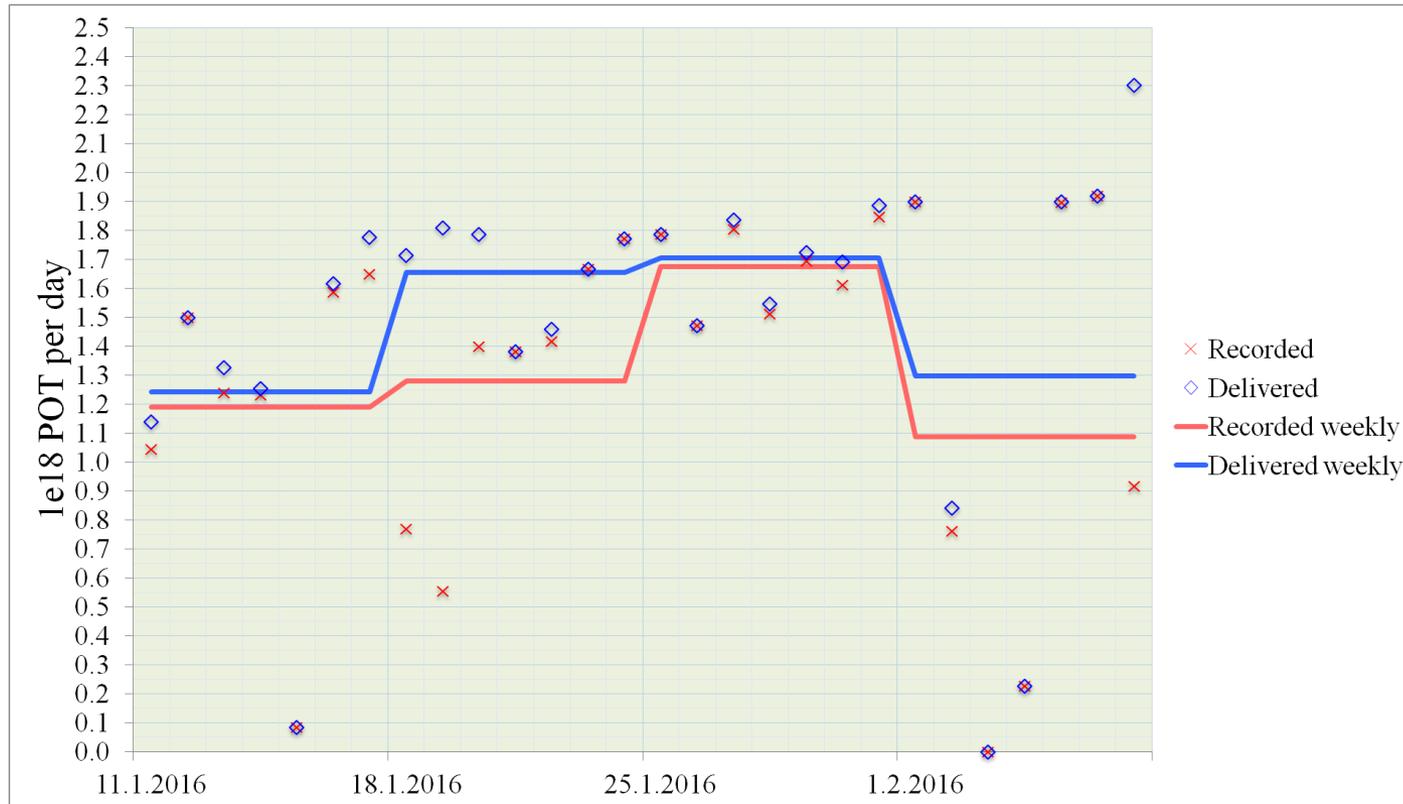
Last updated on: Mon Feb 8 02:28:22 2016 (central time)
Last run / subrun: 11418 / 3

FD: Data taking Uptime



- We had not good last week – 77% uptime, 42 hours in total .
- 23 hours down for maintenance, DAQ tests (no beam), successful part of week.
- 1 hour DAQ issue before (beam).
- 14.5 hours down during and after the Sunday Ash River power outage.

FD: POTs delivered/recorded



- Past week efficiency was only 83.9%, (7.62 of 9.09 e18 POTs), we could not fully use the record-breaking amount of POTs delivered on Sun to us (FD, only 35% efficiency).
- Except of one hour down time on Tue all the other beam loss is due the power outage and its recovery (half-to-half ratio). Additionally we were running with not full mass detector for couple of hours.

FD: Accumulated POTs – all years



➤ 2013/14: 280/326 e18 POTs (86%) + 2014/15: 298.5/312.5* e18 POTs (95.5%) [253days]

➤ 2015/16: 122.3/132.2 e18 POTs (92.5%) [126 days]

**) Including 20.8e18 POTs horn-off data and 2.6e18 non-nominal horn current data.*