

Observation of Mercury sodium exosphere during the transit in November, 2006

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Mercury sodium exosphere was discovered by spectroscopic observation from the ground in 1985, and it has studied in various ways since then. Among them, existence of dawn-dusk asymmetry of sodium column density is suggested [Sprague et al., 1997; Potter et al., 2006]. As a cause to produce such asymmetry, depletion of sodium surface density in the dusk side is proposed. The transit of Mercury across the solar disk is an unique opportunity to observe the dawn dusk asymmetry at once, and observation made at the last Mercury transit in 2003 showed that Na column density in the dawn side is larger than that in the dusk side by about an order [Schleicher et al., 2004].

We made observation of Mercury sodium atmosphere at Mt. Haleakala, Hawaii using an Echelle spectrograph during the transit of Mercury across the solar disk on November 8, 2006. Because no distinctive sodium absorption was seen in the observed spectra, an upper limit of sodium column density was preliminary estimated. In the presentation, improved estimation, considering a smearing effect due to seeing condition, will be given.