



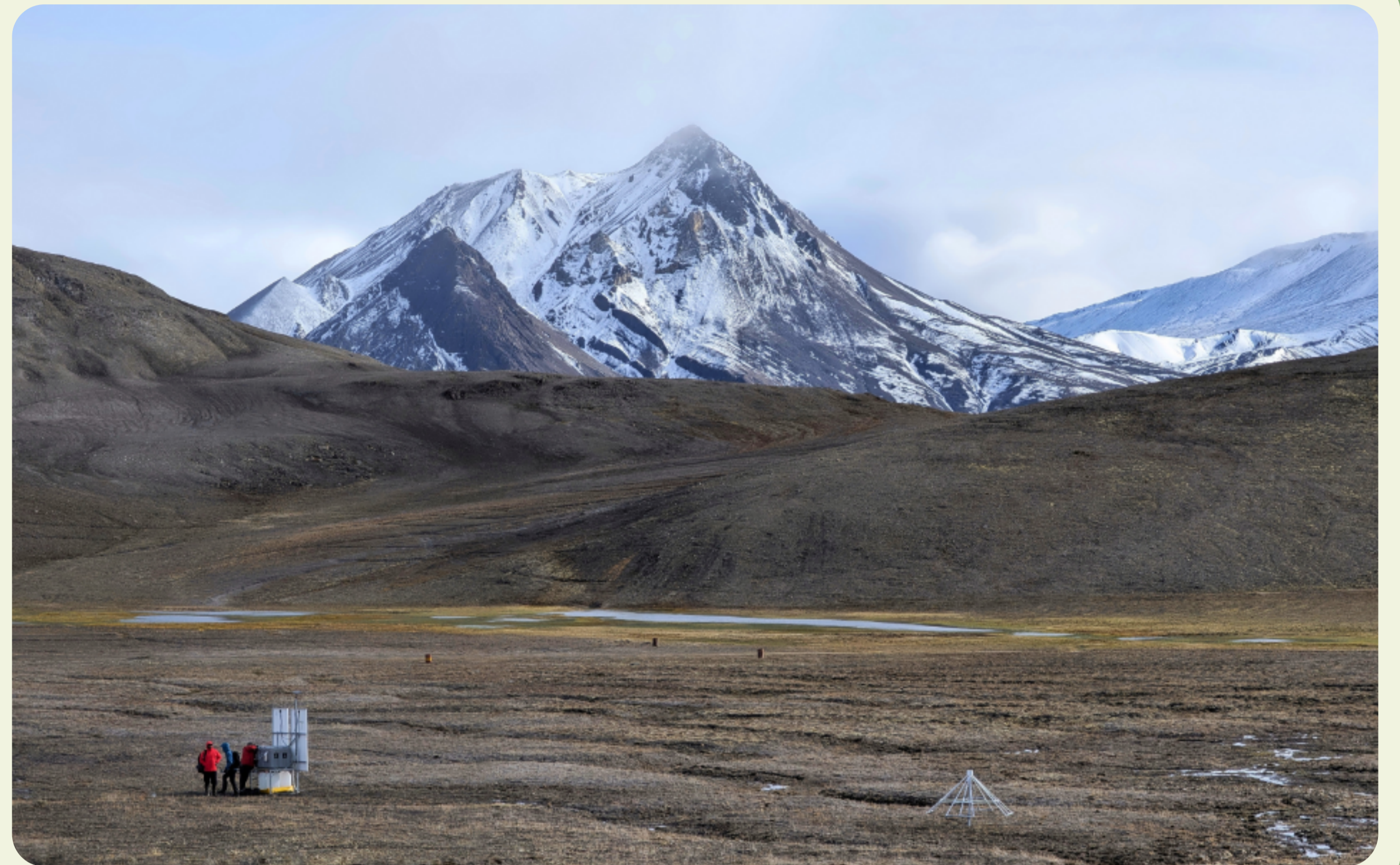
ALBATROS:

