Image Processing Techniques applied to Liquid Argon Time Projection Chamber Data[1] JESSICA ESQUIVEL, Syracuse University, MICROBOONE COLLABORATION — Large scale Liquid Argon Time Projection Chambers(LArTPC), like MicroBooNE, offer new ways to study neutrino cross sections and neutrino oscillations. The data from these LArTPCs are very detailed images of charged particles passing through the detector. A plethora of hit finding, cluster finding and tracking algorithms have been implemented to process data coming from MicroBooNE, but it is still possible that particle tracks that are easily visible by eye are being missed during data processing. Because the human eye sometimes does a better job at finding particle tracks that are sometimes missed by data processing, using Image Processing algorithms which emulate the human eye in conjunction with the already implemented algorithms could be beneficial. In particular Edge Detection algorithms could be useful due to the fact that tracks will often have defined deposited energy along straight lines. This talk will cover preliminary data processed with Edge Detection algorithms, and discussion of what the potential benefits are to this approach to LArTPC data analysis.

[1]On behalf of the MicroBooNE Collaboration

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