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【327】 ArCLight: Development of a novel light detector for modular liquid Argon detectors

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ArCLight is a compact dielectric light trap with a large sensitive area, coated with a thin layer of TPB, and read out by Silicon Photo Multipliers (SiPMs). The ArCLights were developed for the ArgonCube 2×2 demonstrator detector at University of Bern, with the goal to fulfill the physics requirements for the Dune near detector, namely fast timing and good spacial resolution. These requirements are particularly driven by the demands for an efficient tagging of fast neutrons produced in neutrino interactions in liquid Argon environment. In this talk the design features, production method, characterization studies and the photon detection efficiency of the ArCLight modules in liquid Argon, are presented.

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