

Meter to decimeter wave range new radio telescope for the investigations of planetary environments

Hiroaki Misawa[1], Akira Morioka[2], Fuminori Tsuchiya[3], Tetsuro Kondo[4]

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

A new radio telescope system is being set up in the mountainous region of Fukushima, in the observation wave range of meter to decimeter (1.2 - 0.5m: 250 - 600MHz). The radio telescope is a fully steerable offset-parabolic antenna with the physical aperture area of approximately 1000m². This antenna is composed of two separate parabolic rectangular antennas installed on one alt-azimuth mount. The reflecting surface is formed by a thin wire mesh to make polarization measurements. The main target of the radio telescope is exclusive and continuous observation of planetary radio emissions for the investigations of electromagnetic environments of planetary magnetospheres, particularly Jupiter's inner magnetosphere.