



Solar Radio Observations for Space Weather

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Eruptive activity and particle acceleration in the solar atmosphere can have have adverse space weather effects at Earth, including interruptions to satellite and ground based telecommunication, as well as damage to electricity grids. However, understanding the origins of such space weather activity is an ongoing challenge. In this talk I will outline how radio observations are advancing the understanding of space weather origins. This will include the latest advances being made by radio instrumentation in observing the space weather activity in the solar corona, such as coronal mass ejections, shocks and the origins of energetic particles. I will conclude with an overview of the Low Frequency Array for Space Weather (LOFAR4SW) project, which is a design study aimed at upgrading the existing LOFAR telescope such that it provides routine and daily observations of space weather. Such an upgrade will aid the understanding of such activity in the corona, heliosphere and ionosphere and help advance the state of the art in our ability to forecast adverse space weather conditions and their effect on Earth.