

# Jovian magnetospheric response to solar wind dynamic pressure enhancements: Analysis of Galileo magnetometer data

# Chihiro Tao[1]; Hiroshi Fukunishi[2]; Ryuho Kataoka[3]; Yukihiro Takahashi[4]; Takaaki Yokoyama[5]

[1] Department of Geophysics, Tohoku University; [2] Department of Geophysics, Tohoku Univ.; [3] Dept. of Geophysics, Tohoku Univ.; [4] Dept. Geophysics, Tohoku University; [5] School of Science, Univ. Tokyo

In order to understand the Jovian magnetospheric response to large enhancements of solar wind dynamic pressure, we investigate magnetic field disturbances in the Jovian magnetosphere observed by the Galileo spacecraft. The arrival times of such solar wind structures are obtained from one-dimensional MHD simulation. We use ACE and WIND solar wind observation data at the Earth's L1 point as input parameters for the simulation. The error of this simulation is estimated within ~2 days comparing with actual solar wind observation by Ulysses at Jupiter's orbit. It is found that irregular crossings of the Jupiter's current disk and/or enhancements of turbulent magnetic field disturbances are induced by solar wind dynamic pressure enhancements for all of the selected 12 events.