

## Observation of the lunar ionized layer with SELENE Radio Science

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To investigate the mechanism of ionization near the lunar surface, we plan to conduct radio occultation observations of the ionized layer in the SELENE mission. The mission utilizes the coherent radio wave in S- and X-band emitted by the Vstar sub-satellite. The linear combination of the phases of these bands enables us to remove the influence of the fluctuation in the onboard frequency reference, thereby deriving the electron content along the ray path. The dependence of the ionized layer structure on the solar zenith angle, solar wind condition and remnant magnetic field will be studied.