[EJ] Evening Poster | P (Space and Planetary Sciences) | P-PS Planetary Sciences

[P-PS05]Lunar science and exploration

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Scientific data sets acquired by not only Japanese lunar mission SELENE (Kaguya), but also other countries' missions, have become new standard for lunar science. Analyses of these data have been providing several new knowledge and changing some hypotheses into the truth of the Moon. In concurrence with these studies, some countries including Japan are planning future lunar missions. In this session, we will discuss scientific results based on newly acquired lunar data, strategy for future missions including SLIM, and theoretical and experimental studies for lunar science.

[PPS05-P16]Basic Studies for Development of Active X-ray Generators Used in X-ray Fluorescence Spectrometer on Future Lunar Landing Missions.

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Development of Active X-ray Generator (AXG) has performed in order to mount Active X-ray Spectrometer (AXS) for future lunar landing mission. AXS consisting of X-ray generator and silicon drift detector, is an elemental analyzer to determine the chemical composition on site by X-ray Fluorescence Spectroscopy. We have developed two types of AXG without radioisotopes, the first is a pyroelectric X-ray generator (PXG), and the second is a carbon-nanotube X-ray generator (CXG). Basic studies to increase X-ray intensities by changing the inner conditions of PXG (target shape, crystal size, inner gas pressure, etc.) have been performed. Furthermore, X-ray intensity of the improved PXG is compared with that of CXG. In this presentation, the current status of development of PXG and CXG will be reported and discussed.