# Title: Magnetospheric current system

Abstract

The Earth has an intrinsic magnetic field which is nearly dipolar, but not exactly at far distances. The continuous flow of solar wind plasma leads to a distortion of this magnetic field and forms a cavity like structure known as magnetosphere, inside which Earth's magnetic field prevails. The interaction of solar wind with the Earth's magnetic field drives the motion of charge particles and electric currents. A variety of complex current systems are induced by the motion of trapped solar wind particles in the magnetosphere. The most common currents in the planetary magnetospheres are magnetopause currents, ring currents, field-aligned currents, magneto tail currents. These currents flow in different parts of the magnetosphere and are the main sources of magnetic field disturbances in those regions of space. So, it is important to understand the dynamics of these current system.