

# Current status of the development of near-infrared camera for the Iitate Planetary Telescope

# Kayoko Takahashi[1]; Takeshi Sakanoi[2]; Shoichi Okano[3]

[1] Planet. Plasma Atmos. Res. Cent., Tohoku Univ.; [2] PPARC, Grad. School of Sci., Tohoku Univ.; [3] PPARC, Tohoku Univ.

We are developing a near-infrared camera for planetary atmospheric observation. This camera has an imaging optics consists of interference filters and a 256x256 InSb array detector of which sensitivity range is 1-5 $\mu$ m. The field-of-view (110") and spatial resolution (0.43"/pixel) are most suitable for planetary observations, such as Venus (max. dia. 57"), Mars (max. dia. 25") and Jupiter (max. dia. 45"). This camera in combination with the Iitate Planetary Telescope (f=7200mm, D=525mm) of Tohoku University enable us to make continuous observations of planetary atmospheres, and these continuous data are important to understand phenomena on planetary atmospheres. Using this camera, we plan to observe the cloud pattern and the horizontal distribution of CO seen in the nightside of Venus measuring images at wavelengths of 2.294  $\mu$ m and 2.329  $\mu$ m.

Recently, we have finished the construction of the mechanical components of camera such as the Dewar. We also carried out the thermal vacuum tests and electrical function check without the detector array, and confirmed the performances of optical and electrical systems in the low temperature conditions of 30-90 K. In this presentation, the current status of development and observation plan of Venus will be presented in detail.