

Distribution characteristics of energetic particles in the inner part of the Jovian magnetosphere analyzed with the Galileo data

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Jupiter has the largest magnetosphere, rapid planetary rotation with the period of about 10 hours and volcanic satellite Io. It is expected that, therefore, internal sources of energy and mass is more effective for the magnetospheric activities than outer sources such as an interaction between the Jovian magnetosphere and solar wind. Although it is known that the magnetosphere has high population of energetic particles, acceleration processes and locations from cold Iogenic particles to keV - MeV particles are little known. In order to clarify the processes, we have precisely investigated spatial distribution of the energetic particles in the inner part of the magnetosphere within 20 Jovian radii using the whole set of the Galileo EPD data. Comparing the results of the investigations with the previous reports, we will discuss physical explanations of the results and required future works.