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Status of RNO-G's First Neutrino Search

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The Radio Neutrino Observatory in Greenland (RNO-G) is located at Summit Station and is designed to detect Askaryan emission from ultra-high energy (UHE) neutrinos above 100 PeV. The detector is proposed to have 35 stations of which 8 have been built so far. Each station is made up of antennas that are buried at a depth of 100 meters with the purpose of triggering on and reconstructing neutrino-like signals. The partially completed detector has been collecting data since 2021 and this data is being used for RNO-G's first neutrino search. This talk will outline progress towards this search, such as the data processing pipeline, analysis variables, initial reconstructions, and background/signal separation. We will also present a projected sensitivity.

Collaboration(s)

Radio Neutrino Observatory in Greenland (RNO-G)

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