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Charged Current Coherent Pion Production detection with a Liquid Argon Time Projection Chamber ILKER PARMAKSIZ, University of Texas at Arlington — Charged Current Coherent Pion (CC-Coh Pi) production serves as an important neutrino cross-section for neutrino oscillation experiments by providing both a standard candle for low energy cross-sections as well as enhancing our understanding of other neutrino-nucleon interactions. The world data for neutrino energies above 3 GeV shows a tension when compared to leading production models, while at neutrino energies less than 3 GeV the situation is even more confusing. Liquid Argon Time Projection Chambers (LArTPC's) are a relatively new neutrino detector technology which allow for fine grain tracking and calorimetry of the neutrino-nucleon interactions which will provide insight to these cross-section puzzles. The Micro-Booster Neutrino Experiment (MicroBooNE) is a LArTPC located at Fermi National Accelerator Laboratory (FNAL) in a neutrino beamline peaked at ~ 1 GeV. Therefore, MicroBooNE provides an excellent opportunity to measure CC-Coh Pi cross-section and probe its production at low energy. In this presentation I will present some preliminary work done to study CC-Coh Pi at MicroBooNE and estimates of the relevant backgrounds.

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