

Atmospheric observation of submillimeter wave and the thermal evolution of ice giants

*Kenji Kurosaki¹, Masahiro Ikoma²

1. Department of Physics, Nagoya University, 2. Department of Earth and Planetary Science, Graduate School of Science, The University of Tokyo

Our solar system has two ice giants: Uranus and Neptune. Voyager II explored Uranus in 1986 and Neptune in 1989 and observed the effective temperature and the gravitational moments that are important to understand the atmospheric and interior structure. Recently by use of ground telescope submillimeter absorption features are observed. Submillimeter observations showed that Uranus did not have remarkable feature while Neptune had absorption features of HCN and CO. That is, atmospheric structures are different between Uranus and Neptune. Since the amount of CO is related to the atmospheric O/H, the observation is expected to restrict the metal enrichment of ice giants. Moreover, the atmospheric structure affects the thermal evolution of the ice giants. In this talk, we focus on ice giants in our solar system.

Keywords: Ice giant, Atmosphere