AN ARCTIC WINDOW INTO THE ULTRA-LOW FREQUENCY UNIVERSE

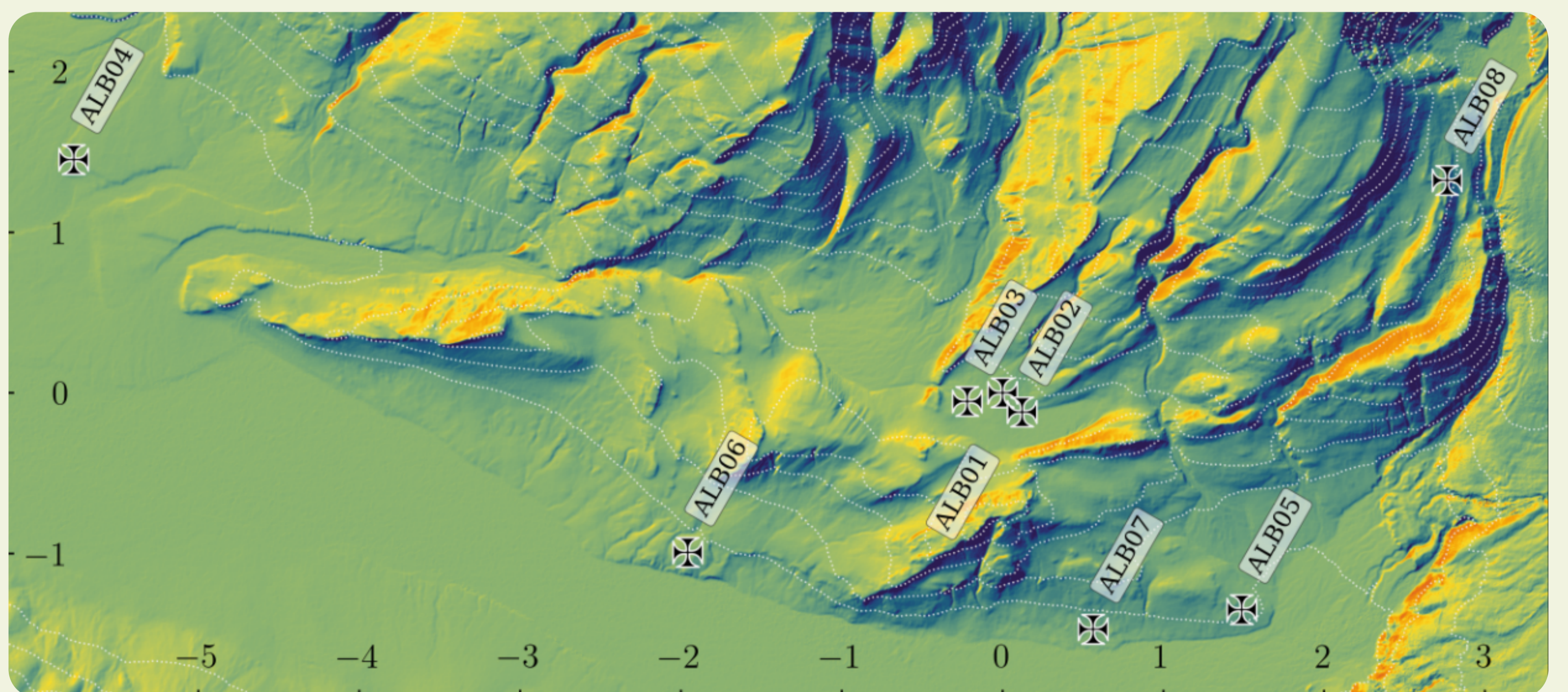
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AN UNEXPLORED RADIO REGIME

The radio sky below 30 MHz remains largely uncharted because the Earth's ionosphere blocks and reflects these wavelengths. These bands hold clues to the cosmic dawn, solar radio bursts and exotic ionospheric processes. ALBATROS opens this new observational window with a low-frequency interferometer deployed near the magnetic north pole.

