

## Lightning and Airglow Observations by the Venus Climate Orbiter (PLANET-C)

# Jun Yoshida[1], Yukihiro Takahashi[1], Masaki Tsutsumi[2], Hiroshi Fukunishi[3], Venus Exploration Working Group Koh-Ichiro Oyama

[1] Dept. Geophysics, Tohoku University, [2] NIPR, [3] Department of Geophysics, Tohoku Univ.

One of the most interesting unsolved questions concerning Venus is lightning activity. Its existence is still a matter of controversy among researches in spite of spacecraft observations and telescopic observations from the ground over more than 20 years. We have planned to install a lightning and airglow camera (LAC) for the Venus Climate Orbiter (PLANET-C) to finish this controversy. Since lightning discharges are predicted to occur in active convection regions, the monitoring of lightning activity gives us information on meso-scale dynamics of the atmosphere. We also demonstrate that the high sensitivity of LAC enable us to observe aurora whose existence is suggested as well as night airglow. These observations will contribute to studies of day-to-night circulations, atmospheric gravity waves, ionospheric and auroral phenomena occurring in the non-magnetic planet. We show the outline of the optical system of LAC in a developing stage.