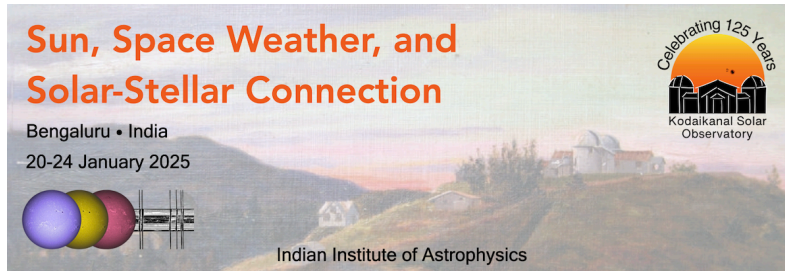


Sun, Space Weather, and Solar-Stellar Connection



Contribution ID: 110

Type: **Invited review talk**

Solar and Heliospheric Science from the New Generation Radio Telescopes: Status and Opportunities

Friday, January 24, 2025 4:10 PM (25 minutes)

In principle, the usefulness of radio observations for solar and heliospheric science (heliophysics) is well recognized. In practice, instrumental and algorithmic limitations have kept this promise from being realized. This is now set to change. Several new-generation radio interferometers have recently become available, and more are expected in the near future. These are the many precursors and pathfinders of the Square Kilometre Array Observatory (SKAO) and the SKAO itself (expected first-light 2029). The vastly improved observational abilities of these instruments are very well aligned with the needs of heliophysics. Between the various instruments and available techniques, they can be used to study regions from the base of the corona to beyond an AU and address a large variety of science targets. Considerable work has already been devoted towards enabling heliophysics with these instruments, which are optimized to look at faint radio sources orders of magnitude weaker than the Sun. This talk will showcase some example science areas where considerable progress has been made, share the status and near-term plans for radio heliophysics observations with the new-generation instruments and the science opportunities they present.

Contribution Type

Theme

Connecting Solar Corona to Heliosphere

Primary author: OBEROI, Divya (National Centre for Radio Astrophysics, Tata Institute of Fundamental Research)

Presenter: OBEROI, Divya (National Centre for Radio Astrophysics, Tata Institute of Fundamental Research)

Session Classification: Radio Input to Heliospheric Studies and Space Weather