

Dr. V. Pierrard

Title: The inner Magnetosphere: radiation belts, auroras, ionosphere/plasmasphere, polar wind

Abstract.

In this lecture, the different regions of the magnetosphere will be presented, with special focus on the radiation belts, the auroras, the ionosphere and its extension at low and middle latitudes, the plasmasphere, and at high latitudes with the polar wind escape. For each region, the source, loss and basic physical mechanisms will be presented as well as the results of some models. The motion of particles trapped in the magnetic field of the Earth will be explained, as well as the space weather effects of these particles during geomagnetic storms and substorms.