

AKR occultation observed by KAGUYA (SELENE)

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KAGUYA (SELENE) LRS/WFC-H [1] observes plasma wave spectra in 1-1000kHz and AKR is often observed. Occultation of AKR occurs when the satellite goes behind the moon [2]. A satellite can only see one hemisphere of the earth before and after entering the state of the occultation by the moon. In general, since there is a possibility that electromagnetic waves from both hemispheres are received when AKR is received far from the earth, a source hemisphere must be assumed. This is also important for the polarization measurement since observed polarization also depends on source hemisphere. It is a major merit that only one hemisphere can be seen around the occultation. Not only wave intensities, but also observed polarizations are frequency dependent around the occultation. This difference is a reflection of the source altitudes.

References

[1] Y. Kasahara, Y. Goto, K. Hashimoto, T. Imachi, A. Kumamoto, T. Ono, and H. Matsumoto, Plasma Wave Observation Using Waveform Capture in the Lunar Radar Sounder on board the SELENE Spacecraft, *Earth, Planets and Space*, 60, 341-351, 2008.

[2] Hashimoto et al., SGEPPS meeting, Sendai, Japan, 2008.