

## Novel and useful techniques in performing a global kinetic simulation for the ionosphere of Venus

# Naoki Terada[1], Shinobu Machida[2]

[1] Department of Geophysics, Kyoto Univ., [2] Dept. of Geophys., Kyoto Univ.

<http://www-step.kugi.kyoto-u.ac.jp/~teradan/>

Useful techniques in developing a kinetic simulation code around the ionosphere of Venus are shown with several examples of a global hybrid simulation of the interaction of the solar wind with the upper atmosphere of Venus. These techniques include the combination of the PIC method with the boundary-fitted coordinate system, and the particle splitting and coalescing method which facilitates to incorporate chemical reactions around the Venusian ionosphere.