

ProtoDUNE-SP Geometry Update

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DUNE Sim&Reco Meeting, May 3, 2017

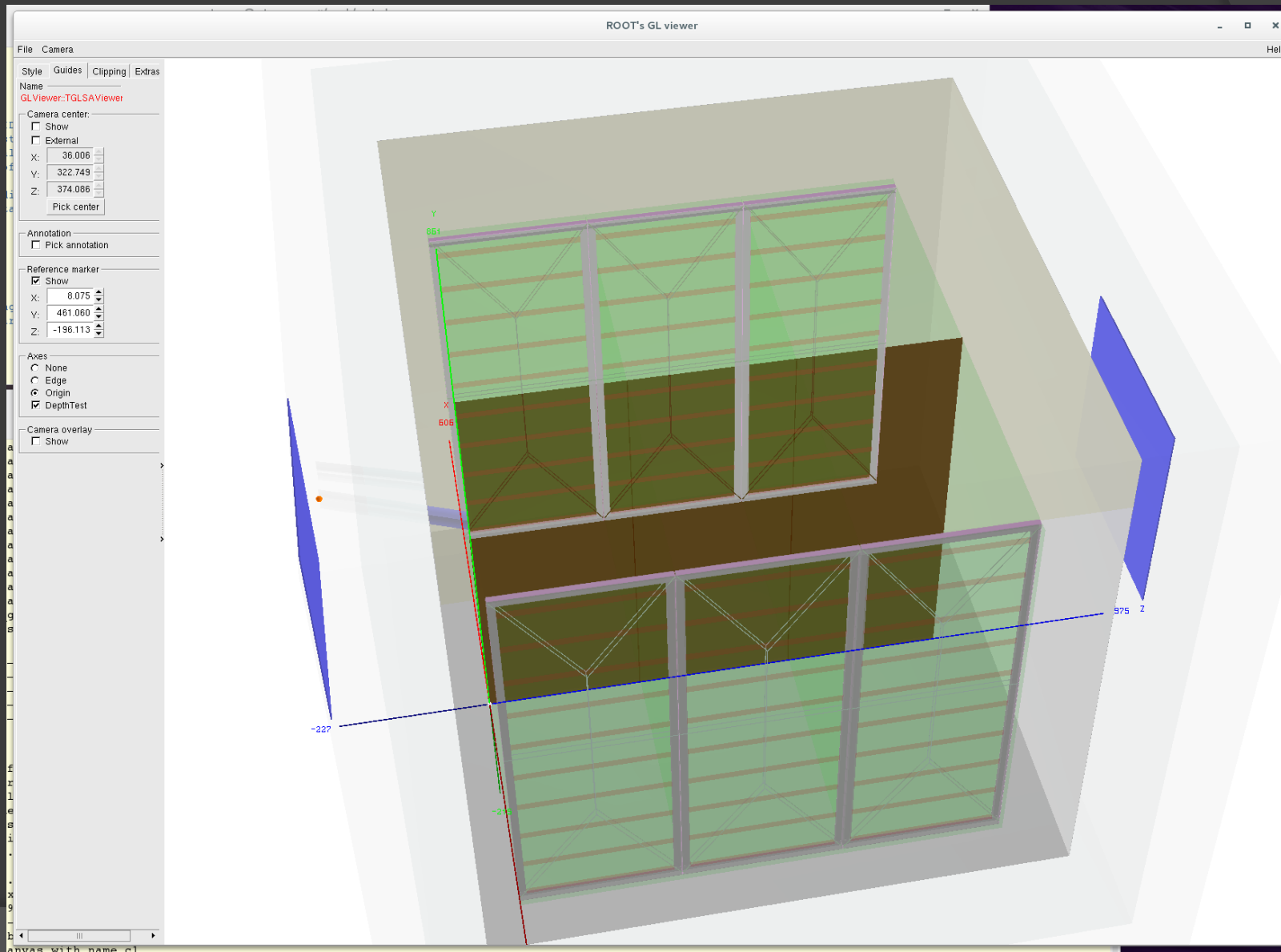
What is ProtoDUNE-SP Geometry v3?

- Correct dimension for the steel support implemented as 62 cm of steel-air mixture
- Correct dimension for the foam insulation implemented as 80 cm of foam padding
- **(New)** Simple opening in the steel support and foam with 25 cm diameter for beam windows 2 and 3.
- **(New)** Correct location for both beam windows. In v2 beam window 2 was not in the correct location.
- **(New)** Simple cosmic ray tracker volumes without segmentation. The size is the same as the size of the modules presented by Ed at the Sept collaboration meeting.

