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Observing Jupiter with an infrared camera NIIHAMA

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An infrared camera, NIIHAMA (1024x1024 pixels, PtSi array sensor), is attached to the SOLAR-C telescope (45-cm diameter off-axis Gregorian reflector) atop Haleakara in December 2013 and is now observing Jupiter.

NIIHAMA's 6-position wheel houses Dark, J, H, K, 3.4-micron (for Jupiter's H_3^+ aurora) and 2.26-micron (for Venus night-side IR emission) filters. The primary target of this project is to monitor the brightness of Jupiter's aurora simultaneously with SPRINT-A/HISAKI and other telescopes. However, due to smaller aperture of telescope, rather low quantum efficiency of PtSi sensor, etc., Jupiter's aurora has not yet been imaged so far. On the other hand, the satellite Io while in Jupiter's shadow was observed in K band, and the night-side IR emission of Venus was successfully imaged in 2.26-micron filter. We report the result of first-light observations and also discuss improvement and observing plans in near future.

Keywords: Infrared camera, Jupiter, aurora, Io, Venus, Haleakala