

System Design of the Bus and Mission Instruments of SELENE Relay Satellite

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SELENE Relay Satellite will make global mapping of the lunar gravity field using the Relay Satellite Transponder (RSAT) for 4-way Doppler measurements and the VLBI radio sources (VRAD) for differential VLBI observations. The system design of the Relay Satellite is demanded to be low mass and simple one, and to obtain highly accurate gravity field data. We report results of the ground test for newly developed components; separation test for breadboard model of the low mass separation mechanism, and the irradiation test for the low-mass and narrow-band patch antennas which are used to remove the spin effect from Doppler data. We also report designs of the system of Usuda Deep Space Center to operate 4-way link.