

## Lunar magnetic field observation by KAGUYA MAP-LMAG: preliminary report

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The magnetometer onboard KAGUYA, MAP-LMAG, has extended its mast on Oct. 28th in 2007 and subsequently began the observation of the lunar magnetic field. The initial check-out was completed concerning the instrument operation, evaluation of magnetic interferences from the spacecraft and in-orbit calibrations.

The LMAG observation has three major scientific objectives: (1) detection of lunar magnetic anomalies, (2) observation of the magnetic environment surrounding the moon (3) estimation of the electrical conductivity structure of the lunar interior. Previous observations and anomaly models imply that the lunar magnetic anomaly would show an intensity of only about 1 nT at the nominal altitude of KAGUYA, ca. 100 km. Through the nominal observation of LMAG for a few months, several anomalies have been detected at localities where strong magnetic anomalies have been found by Lunar Prospector or Apollo. It is also observed that some particular changes in the magnetic field repeatedly appear at specific locations, which may be related to the mini-magnetosphere over the lunar magnetic anomaly.