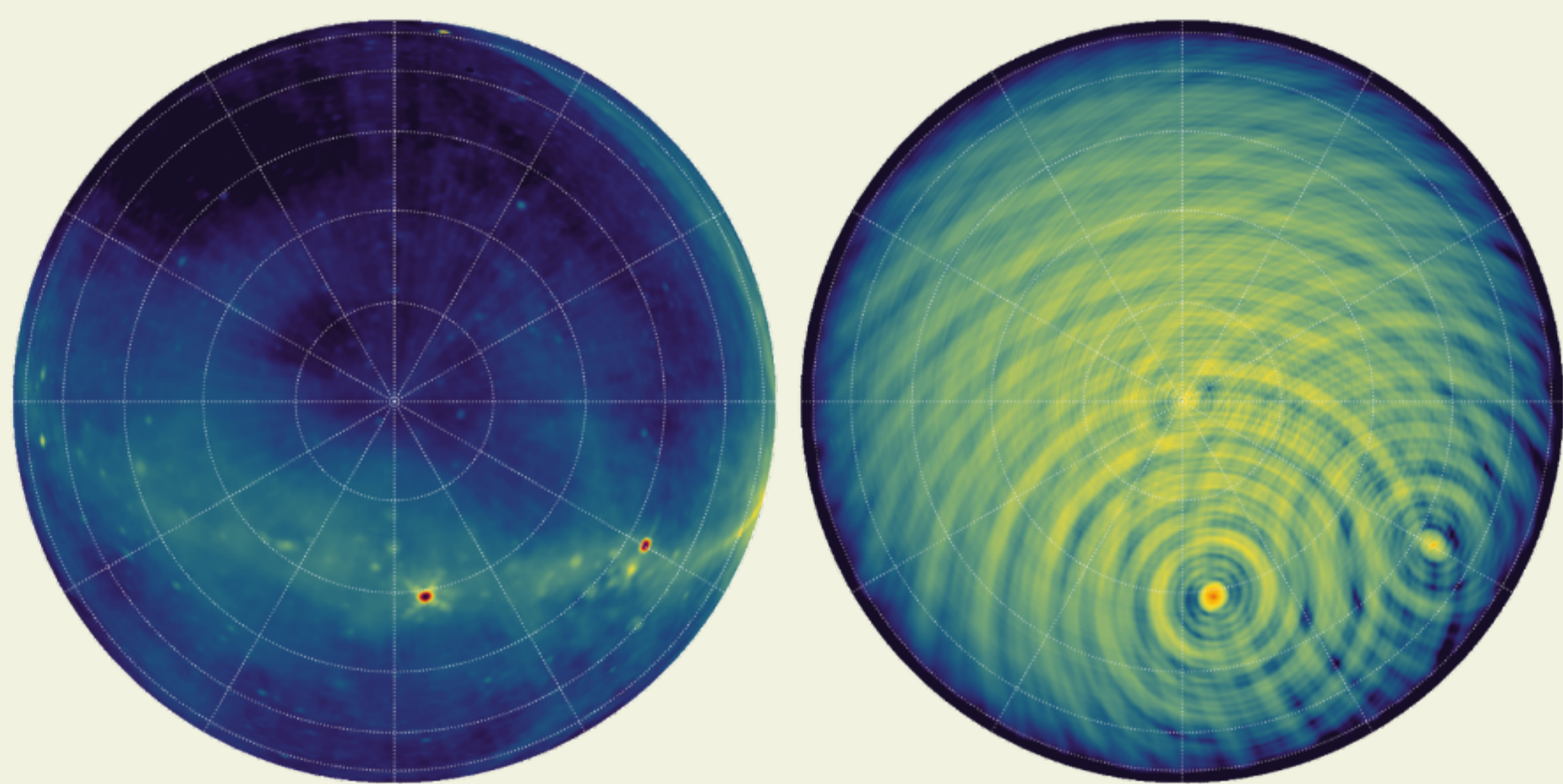


A UNIQUE GEOGRAPHIC OPPORTUNITY: MCGILL ARCTIC RESEARCH STATION



ALBATROS stations on Axel Heiberg Island (79°N), center of auroral oval, 100m–10km baselines

