

Cluster observations of the magnetospheric boundaries in 3D

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After 4 years of operations, the Cluster mission is fulfilling successfully its scientific objectives. The mission, nominally for 2 years, has been extended by another 3 years, up through December 2005. The main goal of the Cluster mission, made of four identical spacecraft, is to study in three dimensions the small-scale plasma structures in the key plasma regions in the Earth's environment: solar wind and bow shock, magnetopause, polar cusps, magnetotail, and auroral zone. During the course of the mission, the relative distance between the four spacecraft is being varied from 100 and 18,000 km to study the scientific regions of interest at different scales. The inter-satellites distances achieved so far are 600, 2000, 100, 5000 km and recently 250 km. The latest results, which include derivation of gradients using the four spacecraft and boundary motions, as well as interferometry, will be presented. In addition, examples of Cluster observations during solar storms will be shown. The access to data through the Cluster science data system, several public web servers, and the Cluster active archive development will be presented.