

LArSoft minutes, 27-July-2011. -- Eric Church

LArSoft minutes appear at <https://cdcvs.fnal.gov/redmine/projects/activity/larsoftsvn>. (The location presumably at which you found these!) For further details of matters reported here drill down into the wiki, etc, at that redmine site. Everyone is welcome to attend the bi-weekly meetings. Next meeting will be 24-Aug-2011. (Would-be mtg date 10-Aug coincides with another(!) MicroBooNE Review.) It will be in the Racetrack, 7X0.

There are pdfs from David McKee and Roxanne in the Documents link on redmine.

Eric reports administrivia: We'll move imminently to ART v0.8, a no-op for now. Later we will avail of features of increasing provenance info and a fwd-bkwd pointing association of PtrVectors and their Vectors. We will announce at such time any user change potentially needed. Eric reports that Lee Lueking seems ready to give us some gpcf worker nodes on which the 2 GB/job memory is increased by 50 or 100%. I told him 44 nodes with 4 GB limit is more useful to us than the current 88 nodes with 2 GB. Also, Lee seems ready to give us a uboonegpvm02 machine, which would alleviate some resource strain we are now observing as uBooNE activity increases. Watch this space. Finally, we announce the existence of Skype group LArSoft Group. The idea is that this chat room (effectively) will be the place for a live discussion of LArSofter issues. Eric felt this was superior to leaning on the LArSoft Listserv, as more space for the written record is not what is needed. Such written LArSoft mythology can be documented on the heavily-used redmine wiki. Skype is already up on most LArSofter's desktops, so hopefully this is the natural place for this. We'll watch if the activity in this room ramps up to a level indicating usefulness. Please email Eric or the other 8-10 people currently in this Skype Group to be added in this Group.

David McKee's slides under Documents show nice event pictures of curled tracks through the new uBoone-esque detector with magnetic field. The motivation here is to do studies for a would-be LBNE/LAr near detector. David points out that doing nothing to current fcl files keeps any magnetic field from happening. He shows in his documentation how to set parameters in one's fcl file to magnetize your detector. Currently Geant4 knows how to track particles in a uniform field. Shortcomings as yet: the drifting of electrons does not know about the field, and Track3DReco (which uses its own private geometry for such things) also does not know about the B field. David is just now learning to use this package. He agrees with Eric that it may well be unnecessary to develop a Helix3DReco to do this, as all necessary features hopefully are already in Track3DReco. There was much talk about the current B field, implemented in the x (drift) direction. Sounds like it's intended to be in the y direction. KSU talked briefly amongst themselves. They will sort this out. David pointed out that there's still a lot of work to do. They'll check back in with us in due time.

Roxanne nicely elucidated the Atmospheric Neutrino features in her talk at the Documents link. Short story: the correct rates are observed in uBooNE, about 8 per year. The radius through which one forces the flux  $R_t$  must be as big as the biggest dimension of the detector, ~20m is sufficient for uBooNE. In LBNE  $R_T$  must be opened to such a large value that to generate 10-ish evts that interact in the detector takes prohibitively long. A solution must be found here.

See ya at the next LArSoft mtg in the Racetrack, 7th floor on 8/24, Wed, 9am CDT. We will get a report from, among others, Brian Page, with a high level presentation of the computations that

goes on in DetSim+CalData and maybe also HitFinder. At long last, a demystification of the various (de)convolutions that we constantly speak of in this group.

Details for the next meeting:

>>> video: 85LARSW

>>> phone: 510 423 9220 (ID 85LARSW)

>>> final location: Racetrack, 7th floor x-over