# Working Group Report: Calibrations Group

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ICARUS Technical Board Meeting

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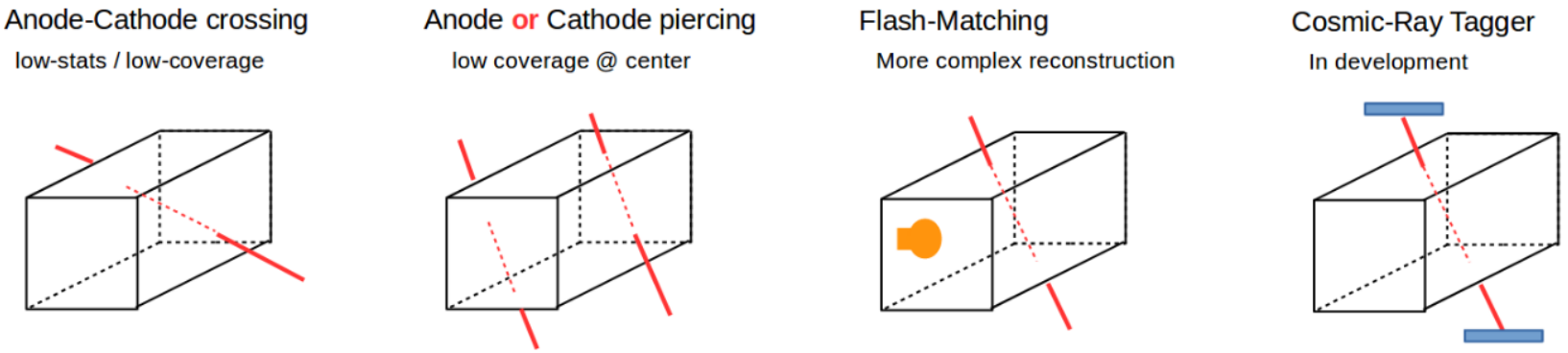
# Group Overview

- ICARUS Calibration Working Group began meeting July 19th – during first meeting, co-conveners identified
- Four meetings have been held: July 19th, August 1st, August 21st, September 11th
- Tri-weekly meetings: Tuesdays at noon (FNAL time)
  - Next meeting on **October 2nd**
  - Zoom connection: https://fnal.zoom.us/j/3288157593
  - Minutes posted on Doc DB
  - On average 7-8 participants
- Mailing list: **ICARUS-CALIBRATION@fnal.gov**

# Priorities, Active Work




- Priorities for calibrations activities:
  - Begin defining/developing physics samples for calibrations (e.g. stopping muons)
  - Develop protocols for calibrations with first data
  - Establish good communication with other working groups
- Active work: integration of different algorithms for cosmic $t_0$-tagging, first studies of TPC gain uniformity calibration and purity measurement

# Organization

- Have defined liaisons to other working groups to ensure robust communication chain:
  - TPC Electronics – Mike Mooney
  - PMTs – Gianluca Petrillo
  - CRT – Biswaranjan Behera
  - Reconstruction/Simulations – Christian Farnese
  - DAQ and Online Monitoring – Christian Farnese
- Have already met with PMT Group
  - Discussion of calibrations of interest
  - Determined inputs needed by PMT Group, provided by Calibration Group (physics samples, e.g. stopping muons)
- Planning on meeting with other working groups soon

# Planned Work, Timeline

- With $t_0$-tagged cosmic track samples and other physics samples prepared, move toward performing dedicated calibrations
  - Make use of **MCC1** to begin studies
  - Have already started initial studies with older MC
    - TPC gain uniformity
    - Purity measurement
- Rough timeline for initial work:
  - October/November – begin studies with $t_0$-tagged tracks
  - December/January – demonstrate full TPC gain uniformity and purity measurements using cosmic muons
- Eventually automate production of physics samples during nominal data processing