



Contribution ID: 16

Type: **Presentation**

Production and Characterization of Full Scale Light Guides for Future Large LArTPCs

Saturday, 23 September 2017 15:15 (15 minutes)

Efficient collection of scintillation produced in liquid argon time projection chambers (LArTPCs) is critical for the success of upcoming neutrino experiments using this technology such as protoDUNE, DUNE, and SBND. To optimize photocoverage, a system comprising flat panel light guides read out at the ends with silicon photomultipliers will be used. In order to convert the UV LAr scintillation light to the visible, these guides are coated with a wavelength shifting TPB solution. Current production guides have reached our initial goal of consistently attaining multi-meter attenuation lengths when measured in air. We have furthermore demonstrated the scalability of the process to larger guides than reported previously. This presentation will discuss the development, production methodology, and performance characterization in both air and LAr of these guides.

Primary author: Mr MOON, Jarrett (MIT)

Presenter: Mr MOON, Jarrett (MIT)

Session Classification: Saturday Afternoon

Track Classification: Light/charge readout (PMTs, SiPM, WLS, electronics, etc.)