



Secular Obliquity Variations Due to Climate Friction on Mars: Re-Examination in Influence of Martian Internal Viscosity Structure

Y. Harada (1,2), K. Heki (3)

(1) Division of Earth Mechanics, Earthquake Research Institute, the University of Tokyo (2) Mizusawa Astrogeodynamics Observatory, National Astronomical Observatory of Japan, National Institutes of Natural Sciences (3) Division of Earth and Planetary Sciences, Graduate School of Science, Hokkaido University (harada@miz.nao.ac.jp/+81-197-25-6619)

Secular obliquity variations due to climate friction on Mars are calculated. Martian interior is considered to be a three-layered structure. A viscosity of each layer is treated as a parameter. The results give knowledge as follows. First, under an internal structure with a visco-elastic crust and/or a solid core, the effect of the climate friction becomes greater than that concluded by previous research. Second, under an internal structure with a heterogeneous mantle, the possibility of the great effect of the climate friction becomes stronger than that concluded by previous research.