

Upgrading the BACoN liquid argon cryogenic system to study light yield

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The study of scintillation light yield from liquid argon is interesting for many nuclear and particle physics experiments. Doping a few amounts of xenon in liquid argon could significantly shift the wavelength of scintillation light, time profile, and increase yield of the scintillation light. The measurement will be performed using BACoN system at the University of New Mexico. It consists of a stainless-steel cryostat vacuum system filled with liquid argon. The BACoN system is currently being upgraded to enhance its capability of studying Xenon doped liquid argon scintillation light. An array of silicon photomultipliers (SiPMs) will be deployed and to be complemented by a new PMT. The upgrade plan also includes the deployment of germanium detectors to mimic the setup of the LEGEND neutrinoless double beta experiment. The project is supported by LANL, LLRD. In this poster, we will describe the current progress of the BACoN upgrade efforts.

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