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LiquidO –opaque light detection technology

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LiquidO is a class of particle detection technology utilising opaque media for its light detection. The technology exploits the stochastic confinement of light in such media, which allows to identify the types of individual charged and neutral particles through the topology of their energy depositions. This technology extends the traditional scintillation detector by a vertex resolution of roughly one centimetre. At energies above a few MeV, the detector technology shows tracking capabilities and therefore offers a wide range of applications in particle physics.

In this contribution, we will present this novel technology and show results on the stochastic light confinement using the wax-based scintillator NoWaSH. We will further address current and future projects which are planning to use the opaque technology for fundamental neutrino physics, reactor monitoring or medical physics, such as SuperChooz, AM-OTech, and LPET.

Submitted on behalf of a Collaboration?

Yes

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