

## Data Processing and Archive System of Hayabusa (Muses-C) AMICA (Multi-band spectroscopic camera) (Part 2)

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Hayabusa (Muses-C) is the first Japanese asteroid exploration mission which was launched in May 9, 2003. This project primarily aims mastering fundamental technology such as autonomous navigation and electronic propulsion that are essential for future planetary missions. On the other hand, in the scientific point of view, this mission has also the important scientific objectives that approaches closely to the asteroid and collect a sample from the surface of the asteroid. In Muses-C we also target the clarification of the nature of asteroid surface such as mineral composition and grain size distribution. As of February 6, 2004, the mission is ongoing very successfully, and the earth fly-by is scheduled in May 2004.

To accomplish these goals, the Hayabusa explorer has a spectroscopic camera, AMICA (Asteroid Multiband Imaging Camera) on board. The camera has seven filters to observe asteroid surface remotely. AMICA has conducted initial operation and instrument checks between post-launch phase and the summer of 2003. These checks indicates healthy condition of the instruments. Several imaging of the stars and planets during the cruising phase from the summer of 2003 also shows the camera is in a good condition.

We are now constructing data archive system for coming data acquisition of AMICA. This system should be easily accessible to the data acquired in ground calibration, not only the data during the whole mission (the amount estimated as several tens of gigabytes). Also the searching function including past experiment, the necessary mechanism to support the long-term and group-working mission, will be necessary.

Also, from the special requirements as a collaborative missions with scientists in America, our data archive system can be inter-operable with the PDS (Planetary Data System) which is commonly used as a database platform in NASA missions.

In this lecture, we present the characteristics and concept of the AMICA data archive system. This concept includes the DPLEX (Desktop Lunar Exploration) concept, the architecture that any researcher and even the public can obtain planetary data through the network, and the author will touch on these implementation and realization in this archive system.