

EGU22-1253, updated on 09 Aug 2022

<https://doi.org/10.5194/egusphere-egu22-1253>

EGU General Assembly 2022

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Imaging of the Quiet Sun in the Frequency Range of 20-80MHz

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Radio emission of the quiet Sun is generally believed to be generated from thermal bremsstrahlung emission of the hot solar atmosphere. The imaging properties of the quiet Sun in the microwave band have been well studied, and they fit well to the spectrum of bremsstrahlung emission. In the meter-wave and decameter-wave bands, imaging properties of the quiet Sun have rarely been studied due to the instrumental limitations. In this work, we use the *LOW Frequency ARray (LOFAR)* telescope to perform high-quality interferometric imaging spectroscopy observations of quiet Sun coronal emission at frequencies below 90~MHz. In these observations of the coronal emission, we achieved unprecedented imaging quality, spatial structures are well resolved. For the first time, we find dark regions with low brightness temperatures. The brightness temperature spectrum of the quiet Sun is obtained and compared with the bremsstrahlung emission of the corona model.