

Abstract Submitted  
for the APR17 Meeting of  
The American Physical Society

**Measurement of recombination in MicroBooNE** XIAO LUO, SUPRAJA BALASUBRAMANIAN, Yale University, TINGJUN YANG, Fermilab, MICROBOONE COLLABORATION — MicroBooNE uses the Liquid Argon Time Projection Chamber (LAr TPC) technology to detect neutrino interactions from the Fermilab Booster Neutrino Beam. Traveling through the detector volume, charged particles deposit energy by ionizing the argon and create positive argon ions and electron pairs along their trajectory. The electrons can recombine with an argon ion and reform a neutral atom and, as a result, the measured energy is only a fraction of the total energy lost by the particle. This process is called electron-ion recombination. Understanding this recombination effect is particularly important for performing calorimetry, identifying particle types, and achieving good energy resolution in LAr TPCs. This talk will present the status of MicroBooNE's first recombination measurement obtained with cosmic ray data.

Xiao Luo  
Yale University

Date submitted: 30 Sep 2016

Electronic form version 1.4