

Workshop Summary

Ciro Riccio

First Neutron Beam Test Neutron Analysis Workshop

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Stony Brook
University

Workshop in a nutshell

- Tutorial on MC production
- MC studies from thuth to reco
- PID status
- Separation between elastic and inelastic
- LANL 2020 data
- Neutrons in ND280

What's next and new ideas

- MC studies with the goal of start comparing key quantities with data (eg angle and momentum)
- Finalize PID
- Fully validate LANL 2020 data
- LANL 2020 simulation
- Improve total xsec measurement adding LANL 2020
- Elastic vs Inelastic scattering separation using kinematic imbalance
- KE of secondary neutron using lever arm and ToF
- Explore potential of LANL 2020 configurations
- Test beam for ND280

Software

The screenshot shows the GitHub organization page for 'Neutron LANL Test Beam Analysis'. The organization profile includes a logo and a 'Follow' button. Below the profile, there is a 'Repositories' section with a search bar and filters for 'Type', 'Language', and 'Sort'. A 'New' button is also present. The repository list includes:

- neutronselection** (Private): Package to select neutrons from the data taken during the test beam at @lanl. Updated yesterday.
- neutrong4simulationanalysis** (Private): Package to analyze Geant4 simulation of test beam at @lanl. Updated 2 days ago.
- neutronsimulation** (Private): Package for the Monte Carlo simulation of experimental set-up used @lanl. Updated 2 days ago.
- neutrondataprocessing** (Private): Package for the processing of the data taken with the experimental set-up used @lanl. Updated 2 days ago.
- neutronxsecfitter** (Private): Package for the extraction of the neutron scattering cross-section from the test beam data taken @lanl. Updated 2 days ago.
- neutronUtils** (Private): All utils used for the analysis of the data taken during the test beam at @lanl. Updated last week.

On the right side of the repository list, there are sections for 'View as: Public', 'Discussions', 'People', and 'Top languages'. The 'Top languages' section shows C++ as the primary language.

- Having an organized and maintained software is fundamental for future developments
- Documentation needed in particular for the package neutronsimulation
- Need to commit the code into neutrontdataprocessing
- neutronUtils still empty but will be a container of useful standalone code (eg macros)