

CSU Involvement in DAQ Consortium

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DAQ Consortium Meeting
January 17th, 2019

- ◆ Mooney Group @ CSU:
 - PI: Mike Mooney, Assistant Professor (since Aug. 2017)
 - Postdoc: Hannah Rogers (MicroBooNE, SBN, DUNE)
 - Grad Student: Ivan Caro Terrazas (MicroBooNE, DUNE)
 - Grad Student: Ryan LaZur (SBN, DUNE)
 - Grad Student: Justin Mueller (SBN, DUNE)
 - Undergraduate Student: Alex Flesher
 - Undergraduate Student: David Durney
 - Undergraduate Student: Erik Klemm

- ◆ Group focus is on TPC calibrations, CE QC/QA, neutrino cross section and oscillation analyses
 - Mooney is DUNE SP CE TDR chapter editor
 - Group is heavily involved in ProtoDUNE analysis (leading space charge effect calibration effort)

- ◆ Involvement in DAQ Consortium expected to be very niche effort: data selection, algorithms for using ^{39}Ar beta decays (and other point-like radiological activity) for TPC calibrations
 - Uses of ^{39}Ar beta decays include calibration of electron lifetime, measurement of recombination and diffusion, monitoring of wire field response and electric field distortions
 - See MicroBooNE **public note** (paper forthcoming)
- ◆ Sub-leading effort but complementary to CE work
 - TPC noise key to analysis/triggering - relevant to DAQ group
- ◆ Level of involvement: PI @ 0.2 FTE, 1 GS @ 0.5 FTE
 - Data selection effort potentially supported by submitted collaborative NSF proposal (0.5 FTE GS for 2 years, travel)
 - Can expand involvement if opportunities arise