Contribution ID: **199** Type: **Poster**

Investigating Surge Protection Devices to Protect Against Transient Over-voltages in Liquid Argon Time Projection Chambers

In this poster we report the investigation of various methods to control transient high voltages that may occur in Liquid Argon Time Projection Chambers (LArTPC's). Recent studies of the electrical properties of a LArTPC's suggest that over-voltages may occur during a spark discharge and damage sensitive components of the detector. Tests of surge protection devices were performed to determine the suitability for their use in the MicroBooNE neutrino experiment , a 170 ton total volume LArTPC, which will begin operations in 2014. Two possible devices which are shown to mitigate transient high voltage conditions in cryogenic temperatures are gas discharge tubes (GDT's) and metal oxide varistors. We report the behaviour of both of these devices and their application at liquid argon temperatures.

Primary author: Dr ASAADI, Jonathan (Syracuse University)

Presenter: Dr ASAADI, Jonathan (Syracuse University)

Track Classification: Short Baseline Oscillations / Sterile Neutrinos / Non-standard Oscillations