GMRT OBSERVATION OF JUPITER'S RADIO EMISSION

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The decimeteric radio emissions from Jupiter are dominated by synchrotron emissions originating from high-energy electrons trapped in Jupiter\'s inner radiation belts at 1.3-4 Jovian radii. We have observed Jupiter during February 24 - March 3, 2003 with GMRT to study its radio emissions in the dual frequency linear polarization mode at 610 and 240 MHz simultaneously. Each day's observations lasted for about 10 hours (the rotation period of Jupiter), the time period span ~1800-0400 IST (1230-2230 UT). The primary calibrator was taken as 3C147 and phase calibrator source used was 1021+219. We used a bandwidth of 6 MHz for observations with 64 frequency channels covering a span of 8 MHz. The visibilities were recorded with an integration time of 16 seconds. We will present results of these GMRT observations of Jupiter\'s radio emissions, which were taken in conjunction with observations in x-rays from Chandra X-ray Observatory and in ultraviolet from Hubble Space Telescope. An unusual correlation is observed between the Jupiter radio flux and the solar radio flux at 10.7 cm, which will be discussed.