Contribution ID: **437** Type: **Poster atmospheric**

The IceCube Upgrade

The successes of the IceCube project have included the discovery of astrophysical neutrinos and neutrino-oscillation measurements. Work is ongoing towards extensions of the IceCube detector, for the first phase of which, the first seven strings of a dense, low-energy infill will be installed in the centre of IceCube. These strings - called the IceCube Upgrade - will allow the atmospheric tau-neutrino appearance rate to be measured to better than 10%. The new strings will be equipped with calibration devices that will improve our knowledge of the ice for past and future data, significantly improving in the neutrino-astronomy programme. Improved control of ice-related systematic uncertainties offers the potential to improve the angular resolution by a factor of five for both high-energy muon tracks and high-energy cascades, to double the rate of astrophysical neutrino cascades identified in the 10-100 TeV range, and to allow a 3-4σ observation of cosmic tau neutrinos in existing data.

Authorship annotation

for the IceCube-Gen2 Collaboration

Session and Location

Wednesday Session, Poster Wall #163 (Ballroom)

Poster included in proceedings:

yes

Primary author: Dr EVANS, Justin (University of Manchester)

Presenter: Dr EVANS, Justin (University of Manchester)

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