

PPS005-P02

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Operational procedures and schedule for Hayabusa returned sample in the Planetary Material Sample Curation Facility

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The planetary samples return missions have been scheduled, such as Hayabusa mission that will return samples from asteroid Itokawa to the Earth on June 2010 and future missions which are planning to return planetary material samples from extraterrestrial bodies. From the necessities for curation of planetary material samples returned by these missions, the Planetary Material Sample Curation Facility had been established in JAXA on March 2008.

The facility consists of clean rooms of class 1,000 in Fed. Std. 209E, and various kinds of equipments for precision cleaning, cleanliness check, observation and analysis for initial description of samples, and sample preservation are installed in the facility. Clean chambers are also installed there, which enable us to treat the planetary material samples in ultra pure nitrogen condition and in controlled pressure from atmospheric pressure to ultra high vacuum. One of the chambers is especially designed for collecting sample gases for heavy noble gas analysis, and the other for handling very small planetary material samples under highly clean condition such as weighing, dividing and enclosing into silica tubes.

Hayabusa returned samples are the first samples to be curated in this facility, thus the facility is mainly operated for their acceptance for a time. The comprehensive test of the facility to confirm its functions and performances had been finished in FY 2008, and the rehearsal test of sample curation for Hayabusa returned samples had been performed in FY 2009.

The results of rehearsal test in FY 2009 and the operational procedures and schedule for Hayabusa sample curation will be presented in this meeting.

Keywords: sample return, planetary material sample, curation, Hayabusa, Itokawa, asteroid