

Towards Neutrino Detections with the Radio Neutrino Observatory Greenland (RNO-G)

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In the ultra-high energy regime, the low predicted neutrino fluxes are out of reach for currently running neutrino detectors. Larger instrumented volumes are needed to probe these low fluxes. The Radio Neutrino Observatory Greenland (RNO-G) detects radio waves emitted by neutrino induced particle showers in the Greenlandic ice sheet. Radio waves have a large attenuation length in ice ($O(1\text{km})$) and therefore RNO-G implements a sparse instrumentation to cover an unprecedented volume. The first three RNO-G stations have been deployed last summer and deployment will be ongoing in the next three years. This contribution introduces RNO-G, discusses lessons learned from the first year of data taking and outlines the reconstruction capabilities for the first neutrinos to be detected with the radio technique. Special focus is given on the method for directional reconstruction and the expected angular resolution.

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