Japan Geoscience Union Meeting 2011
(May 22-27 2011 at Makuhari, Chiba, Japan)

U005-13 会場:国際会議室 時間:5 月 26 日 12:10-12:30

はやぶさ回収試料の初期分析：地球物質科学的記載@三朝
Initial analysis of the Hayabusa recovery materials: Overview and highlights at Misasa

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A geochemistry group in the Institute for Study of Earth's Interior (ISEI), Okayama University at Misasa, has been designated one of the initial analysis groups for particles from the sample container, which was returned by the instrumental module of the asteroid exploration space craft "Hayabusa". By JAXA (Press Releases, January 17, 2011), "Initial analysis" is defined as the description of typical particles. This includes the numbering, identification and classification of individual particles in preparation for curation, preservation and allocation for further analysis.

In the initial analysis, our group at ISEI will have undertaken the description of individual return particles that are larger than 5 micron in diameter. The description will employ a comprehensive set of analytical techniques employing the optical and scanning electron microscope, electron probe micro-analyzer, secondary ion mass spectrometer, and transmission electron microscope. To enhance the accuracy of major and trace element and isotope analyses, in-house standard materials have been precisely characterized at ISEI by thermal ionization mass spectrometers, inductively-coupled plasma mass spectrometers and stable isotope mass spectrometers.

These comprehensive data sets for individual particles will provide general mineralogical and geo- and cosmo-chemical characteristics of the particles associated with components of the asteroid "Itokawa". This information will also help determine the direction in which any subsequent secondary analysis should follow.

キーワード: はやぶさ, MUSES-C, 小惑星イトカワ, 初期分析
Keywords: Hayabusa, MUSES-C, Asteroid Itokawa, initial analysis