Commissioning of the NOvA Near Detector On the Surface

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During summer and fall NOvA has been building its near detector in a surface building near the MINOS surface building.

- Primary motivation is to make a full system test of installation and integration to prepare for construction of the far detector at Ash River.

- Sees NuMI beam at an off-axis angle of 110 mrad. Will provide useful neutrino data for physics readying calibration, reconstruction, and analysis for far detector data.
Four blocks filled with scintillator and operational
We’ve been running the detector since the end of November and have recorded a large number of cosmic rays, including this large cosmic ray EM shower recorded on December 7th, 2010.
Timing in NuMI Spill

After cuts to reduce cosmic ray backgrounds there are 39 events within 10 μsec over background of 1.18.

These 39 events place the 10 μsec NuMI spill window between 215.4 and 227.6 μsec at 3σ (12.2 μsec width).

“Dead reckoned” earliest possible arrival time of neutrinos relative to MI trigger signal is 208 μsec
1st Neutrino Event on December 15th
Another example recorded last night