Contribution ID: **57** Type: **oral presentation**

Using Fast Photosensors in Water Cherenkov Neutrino Detectors

Friday, 16 August 2013 09:30 (30 minutes)

Many of the yet unanswered questions in neutrino physics, such as CP violation in the lepton sector or neutrino mass hierarchy, could be answered with higher sensitivity neutrino experiments. New photodetectors based on micro-channel plates are being developed by the Large-Area Picosecond Photo Detector (LAPPD) Collaboration. These photosensors have been shown to have excellent spatial and timing resolution. Using these devices in massive water Cherenkov detectors, we could significantly improve the vertex resolution for neutrinos enhancing background rejection for neutrino oscillation experiments. We present preliminary results on the reconstruction capabilities for single particles in water Cherenkov detectors using fast photosensors.

APS member ID

61047263

Primary author: Dr ANGHEL, Ioana (Iowa State University/Argonne National Lab)

Presenter: Dr ANGHEL, Ioana (Iowa State University/Argonne National Lab)

Session Classification: Neutrino Physics

Track Classification: Neutrino Physics