

R006-P07

ポスター 1 : 9/24 PM1/PM2 (13:45-18:15)

EQUULEUS 搭載の極端紫外撮像装置 (PHOENIX) による地球プラズマ圏の撮像

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Remote observation for Earth's plasmasphere by EUV telescope (PHOENIX) on-board nano-spacecraft EQUULEUS

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6U-size nano-spacecraft mission named EQUULEUS has been launched in November 2022 as one of the sub-payloads of NASA's Space Launch System. After the launch, the instrumental checkouts have been conducted along with orbital control for Earth-Moon L2 point (EML2). An ultra-small telescope for extreme ultraviolet (EUV) named PHOENIX is boarded on EQUULEUS. It consists of multilayer-coated mirror (diameter of 6 cm with Mo/Si coating), metallic bandpass filter, and 2-D photon counting device with microchannel plate and resistive anode. The reflectance of the mirror and transmittance of the filter are optimized for the emission line of ionic helium (wavelength of 30.4 nm) which is the second major component of the plasmasphere of the Earth. The field of view of PHOENIX is set as 11.8 degrees which corresponds to around 10 Earth size seen from moon. By flying far from the Earth, the entire image of plasmasphere can be obtained in one frame of the PHOENIX FOV. In this presentation, the mission concept and the design of the telescope, and the status of PHOENIX in orbit will be shown with some initial observational results.