

3<sup>rd</sup> International Forum on High Energy Geophysics:  
Muon and Neutrino Radiography  
(March 9, 2010 Tokyo, Japan)

## Studies on optical coupling efficiency of fiber to SiPMs

A. Bross and P. Rubinov  
Fermi National Laboratory, USA

Although standard packages used by manufacturers to package silicon photomultiplier tubes (SiPMs) aim to allow for good optical coupling efficiency, the absolute coupling efficiency for a given fiber-SiPM configuration is not usually given by the manufacturers. We have done measurements using custom fiber alignment tooling that guarantees optimal fiber-SiPM coupling and have compared the coupling efficiency of this configuration to that of standard fiber coupling to a SiPM mounted in a T05 package. We will describe our custom tooling, the measurement setup and the relative coupling efficiencies. This meeting was supported by the Earthquake Research Institute cooperative research program.