Contribution ID: **7** Type: **poster**

Analyzing Organic Liquid for use in TPCs to Detect Antineutrinos

The measurement of ionization electrons in organic liquids has the potential to allow detection of antineutrinos with unprecedented energy and spatial resolution. Previous experience with the ionization of organic liquids suggested the performance of these organic liquids was highly sensitive to trace impurities. We developed a purification process and test chamber to assess these concerns. Here we report successful measurement of the ionization current as well as individual ionization charge pulses caused by gamma ray interactions within a small test volume of a candidate organic liquid, and observed no evidence of degradation due to impurities over a one month period.

Primary author: DWYER, Daniel

Co-authors: MICALLEF, Jessica; GARCIA-SCIVERES, Maurice; BARTON, Paul; SORENSEN, Peter