

Energy reconstruction with the Radio Neutrino Observatory Greenland (RNO-G)

Friday 16 July 2021 19:18 (12 minutes)

Starting in summer 2021, the Radio Neutrino Observatory Greenland (RNO-G) will search for cosmic neutrinos with energies above 10PeV by detecting Askaryan radio emission from particle showers in the ice of Greenland. It will consist of 35 independent detector stations, each featuring 24 antennas deployed up to a depth of 100m. To cover a large volume, stations are spaced over 1km apart, so that in most cases, a detection will only be made by a single station. Combined with the low signal-to-noise ratio expected for most events, this makes their reconstruction challenging. On this poster, we show how the energy of a detected neutrino can still be reconstructed, which will be important in order to interpret any detected neutrinos and distinguish between astrophysical and cosmogenic neutrino flux.

Keywords

radio; high-energy neutrinos; event reconstruction; RNO-G

Collaboration

other (fill field below)

other Collaboration

RNO-G

Subcategory

Experimental Methods & Instrumentation

Primary author: WELLING, Christoph (ZEU-ICE (Astroteilchenphysik))

Presenter: WELLING, Christoph (ZEU-ICE (Astroteilchenphysik))

Session Classification: Discussion

Track Classification: Scientific Field: NU | Neutrinos & Muons