LArSoft Coordination Meeting

Release and project report

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Today's agenda and speakers

- Release and project report (Erica)

- ups v6 (Marc Paterno)

- Tracking data product review report (Gianluca Petrillo + Giuseppe Cerati, Gianluca presenting)

- BackTracker and PhotonBackTracker lazy overhaul (Jason Stock)

- AOB

Releases

- **Last week**

  - v06_52_00 released on Oct 5

    - Changes to Pandora (which introduced a bug…)
    - Fix for issue 14384

      - Problem creating copy of Geometry (for a use case outside LArSoft)
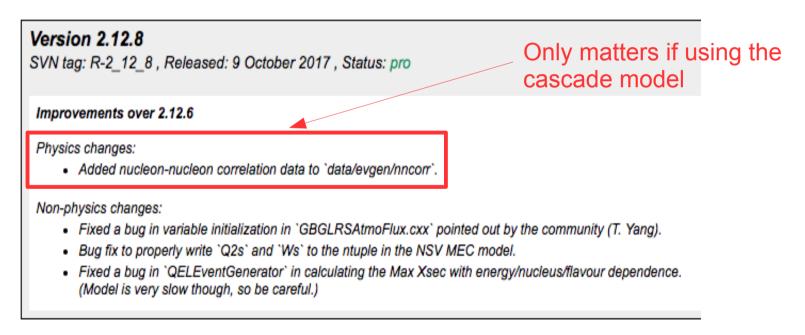
- **This week**

  - Fix for Pandora bug committed last week

  - TensorFlow tests in larreco

    - Warning: have TF working for Linux, but do not know if it builds under Mac OSX

Genie 2.12.8

- A request from DUNE to integrate latest version of Genie

  - v2.12.8 released on Monday, Oct 9

  - From release notes:

  Version 2.12.8
  SVN tag: R-2_12_8 , Released: 9 October 2017 , Status: *pro*

  Only matters if using the cascade model

  Improvements over 2.12.6

  Physics changes:
  - *Added nucleon-nucleon correlation data to `data/evgen/nncorr`.*

  Non-physics changes:
  - *Fixed a bug in variable initialization in `GBGLRSAtmoFlux.cxx` pointed out by the community (T. Yang).*
  - *Bug fix to properly write `Q2s` and `Ws` to the ntuple in the NSV MEC model.*
  - *Fixed a bug in `QELEventGenerator` in calculating the Max Xsec with energy/nucleus/flavour dependence. (Model is very slow though, so be careful.)*

  - Will plan to integrate into next week's release if all experiments agree

LArSoft CI system

- A new version of CI system will be released this week

  - Changes the way in which LArSoft builds are handled
    - Will re-use an existing build if appropriate, rather than having all test suites rebuild it from scratch

  - Also introduces second tier test workflows
    - At the moment only for DUNE FD
      - Efficiencies and track residuals for various algorithms
    - MicroBooNE will be next
      - Experiment is working on a set of validation tests to include

New sub-projects

- Two new sub-projects defined

  - Profiling and optimization work
    - Identify problem areas and solutions in existing workflows
    - Will be carried out by Soon Yung Jun

  - Vectorizing optimizations
    - Identify and vectorize appropriate targets across LArSoft to take advantage of resources within our existing computing infrastructure that has not been utilized
    - Will be carried out by Giulherme Lima

  - Scope of work to be defined in coming days in consultation with code authors, offline leads

  - Will report plan / progress / status at future LCM

3D pattern recognition workshop at CERN?

- Have received a number of inquiries about this in response to the meeting / email two weeks ago

- Believe there to be sufficient interest to merit pursuing

- Will work over next few weeks to work out details
  - Best suggestion so far is to couple it to the DUNE Collaboration Meeting at CERN early next year.
  - Proposed scope will cover all existing work to produce 3D space points, plus algorithms to perform pattern recognition using space points as input
  - Will also work toward agreements on data products, interfaces between various workflow stages so that we can continue to share algorithms

Moving to a pull-model for LArSoft?

- **A suggestion received to move to a pull-model for LArSoft**

  - To replace current process of integration meetings for integration discussions

    - Many open source projects use this process

    - CMS has been using it for a number of years now

  - Requires people from the experiments to act as pull-request approvers

- **No plan at the present time, but...**

  - Acknowledged long ago that existing model does not scale

  - This might be the right time to resume discussion on alternatives

  - Any changes will require a strong consensus and a detailed transition plan

Status of on-going sub-projects

- LArG4 re-factoring project

  - No report this week

- CI system operations

  - Vito di Benedetto

- Usability: associations

  - Saba Sehrish

- Profiling and optimization project

  - No report this week

- LArSoft documentation

  - Katherine Lato

The end