

Software for virtual 3-dimensional display of Kaguya in-situ observation of magnetic field and the magnetic anomalies on the moon

Hisato Takatera¹, *Tomoko Nakagawa¹, Hideo Tsunakawa²

1. Information and Communication Engineering, Tohoku Institute of Technology, 2. Department of Earth and Planetary Sciences, Tokyo Institute of Technology

A variety of magnetic fluctuations were found by Kaguya in its orbit around the moon. They manifest the interaction between the solar wind and the lunar surface or the lunar crustal magnetic field. To understand the generation mechanisms of those phenomena, it is crucial to examine the relative position of the spacecraft with respect to the moon in the solar wind and the magnetic anomaly on the surface, as well as the magnetic connection between the spacecraft and the moon.

In order to make it easier to realize the 3-dimensional configuration, we have developed computer software which enables a virtual 3-dimensional display of magnetic field vectors observed by Kaguya on the position of the spacecraft, together with the lunar magnetic field displayed on the moon. The data used are the 1-s averages of the Kaguya/LMAG magnetometer and SVM data (Tsunakawa et al., 2015, JGR Planet).

Keywords: Kaguya, MAP/LMAG, 3D display, crustal magnetic field, magnetic anomaly, Solar wind