Contribution ID: **339** Type: **Poster high energy neutrinos & cosmic rays**

A reverse IceCube Event Reconstruction

The IceCube Neutrino observatory, with 5160 sensors submerged in Antarica's glacial ice, collects data from neutrino events over several orders of magnitude in energy. In order to infer physical properties of neutrinos, such as energy, direction and flavor, the raw detector data needs to undergo reconstruction. Taking into account the intricate details of ice properties and sensor efficiencies is crucial, especially for reconstructing low energy events, but it also comes at a high computational cost. We present a new method and initial results, based on the idea to reverse light propagation by simulating photons emerging from their point of detection towards their source. This has the advantages of exploiting detector symmetries and enabling reconstruction of arbitrary event topologies.

Authorship annotation

for the IceCube collaboration

Session and Location

Wednesday Session, Poster Wall #166 (Ballroom)

Poster included in proceedings:

yes

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Track Classification: Poster (not participating in poster prize competition)