Ground support observations for and non-planetary targets of JAXA SPRINT-A mission

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SPRINT-A is an earth-orbiting EUV spectroscopic mission being developed by ISAS/JAXA and will be launch on August 2013. Primary science targets are plasma dynamics in Jupiter's inner magnetosphere and atmospheric escape from Venus and Mars. For these objectives, international support campaign observations are organized now. We review the current status of these plans by Mauna Kea and Haleakala observatories and possible simultaneous observations with EXCEED telescope. For Jpvian cases, SPRINTA-A provides (1) time and spatial variations of Io plasma torus (in EUV) and (2) time variation of total Jovian UV aurora flux (in UV) in long-term.

SPRINT-A is the EUV space telescope so that it can potentially observe other objects. However, by the limitation of acceptable spacecraft attitude, we can only observe the objects close to the Ecliptic plane, i.e., with the ecliptic latitude between +10 deg and -10 deg.

For example, we investigated the feasibility of Comet ISON (C/2012 S1) which will pass nearby the Sun on 28 Nov. However, becaues of its orbital angle, it can only stay very short in the acceptable location for the SPRINT-A obsrvations.

Another possible objects are the stars with exoplanets. We identify 16 candidates which are close to the ecliptic plane. In UV spectroscopic obsrvations by HST, some of exoplanets showed UV absorption of Ly alpha [cf. Schneiter et al., 2007; Holmstrom et al., 2008; Vidal-Madjar et al. 2003, 2004]. Although S/N is hard for EUV (for O, C, Si), but it will be the first trial of the EUV spectra of such objects.

We thanks to all members not within the auther list but contributing these plannings and discussions.