

## Variations of the Jovian synchrotron radiation for one solar activity cycle at a frequency of 327MHz

# Shiho Nomura[1]; Hiroaki Misawa[2]; Fuminori Tsuchiya[3]; Akira Morioka[4]

[1] Planet. Plasma Atmos. Res. Cent., Tohoku Univ.; [2] PPARC, Tohoku Univ.; [3] Planet. Plasma Atmos. Res. Cent., Tohoku Univ.; [4] Planet. Plasma and Atmos. Res. Cent., Tohoku Univ.

The Jovian synchrotron radiation (JSR) is a radio wave emitted from the relativistic electrons in the Jovian radiation belt, which has information of dynamics of high-energy particles and electromagnetic disturbances in the Jovian inner magnetosphere. The intensity variation of JSR, however, has been little understood in its timescales and origin. We have observed JSR for several months a year since 1994 to reveal characteristics of the flux variations especially at the time scales of days to months (short-term) and years (long-term). The regular observations have been made at a frequency of 327MHz by using parabolic cylinder antennas of the Solar Terrestrial Environment Laboratory, Nagoya University. We have derived the JSR flux densities for 1994 - 2005 by reevaluation of galactic background (BG) flux densities to derive actual JSR flux densities using a new technique to estimate BG: we have observed a calibration star which was actually used in the past JSR observations and BG radiation at a time by the electrically beam-switching method, which is just the same observation method as the actual observations for the calibration star and Jupiter. We improved quality of the data successfully for 1995 -1996 with improving the accuracy from 70% to 50% and proceed to reanalyze the other data for 1994-2006. In our presentation, we will introduce characteristic variations of JSR for one solar activity cycle and discuss the physical processes in the Jovian radiation belt.