

LArSoft Documentation

LArSoft Coordination Meeting
August 30, 2016

Katherine Lato



Redmine Updates

Using LArSoft

First-time, or infrequent, users will be well-served to go through the following steps in order:

1. Start by reading [Concepts in LArSoft](#) and the [LArSoft class material](#).
 - o Also look at your experiment's [Experiment-specific information](#).
2. Choose the correct release from the [List of LArSoft Releases and Release Notes](#).
 - o If you can use a tagged release as is (aside from fcl files which can be modified and used from any directory), you can now run LArSoft.
 - o If you need to modify the code locally, or use code not yet in a tagged release, then additional steps (below) are required.
3. Create a working area. This is described in the [LArSoft class material](#).
 - o To find out which repositories contain the code you need to modify for your task, examine the [List of repositories and their relationships](#).
 - o If you have questions, ask the LArSoft module [authors](#) and [librarians](#).
4. To modify the code, clone the reference software into your working area from [the central repositories for core LArSoft](#).
 - o This is where to find [Experiment-specific code](#).
 - o And this is the [Sub-package locations](#) (e.g., in which repository can I find the `HitFinder` sub-package?)
5. To install a local copy of the pre-built products, or to build and install a local copy of the products for the core LArSoft suite, follow the [Installation Procedures on the Getting LArSoft page](#).
 - o To use `cvmfs` to access the binaries and header files in a tagged release (thereby avoiding the need to install or build a local copy), follow the [LArSoft cvmfs](#) instructions.
 - o Sometimes your local code will fail to build against a new LArSoft release because there are “breaking changes” in the release, which are modifications that require adaptations to the code that references that modified code. These changes and the corrective actions needed are documented on the [Breaking Changes](#) page.
 - o Comments in the code are incorporated into documentation at [LArSoft Doxygen](#) using [the Doxygen tool](#).
6. Recommended.
 - o Install and run [igprof profiler](#).

Thanks, Gianluca

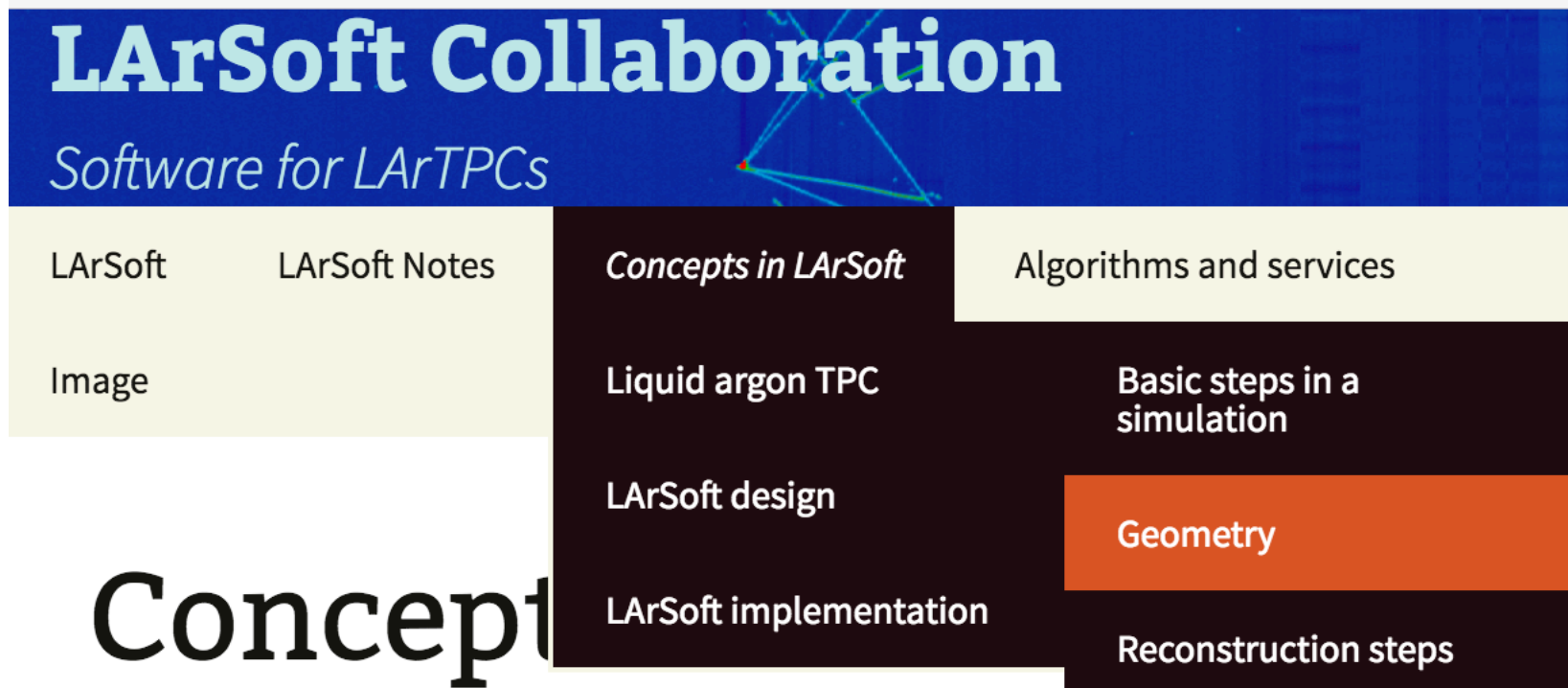
Redmine Updates

https://cdcv.sfnal.gov/redmine/projects/larsoft/wiki/Using_art_in_LArSoft - number of changes to the 'Using art in LArSoft' page including information about the command:
art – help

With various print options, such as:
art --print-description <module_type>

Also changed the links (with the movement of some modules to canvas, or other places within art, the links were out-of-date.)

Important concepts -- added several more topics, like code analysis, data products and configuration information.



And if you don't like subpages, here's

<http://larsoft.org/important-concepts-in-larsoft/> - with links to each page in one place.

Concepts in LArSoft

The goal of this material to help LArSoft users understand the big picture of what is going on within the code. The aim is not to show specific code examples but to lay the foundation for the conceptual understanding.

Basic steps in a simulation

The simulation is a chain or series of steps. Each step models a specific physical process. Based on Robert Hatcher's [Simulation Tools in Neutrino Experiments](#).

Geometry

Detector-specific information is contained within the Geometry so other software doesn't have to explicitly depend on which detector is being considered. Based on [Erica Snider's slides from LArSoft class](#), [Diego Garcia-Gamez's slides](#) and [Wiki detailed page on Geometry](#).

Reconstruction steps

Reconstruction extracts physical information provided by the wire output signals. The space coordinates and energy deposited by the different particles are used to build a picture of the event. Based on [Erica Snider's Introduction to LArSoft code and work environment](#).

Designing software in LArSoft

How to design software for LArSoft. Based on [Erica Snider's introduction to LArSoft](#).

Data Products