

LArSoft minutes, 6-Apr-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 20-Apr-2011. It will be in 7th floor x-over Racetrack, per usual.

There is a pdf on the documents link of the redmine site for today by Eric. Click Documents, sort by Date.

Roxanne and Georgia happily report that GENIHelper has been fixed, and Brian R checked the fix in such that the neutrino event rates in uBooNE MC are now correct! This is big. Congrats to R&G, who've been hunting this problem for months. There was a 50 MeV default bin width multiplication (1.2 too large in R&G's application) and a Number-of-target-atoms-instead-of-nucleons (1.2) that was being applied. They can now move onto the issue of producing large batches of MC files for uBooNE sensitivity studies.

ART update. CET has now produced a working ARTv0.06.01 release. Thus, the LArSoft bleeding edge/shadow release (available to only some folks) which includes LArSoft code availing itself of these features/fixes can now be built and run against those libraries. ArgoNeuT raw-to-root jobs can be run using that installation to create the necessary new version of their data files. Once it's determined that those files can be read back up and all is working, the development release, which the LArSoft rank-and-file uses will then be updated to that of the shadow release and we'll all be on ART06.01. People currently in process of (re)making large batch file samples should then make their "final" versions of files. That announcement will come mid next week, if not sooner. Brian R will direct these actions.

Roxanne asked about quotas at /uboone/data/mc where mc batch files for the masses are going to live. Indeed, this and the equivalent /uboone,lbne,argoneut/data/users/USER are the places for grid jobs to write, as those are one of a few places mounted by the grid nodes. Eric thinks we have 20 Terabytes there. This should be confirmed at watched.

Eric showed the progress LArSoft has made vis-a-vis uBooNE. There are 3 slides on the wiki for this short presentation. Brian P has put in proper place-holder 1st approximation code for SimWire convolution and CalWire deconvolution appropriate to the 8256 wires and 4192 ticks of uBooNE -- absent overshoot nuance of ArgoNeuT. Georgia will update this code as uBooNE electronics characteristics are known/revealed. Brian R has done lots of great work to get the EVD to display beautiful simulated events. The real matter for concern with uBooNE LArSoft is the resource requirements that the sim/recon jobs demand. ArgoNeuT sees this too and now the problem is exacerbated. 10 muons take an hour-ish to generate, and 5 hours-ish to reconstruct. The latter job eats a full processor and all 4 GB on uboonegpvm01. This is untenable. We can not submit either of these jobs to the grid w.o. major performance increases. Once we exceed 2GB memory usage, the jobs on the grid are unceremoniously terminated.

Bill S will get on this with the gprof tool. Eric urges all rank and file LArSofters with the wearwithal and/or fortitude for this kind of thing begin to learn how to use gprof and gdb and valgrind. uBooNE is at a point and ArgoNeuT is long past the point of needing reasonably

performing code which can be run in batch to produce meaningful distributions and allow for efficiency/purity and response and analysis studies.

See ya at the next LArSoft mtg in the Racetrack, 7th floor on 4/6, Wed, 9am CST.

Details for the next meeting:

>>> video: 85LARSW

>>> phone: 510 883 7860 (ID 85LARSW)

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