THE ALBATROS INSTRUMENT

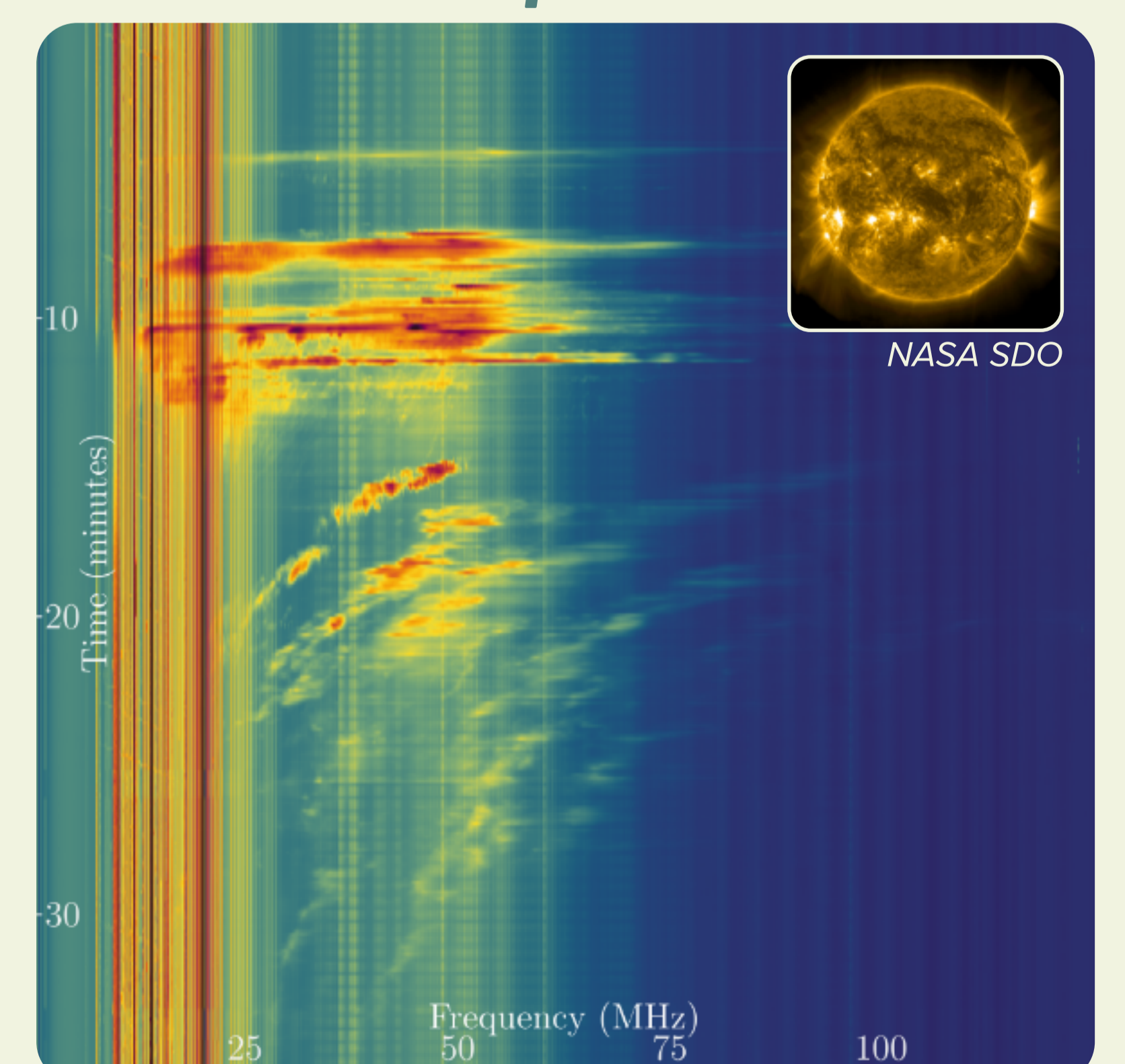
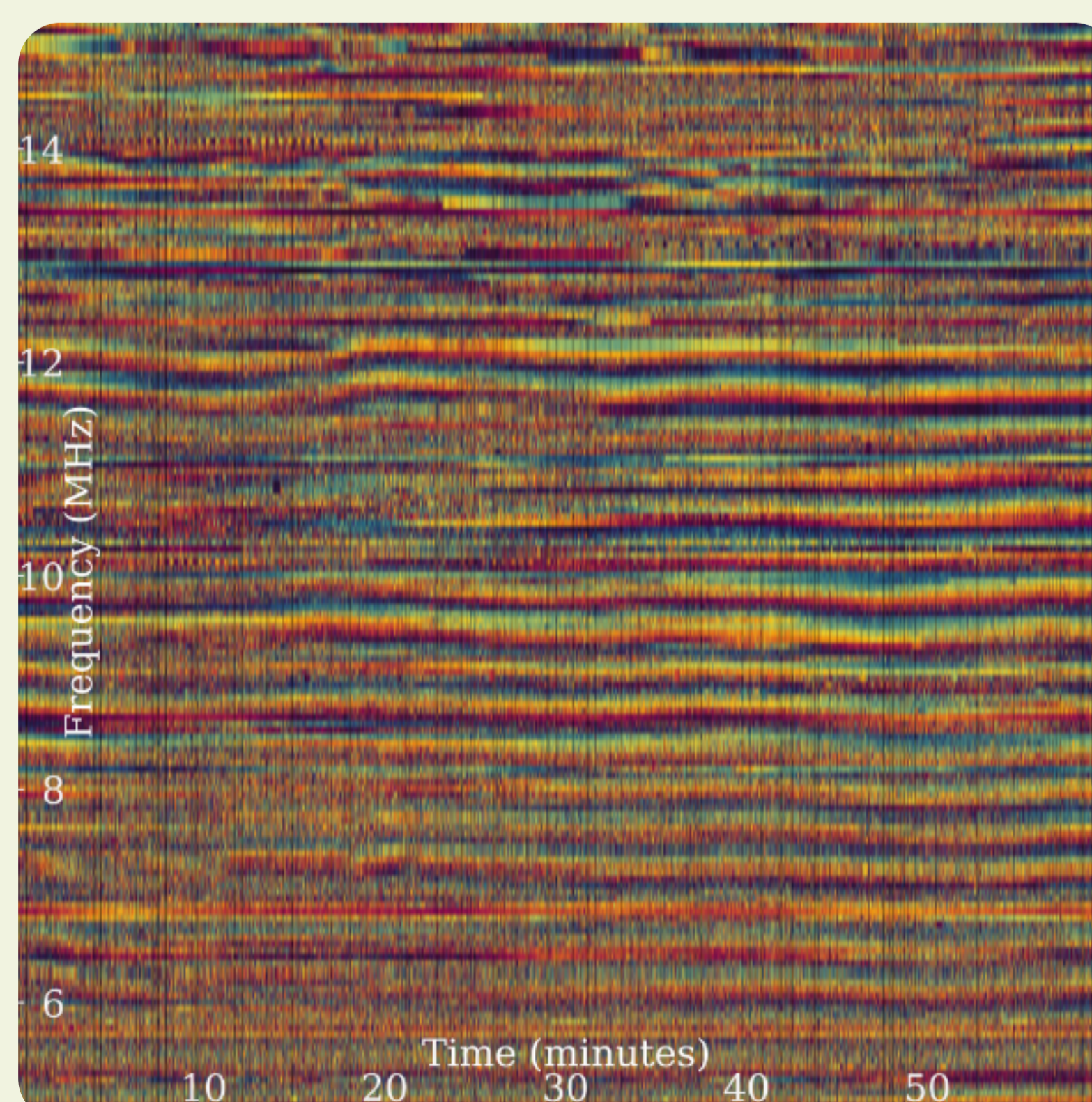


m-mode simulation of global sky model at 12MHz

- 8 VLBI-style autonomous stations, baseband voltages
- Solar + methanol fuel cells for power over arctic night
- Ultra-low frequency interferometer: 1–125 MHz
- 100 m–10 km baselines, arcmin resolution maps
- 30 MHz recorded @ 61kHz, 16 μ s. 256GB/station/year
- Starlink for communication and monitoring

FIRST SIGNALS FROM THE ULTRA-LOW FREQUENCY SKY

- First interferometric fringes below 15 MHz
- Broadband solar radio bursts
- Ionospheric imaging
- Axion searches
- Pulsars
- Sky mapping
- Cosmic Dawn & Dark Ages
- And more side quests



Fringes below 15MHz (left) and a complex solar radio flare (right)