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## Calibration of solar images at high radio frequencies through Cassiopeia A Supernova Remnant

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The solar radio emission is usually divided into three parts depending of the time scale of the events: (1) the quiet Sun as a background emission, (2) a slowly varying component mostly associated with the active regions and (3) occasional extreme and sudden energetic phenomena like coronal mass ejections and flares. The quiet Sun emission comes from thermal bremsstrahlung in local thermodynamic equilibrium, therefore it has the advantage to be well understood and modeled compared to other frequencies.

The SunDish project aims to map and monitor the Sun at high radio frequencies with the Sardinia and Medicina Radio telescopes. In the framework of solar observations there is a lack of precise calibrated measurements in the K-band frequency range (18-26 GHz). We therefore perform observations in the K-band and in prospective we are going to extend our range up to 100 GHz.

In this work we present calibrated Sun maps by using the Supernova Remnant Cassiopeia A. This is a challenging procedure since this calibrator is an extended source and is currently in expansion. Due to its strong flux Cassiopeia A presents several advantages compared to other standard calibrators and its brightness variation is well study in literature. We find that Cassiopeia A is a very reliable calibrator for observations of the radio Sun. Due to the calibrator visibility at our telescopes latitude, it is possible to obtain accurately calibrated Sun maps throughout the day.

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