

Measuring the optical properties of the IceCube drill holes

Monday, 14 September 2015 18:00 (20 minutes)

The IceCube Neutrino Observatory deployed 5160 digital optical modules (DOMs) in a cubic kilometer of deep ice below the South Pole that record the Cherenkov light of passing charged particles. A good understanding of the ice is crucial to the quality of calibration and event reconstruction. While the optical properties of the undisturbed ice are reasonably well understood, the properties of the refrozen drill holes still pose a challenge. A new data-acquisition and analysis approach using light originating from LEDs within one DOM detected by the photomultiplier of the same DOM will be described. This method allows us to explore the scattering length as a function of azimuthal angle in the immediate vicinity of the considered DOMs.

Primary author: RONGEN, Martin (RWTH Aachen)

Presenter: RONGEN, Martin (RWTH Aachen)

Session Classification: Parallel Session F