

Communication system of multiple rovers for small body surface exploration

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Abstract

The authors developed a tiny system to communicate with multiple payloads such as rovers and landers which are deployed from the mother spacecraft. The developed communication system consists of a parent module (P-COM) and child modules (C-COM).

P-COM is installed in the mother spacecraft. It sends commands to maximum of seven C-COMs simultaneously as well as receives telemetry data from them. C-COM is a light-weighted module to be installed into small rovers and landers. The authors also developed antennas fitted for both modules.

All these items were used for the deployable payloads of Hayabusa2 mission. This poster presentation describes the system and the performance obtained in the operation up to now as well as made by a balloon experiment.