

Texas A&M University Foreseen Roles and Requested Resources

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QPix Collaboration Meeting (9/13/2023)



Current Group & Activities on the 1 year timescale

Current (only Elofson supported at the moment on grant)

- Dave Elofson has gotten his Master's on QPix, and has started his thesis work on the measurement of $\sin^2\theta_w$ with a toy QPix detector
 - Primary goal is to get him out the door on the 1+ year timescale with a PhD
 - Has been to UTA multiple times to help with hardware
- Dr. Mike Kelsey, senior scientist and Geant4 expert, has been enabling big computing, software and release stuff for free at a low level
- Carter Eikenbary, 3rd year student, joined full time and was supported on Mitchell Institute funding this summer
- Ben Meleton and Nolan Tempas are 2nd year students who also made excellent progress this summer and would like to join
- Erika Munoz is an undergraduate who made nice progress this summer
- We have just been given a bigger, better and newer lab space at A&M and some resources to upgrade it
 - Previous occupant hasn't vacated yet, but this introduces exciting possibilities (interdependent activities with UTA which is just a few hours away)

Next cycle plan

- Finish and publish $\sin^2\theta_w$ as a “pheno” paper
- Simulation and Reconstruction Software Development and Maintenance
 - Continue to develop and improve simulations
 - Expand reconstruction to make tracks and vertices
 - Keep all the software in Releases so they can be used and improved by others
- Hardware
 - Bring up the new lab space
 - Interdependent activities with UTA where our people go there, their people come to A&M etc.
- Support ideals
 - Finish Elofson (top priority)
 - Eikenbary and either Meleton or Tenpas (all three would be even better)
 - Small fraction of Kelsey’s time for Geant4, big software and big computing expertise
 - Undergraduate summer support would also be helpful