

RADIO EMISSION FROM MAGNETIC EXOPLANETS: PROGRESS REPORT ON GMRT OBSERVATIONS AND RESULTS

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Abstract

Massive extrasolar planets are expected to emit, in analogy with Jupiter and Saturn, detectable radio emission at low frequencies. We have carried out a series of observations of known extrasolar planetary systems at 150 MHz with the Giant Meterwave Radio Telescope (GMRT) in both interferometric and phased array modes.

As low frequency observations are plagued with RFI, we have focused on observing strategies and analysis techniques to minimize, identify and remove RFI effects from dynamic spectra. Pulsar data obtained during each observing campaign have been used to validate novel detection algorithms for non-thermal events. In this report we will summarize our observing campaigns and present our detection algorithms and results. We will also briefly discuss prospects for similar searches with instruments that are now coming online as well as prospects with future instruments such as the SKA.

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