

LArSoft Coordination Meeting

Release and project report

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on behalf of
the SciSoft team
Fermilab

September 17, 2024

Today's agenda and speakers

- Release and project report (Erica)
- Penelope CM model as an option in Geant4 simulations in LArSoft (Liang Liu)
- AOB

Releases

- Since Aug 6 LCM
 - v09_91_04 released Aug 22
 - New features
 - [LArSoft/larpandoracontent#66](#)
 - *Updates to the Hierarchy Validation, and additional configuration options and output variables. This will not alter the products for any existing workflows.*
 - [LArSoft/lardataobj#45](#)
 - *Add associations between OpDetWaveform and RDTimeStamp for DUNE*
 - [LArSoft/larsim#140](#)
 - *Add Penelope EM model to the physics list. Standard and Livermore EM models remain the defaults in larsim.*
 - [larbatch#27, larbatch#28](#)
 - *See Herb's [presentation](#) at the Aug 6 LCM*
 - Removed stan, stan_math and sundials from the distribution

Releases

- Since Aug 6 LCM (cont'd)
 - v08_05_00_25 released Aug 23 ([MicroBooNE MCC9.1 production release](#))
 - v09_91_05 released Sept 5
 - Make larpandoracontent have the expected version
 - v08_05_00_26 released Sept 10 ([MicroBooNE MCC9.1 production release](#))
 - v09_91_06 released Sept 12
 - New features
 - [LArSoft/larreco#70](#)
 - *Add checks in SpacePointSolver module to bail out of events with excessive CPU or memory. Disabled by default.*

Releases

- Since Aug 6 LCM (cont'd)
 - v09_92_00 released Sept 16
 - New features
 - Linked PRs: [lardataobj#42](#), [lardata#34](#), [lareventdisplay#24](#), [larreco#64](#), [larrecodnn#46](#)
 - *Modifications to recob::Hit to add ROISummedADC and HitSummedADC methods, remove SummedADC*
 - *See talks in the LArSoft [April 16 coordination meeting](#)*
 - **Breaking changes!** See [release notes](#) for PRs and branches for experiment code

Status of PRs

- Under discussion
 - [larsim#141](#): Update EMB (recombination) model parameters to published values
 - Waiting for experiment comment.
 - DUNE and ICARUS have signed off
 - **Will assume others are OK unless they tell us this week**
 - [larwirecel#44](#): (opened Jan 17)
 - Enable multiple signal response simulation across YZ-plane
- No approvals in progress

Status of coming updates (updated since Aug 6, 2024 LCM)

- **Geometry refactoring**

- Current release candidate v10_00_00rc4 based on v09_90_00 + art 3.14.04
 - See last presentation on the new system at [Feb 20 LCM](#)
- Feature branches / PRs needed to update experiment code are available
 - See [Release and Project Report, page 6, at Dec 12 LCM](#) for v10_00_00rc0
 - Should work for v10_00_00rc4. If not, contact scisoft-team@fnal.gov
- Requested sign-off from all experiments by March 12 (!!)
 - DUNE found issues, all of which are fixed, and has provisionally signed off (ie, have not tested all their workflows)
- **Strongly recommend that other experiments perform validation!**
 - Otherwise, **plan to deploy next week unless we hear an objection**
 - Please send us your comments or validation plans this week!

Status of coming updates (updated since Aug 6, 2024 LCM)

- **Geant4**

- Plan to build LArSoft release candidate with Geant v4_11_2_p02
 - The most recent production version recommended by Geant4 group

Note: **Geant4 group strongly advises migrating with high priority**

- Not yet scheduled
- Will require experiment sign-off prior to migration

Status of coming updates (updated since Aug 6, 2024 LCM)

- **Spack migration**

- The major pre-migration milestones
 - Enable LArSoft development using Spack – **essentially done as of last LCM**
 - Introduces multi-product development (MPD) tools to provide some mrb-like functionality
 - Establish LArSoft release mechanisms, procedures, policies
 - Testing a promising technique now that works in small scale tests
 - Also Iterating on draft document with updated procedures, policies, SciSoft / experiment division of labor

Presented details on both milestones to DUNE last week. Will show at future a LCM.

- Until migration
 - Must run / build LArSoft with UPS inside SL7 containers.
 - See [Developing LArSoft with containers wiki page](#) and your experiment documentation
- Latest Spack build of LArSoft: v09.90.01. See [Spack overview wiki](#)

The end