

Radar situational awareness capabilities at SGO

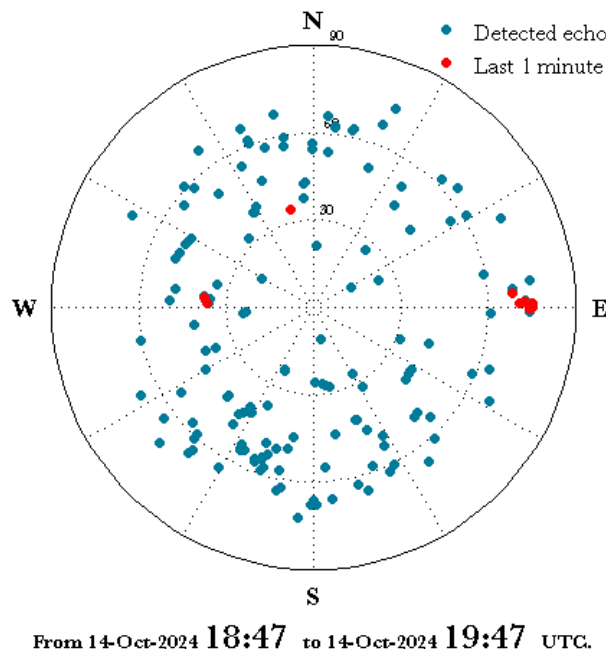
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Space conditions have been continuously monitored at Sodankylä Geophysical Observatory (SGO) by ground-based devices since 1913. The observatory's first radar started its operations in 1957. Since then, radar observations have been an elemental part of SGO's tasks. Nowadays operative radar network includes devices for vertical and oblique sounding, meteor radar for micrometeoroid observations and KAIRA radio telescope passive radar mode observations. This presentation will give a summary of SGO's radar capabilities with examples of the data produced and 24/7 operative services provided.

Radar networks will be expanded by recently started NATO Science for Peace and Security project DECC, European Space Agency funded NOSTRA and Earth-Space Research Ecosystem. DECC will expand the existing meteor radar network enabling improved space object observations. NOSTRA will make a preliminary design for the operative space radar, while Earth-Space Research Ecosystem (E2S) will build a wide range of operative capabilities and services for arctic and space situational awareness.

Latest sky map of meteor echoes



Space object observations within NATO-SPS-DECC produced by SGO at University of Oulu.