Texas A&M Group

Q-Pix Collaboration Meeting
Dave Toback (4/2/2020)

Group Members on the project

- Dave Toback (PI)
- Dr. Mike Kelsey
  - Sr. Research Associate
  - Geant expert, lead developer for G4 Condensed Matter Physics (G4CMP) used in CDMS
- Dave Elofson
  - Graduate student, finishing 2nd year of classes
  - Worked last summer, planning to work this summer
  - Only 2 more classes left then full time on this project after that

Note: Not officially a member of DUNE, and no DUNE funding. All activities are currently just being done using Overhead Return. Hope is to start in earnest with DOE funding, and supplement as needed with Mitchell Institute Funds

Past work and future plans

- Dave Elofson worked last summer on v-LAr Interactions and Q-Pix Response
- Basically, simulating charge profile in the TPC and then what the current readout for events would look like in an Charge Integrate-Reset (CIR) Block readout
- We started with ideal CIR's, and were moving to more realistic circuit simulations
- Plan is to pick it up again this summer, with both Mike and Dave digging deeper into simulations

(Thanks Jonathan!)

Computing

- We are just finishing our transition to A&M's new High Performance Computing Cluster where we have priority access.
- We have agreements to be able to run major simulation production runs as needed
- We also are able to get outside collaborators accounts (can take a bit), for running other large CPU projects for Q-Pix