

The Radio Neutrino Observatory in Greenland

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The Radio Neutrino Observatory in Greenland (RNO-G) is designed to make the first observations of ultra-high energy neutrinos at energies above 100 PeV via the detection of Askaryan radiation, and serve as a technology pathfinder for IceCube-Gen2. The experiment will comprise 35 autonomous stations deployed over a 5 x 6 km grid near to NSF's Summit Station in Greenland, making it the largest ground-based neutrino telescope when complete. The electronics chain of each station is composed of deep and surface 150-600 MHz RF antennas, low-noise amplifiers, custom RF-over-fiber systems, 2.0 GSa/s switched-capacitor array digitizers and an FPGA-based phased array trigger. The trigger will achieve a 2 sigma per-antenna threshold with a background rate of 1 Hz while an entire 24 channel station will operate at 25 W. In addition to the experiment's RF electronics, I will present on the power, DAQ, and communications systems as well as plans for the first season of deployment in Summer 2020.

Funding information

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