LArSoft Coordination Meeting

Release and project report

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on behalf of
the SciSoft team
Fermilab

June 2, 2020

Today's agenda and speakers

- Release and project report (Erica)

- Simulating LEM gain in DUNE DP using legacy LArG4 (Jaime Dawson)

- AOB

Releases

- **Last week**

  - v08_55_02 released June 25
    - [webevd#5](): adds saving of PDG code for MC to support PID-based features

- **This week**

  - New version of Genie Reweight (R-1_00_06)
    - Brings LArSoft up to date with most recent version
    - Contains an important bug fix
    - See https://cdcvs.fnal.gov/redmine/issues/24574 for details

  - PRs as approved

Status of PRs

- **Approvals in progress**

  - [larevt#8](#): Add option to check if particle is primary + … (LArG4ParticleFilter)
    - Waiting for L2 approval

  - [larcorealg#9](#), [larcoreobj#8](#): Add information to geometry dump
    - Pending L1 approval

  - [larrecodnn#9](#): Implemented ROI-finding interfaces in WaveformRecogTools
    - Waiting for L2 approval

  - [larsim#25](#): Added filtering to LightSource module based on material type
    - Module used in creation of library for PhotonVisibilityService
    - The change corrects a bug that allowed generation of light inside opaque material
    - Expect presentation on this at next LCM
    - Needs L2 approval

  - [larsim#26](#): Add scintillation prescaling factor to Correlated alg
    - Waiting for L2 approval

Status of PRs

- Under discussion

  - [larsim#23](): Feature/plasorack decay0 (presumably replaces larsim#7/RadioGen, ?)

    - One radiological generator based on Decay0, which is used in SuperNemo + other double-beta decay experiments. Requires Decay0 library
    - A second radiological generator that uses some of BaseRadioGen to generate any spectrum of any particle in any volume at any rate via FHiCL configuration

  - [larsim#24](): Include ChargeYield service in DriftIonizationElectrons of LArVoxelReadout (opened June 8)

  - [larevt#7](): Including ChargeYield service (opened June 6)

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Short title, but **great** description (hint, hint…)

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- Under discussion (cont'd)

  - [larsim#7](): Improved RadioGen (opened Feb 25)
    - Author implemented SciSoft suggested changes. Worked on unit tests
    - Author subsequently determined RadioGen might not provide adequate solution
      -- put on hold until further notice

  - [larrecodnn#5](): Add Mike [Wang's] module to dump raw waveform for ROI finding network training (opened Apr 27)
    - SciSoft suggested an alternative to the unsupported c2numpy currently used
    - Author is looking into this (has been busy with another project)

Major migrations pending

Would like to hear feedback on two pending changes. Seeking approval to execute sequentially as soon as possible.

- Geant4 v10.6.p01

  - Latest production release series.
    - Lots of new capabilities and features. See release notes
  - Have had a test release available.
  - Physics change, so need all experiments to sign off

- LArSoft v09

  - Marks the notional transition to thread-safe LArSoft
    - Much code remains to be converted
  - Also marks the end of MacOS builds as part of distribution
    - Presented Docker solution last LCM for developing on unsupported OS

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The end