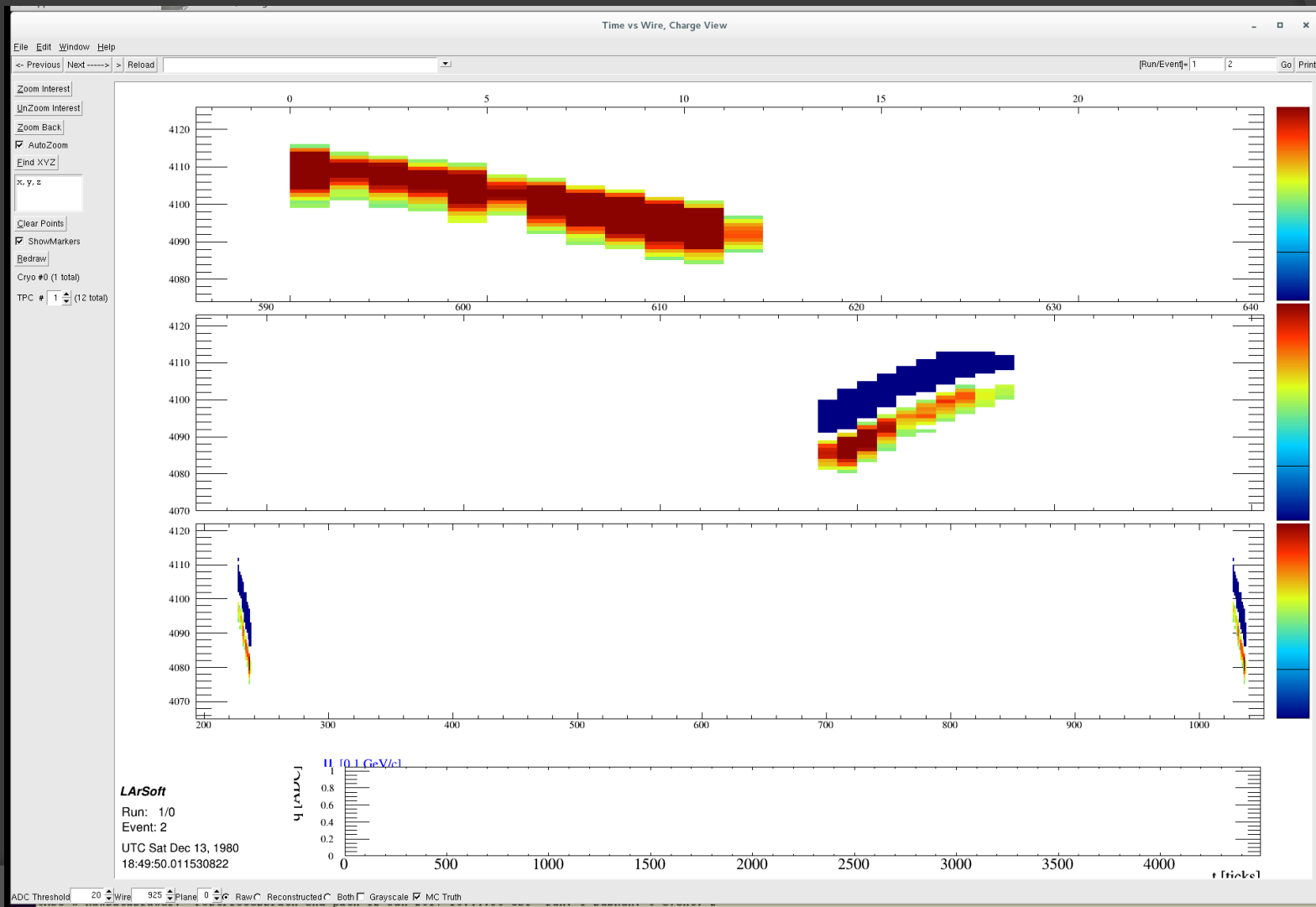
Changes to the Cryostat and TPC

- Correct inner dimensions of the cryostat, correct layer of argon on all sides of the TPC. TPC sits off-center in the cryostat as it should.
- Correct depth of the gaseous argon.
- Latest wire angles, APA and, CPA dimensions.
- **(New)** Beam plug for beam window 3 implemented as a G10 pipe with 25 cm outer diameter and 2.5 mm wall filled with Ni Gas at 1 atm. The beam plug reaches (almost) the active volume of the TPC.

ProtoDUNE Geometry V3



Muon 100 MeV Momentum (40 MeV KE) Entering through the beam window



Current Status of ProtoDUNE-SP Geometry v4

Status

- Finalizing field cage
- Detail of the support structure
- CRT segmentation
- Update beam window

Plans

- Have most of these for the next MC production.