

Web-based Data Visualization for the Radio Neutrino Observatory in Greenland

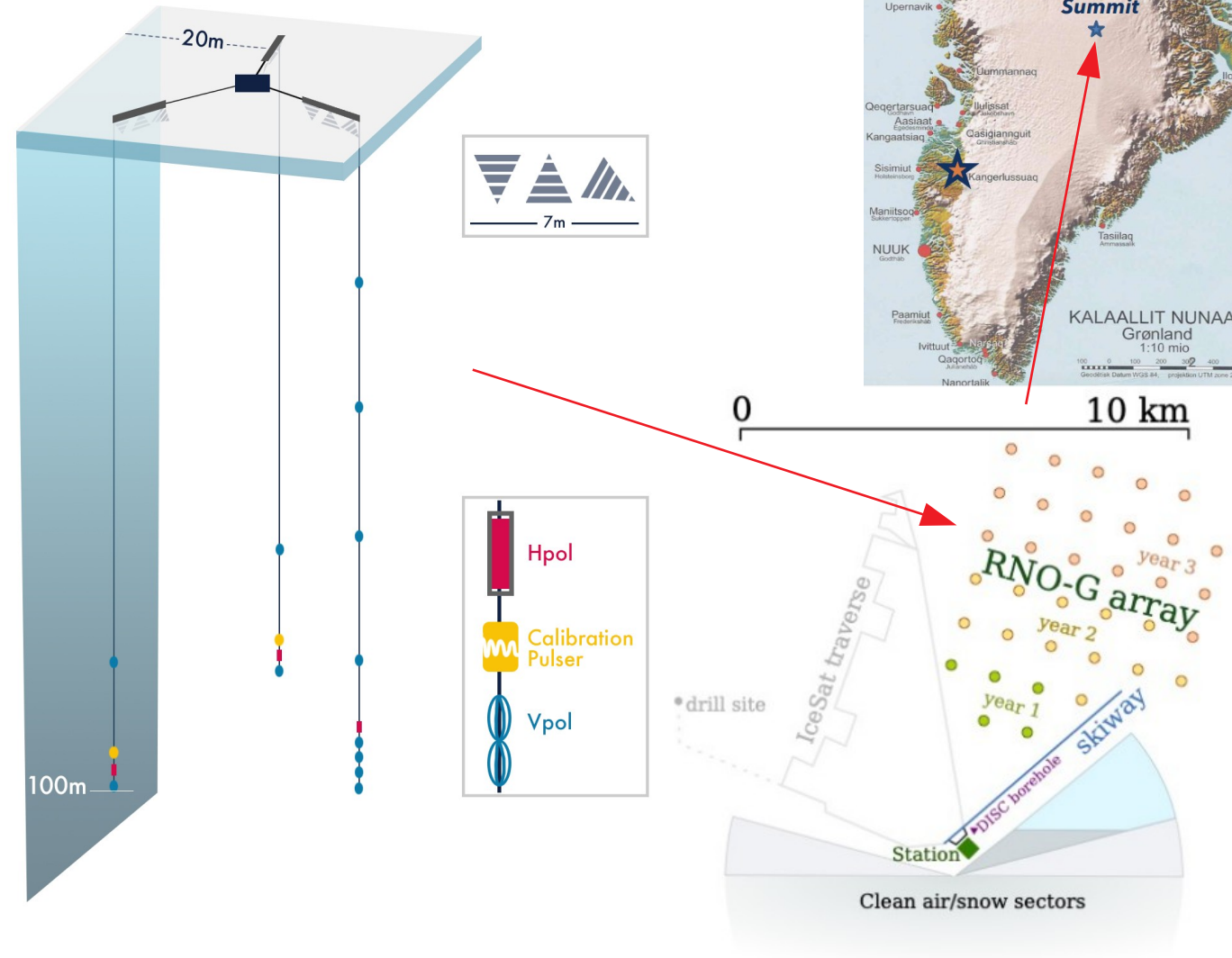
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The Radio Neutrino Observatory in Greenland (RNO-G)

A new High-Energy Neutrino Detector

- New detector for neutrinos at $E > 10\text{PeV}$
- First detector sensitive to GZK neutrinos
- Detection of radio signals emitted by neutrino-induced particle showers in ice
- Antennas 100m in ice near Summit Station, Greenland
- Supposed to be deployed right now, but then a pandemic happened



NuRadioReco and NuRadioMC

A Software Framework for the Radio Detector Community

- Reconstruction and simulation framework for radio neutrino detectors
- Community-driven
- Open source (<https://github.com/nu-radio>)
- Flexible: Used by RNO-G, ARA, ARIANNA, IceCube-Gen2 radio
 - Designed to support most radio detectors

Web-based Event Viewer for RNO-G

Subheading, optional

- Based on dash framework: <https://plotly.com/dash>
- Runs local flask server
- Rendering done in web browser
- Backend written in same language as framework (python)
 - No need to learn new language
 - Re-use code: If a plot it useful, someone has probably already made it
- Frontend practically a website:
 - Utilize web technologies (e.g. Bootstrap)
 - Easy online deployment (collaboration+outreach)

