

Characterization of L1613 , LUNA 16 regolith sample

*Watanabe Hiromi¹, Kentaro Terada¹, Shoichiro Yokota¹, Yosuke Kawai¹, Narumi Moromoto¹, Yuji Sano², Takanori Kagoshima², Naoto Takahata², Eric Galimov³

1. Osaka University, 2. Division of Ocean and Earth Systems, Atmosphere and Ocean Research Institute, University of Tokyo, 3. Vernadsky Institute of Geochemistry and Analytical Chemistry of the Russian Academy of Science

Lunar sample is important to discuss lunar evolution. Lunar regolith is the mixture of fine grains/powders found on the surface of the Moon, and is considered to be the result of mechanical disintegration of basaltic and anorthositic rocks, caused by continuous meteoric bombardment over billions of years. So, for the chronological studies on regolith, it should be taken into account that individual grains have a different origin. In this work, we report the characterization of L1613, LUNA 16 regolith collected from Mare Foecunditatis. We performed elemental mapping of about 1500 grains using Spectral imaging function of SEM-EDS, and investigated the chemical composition of individual Ca-phosphate and pyroxene mineral using Point & shoot for the identification of the origins. As a result, we confirmed that the L1613 consists of mostly low-Ti-basalt with small amount of highland component. At the conference, the future-plan and/or progress of in-situ U-Pb analysis for Ca-phosphates also will be discussed.

Keywords: Lunar, LUNA 16 regolith sample, in-situ U-Pb analysis, pyroxene mineral