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The Liquid Argon Detector and Measurement of SiPM Array

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Particle detectors based on liquid argon(LAr) have recently become recognized as an extremely attractive technology for the direct detection of dark matter as well as the measurement of coherent elastic neutrino-nucleus scattering(CEvNS). The Chinese argon group at Institute of High Energy Physics has been studying the LAr detector technology and a dual phase LAr detector has been operating steadily. A program of using a dual phase LAr detector to measure the CEvNS at Taishang Nuclear power plant has been proposed and the R&D work is ongoing.

Considering the requirements of ultra-low radio-purity and high photon collection efficiency, SiPMs will be a better choice and will be used in the detector. In this poster, an introduction of the LAr detector, the project of CEvNS measurement with LAr as well as the measurement results of SiPM array at LAr temperature will be presented.

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