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Calibration of the Radio Neutrino Observatory in Greenland using thermal noise

The Radio Neutrino Observatory in Greenland (RNO-G) aims to detect ultra-high-energy astrophysical neutrinos (E > 100 PeV). These neutrinos interact with the Greenlandic ice sheet, generating a particle cascade that emits radiation in the radio frequency range through the Askaryan effect. Once fully deployed, RNO-G will be the largest in-ice radio neutrino detector. Currently, 8 out of 35 planned detector stations have been built and are actively collecting science data.

This work aims to use randomly triggered data, filtered to only include thermal noise background contributions

To this end, thermal noise is simulated by taking into account both electronic noise and thermal radiation from

Collaboration(s)

RNO-G

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