

Photon Detection in CAPTAIN

Thursday, 30 May 2013 16:35 (25 minutes)

The Cryogenic Apparatus for Precision Tests of Argon Interactions with Neutrinos (CAPTAIN) is being built at Los Alamos National Lab. A 2m x 2m hexagonal TPC with a 1m drift will be constructed inside a cryostat containing 7,700L of liquid argon. CAPTAIN will be used to test interactions using beams of neutrons and neutrinos. It will serve as a test bed for various options for LBNE including in the photon detection system. The current photon detection system will be described and future options discussed. The system is composed of 16 R8520 Hamamatsu photomultiplier tubes with an wavelength shifting coating on acrylic in front of the PMT. Various WLS coatings can be examined with the current default of TPB. CAPTAIN is currently looking for collaborators to assist in its construction and operation.

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Session Classification: Scintillation Light Read-Out for Noble Elements-Based