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Triggering schemes for HUNT

To effectively capture authentic neutrino events in the project of High-Energy Underwater Neutrino Telescope (HUNT), a robust triggering scheme is required to filter out background noise while maximizing the preservation of neutrinos. This paper proposes algorithms for various types of neutrino events. We have designed two triggering models: a spherical shell intersection model and a track-based multi-coincidence model. These methods are specifically tailored for cascade and track events, respectively, and demonstrate effective filtering capabilities across higher energy ranges. Furthermore, these algorithms assist in managing background noise arising from the radioactive decay of ^{40}K . The algorithms are highly flexible and can also be applied to various array configuration designs.

Collaboration(s)

HUNT Collaboration

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