

Global dynamics of the inner magnetosphere derived from long term observation by Akebono

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Akebono is a Japanese scientific spacecraft which was launched in February, 1989 for observations of the Earth's magnetosphere, and has been operated successfully for 25 years. The regular data acquisition of MGF, PWS, VLF, TED, and RDM is still continued at stations in Japan and Sweden. The operation of the Akebono will be extended until March, 2015 (FY2014) in order to realize collaborative measurements with the Van Allen Probes, and further extension to the end of FY2016 is expected as an optional mission. Because of its unique orbit, the stored data is quite valuable for studying plasma physics in the auroral region as well as the radiation belt. In the present paper, we introduce important achievements of Akebono observation and discuss future science to be obtained from the long term observation data.

Keywords: Akebono, Inner Magnetosphere, Radiation belt, Aurora, Plasma wave