IAF SPACE POWER SYMPOSIUM (C3)
Wireless Power Transmission Technologies and Application (2)

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DEVELOPMENT OF MISSION SYSTEM FOR WIRELESS POWER TRANSMISSION EXPERIMENTS IN ORBIT

Abstract

We are developing a mission system for the wireless power transmission experiments using the small satellite in the "OHISAMA" project. This project, commissioned by the Ministry of Economy, Trade and Industry (METI), aims to verify long-range microwave beam control technology from orbit for the

future utilization of a lunar power generation system using a solar power satellite orbiting the Moon. The experiments will be conducted in low Earth orbit using microwaves of the 5.8GHz band. The basic design phase was completed. Following five experiments are planned. One is the evaluation of a modular system of phased array antenna systems for space applications. The second is to confirm the control accuracy of this power transmission system for long-distance beam transmission from orbit to ground. The third is the demonstration of power reception and its energy utilization by wireless power transmission from orbit. The fourth is a technology demonstration of wireless power transmission between flying objects in orbit. The fifth is the evaluation of the effect on ionospheric plasma and atmospheric propagation when high power microwaves are emitted in orbit. We will introduce an outline of the mission design of space experiments using the small satellite.