Abstract Submitted
for the APR21 Meeting of
The American Physical Society

Wire-Cell Pattern Recognition for Liquid Argon Time Projection Chambers HAIWANG YU, Brookhaven National Laboratory, MICROBOONE COLLABORATION COLLABORATION — Liquid argon time projection chambers (LArTPCs) are widely used in current and future neutrino experiments to answer some of the key questions about neutrino physics. Event reconstruction is a critical but challenging task in analyzing the data from LArTPCs. Following the principle of LArTPC, we developed a new tomographic event reconstruction paradigm, Wire-Cell. Wire-Cell achieved fully automated LArTPC reconstruction with multiple components including noise filtering, signal processing, 3D charge reconstruction and clustering, light-charge matching and higher-level pattern recognition. In this talk, we present the Wire-Cell pattern recognition algorithms incorporating both traditional and deep learning techniques.

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Date submitted: 04 Jan 2021 Electronic form version 1.4