

## CURRENT STATUS OF JAXA'S ASTROMATERIALS SCIENCE RESEARCH GROUP.

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**Introduction:** We report the current status of JAXA's Astromaterials Science Research Group (ASRG). JAXA curation facility of Extraterrestrial Sample Curation Center (EsCuC) was completed in 2008 for Hayabusa return sample acceptance. The special feature of JAXA curation facility is the ability of observation, handling, and storage for scientific precious return samples, without being exposed to the atmosphere. Thereby, for example, noble-gas analysis and space weathering observation were enabled while they are difficult in the meteorite research due to the influence of terrestrial contamination. Moreover, in this facility the handling of the 10-micrometer size particle is also possible using electrostatically controlled micromanipulation system installed in clean chamber. The curation facility in which handling of such as small sample without exposing to the atmosphere is available is only in the world [1].

**Initial description and detailed analysis of Hayabusa sample:** About 600 particles of Hayabusa sample of 10 to 300-micrometer size are collected until now. Optical observation and SEM/EDS observation are carried out in almost all those particles, and the Hayabusa samples information is catalogued. In the preliminary examination phase started about six months after Hayabusa return, detailed analyses were conducted. In these examinations, they are resolved the relationship between S type asteroid and ordinary chondrite, the figure of pre-rubble-pile body, and the mechanism of the space weathering.

After the sample distribution to NASA following the preliminary examination, international AO analyses were started and offer of the analysis opportunity to the global researchers was performed from 2012. In these researches, the investigations of the formation history and surface evolution of small bodies are progressing. Furthermore, in the curation facility, consortium researches on the rare particles which are not distributed for the international AO are also advanced, and the effort to obtain the maximum scientific result about a precious sample is made.

**Future plan of curation facility:** There is still recovery of the Hayabusa samples on the way. We are planning to carry out the distribution for the international AO research with succeeding renewal of the sample catalog. JAXA organized Astromaterials Science Research group as a new group in this year. In this group, we not only allocate the samples for researchers but also put emphasis on studies by ourselves to maximize the scientific outcomes.

**References:** [1] Yada et al. (2014) Meteorit. Planet. Sci., 49, 135–153.