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Search for Radio Emissions from Extrasolar Planets at 150 MHz

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Using the new 150 MHz receivers of the Giant Metrewave Radiotelescope (GMRT) in India, we have searched for radio emissions from a sub-set of known "hot Jupiters": Upsilon Andromeda, Tau Bootes, 70 Virginis, HD162020, and HD179949. We have selected these targets based on the expected flux density and the level of background noise. Calibrations with GMRT at 150 MHz have confirmed the noise floor to be a few mJy over a 5 MHz bandwidth. The noise floor is well below the expected flux levels from the targets. No observation of these targets has been attempted previously at these frequencies with the sensitivity and aperture offered by GMRT. Radio maps of the targets were produced using the AIPS CLEANing and image making software, and will be presented. Dynamic spectra from the target regions will also be presented.

In addition to the targets above, we have just (August 2005) completed new and deeper (longer integration times) radio observations of Upsilon Andromeda, HD179949 (evidence of star-planet magenic connection), HD188753Ab (newly discovered in tripple star system), HD209458b (transiting planet), and Gliese 876 (red dwarf system containg a "rocky" planet). Time permitting for analyses, we will present very preliminary, first-look, results.