



Inner Magnetospheric Plasma Convection and induced Ring Current Systems

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The empirical model recently developed by the authors is able to globally depict the proton distributions in the inner magnetosphere and their temporal evolution during geomagnetic storms. For this purpose, in-situ plasma measurements are used as event tracers. Once globally reconstructed, these proton distributions allow speculations on macroscopic parameters characterizing the ring current development. Here we focus on the role played by the plasma convected inwards from the plasma sheet in setting-up specific current systems in the ring current region. Some speculations on the possible closure of these current systems are also given with reference to other studies related to this subject.