



## **Flux variations in the Van Allen Belts observed by CLUSTER/RAPID and PROBA-V/EPT**

Viviane Pierrard (1,2), Kris Borremans (1), and Graciela Lopez Rosson (1)

(1) Belgian Institute for Space Aeronomy, Space Physics, Brussels, Belgium (viviane.pierrard@oma.be), (2) Université Catholique de Louvain, ELI-C, Louvain-La-Neuve, Belgium

Satellite observations have been analyzed to determine the dynamics of the electron radiation belts during geomagnetic quiet and disturbed periods. During geomagnetic storms determined by a drop in the Dst index, the electron differential fluxes in the outer belt vary several orders of magnitude. Flux variations and decay times were estimated from CLUSTER/RAPID observations. Based on these data analysis, a dynamic model of the electron radiation belts is developed for the energy range [244.1-406.5 keV]. Unexpected high fluxes are observed at L=3 for this energy range from 2010 to 2012. Moreover, we analyzed the data of the Energetic Particle Telescope (EPT). This is a new compact and modular ionizing particle spectrometer that was launched on 7 May 2013 in a LEO polar orbit at an altitude of 820 km onboard the Belgian satellite PROBA-V. First results show electron, proton and helium ion fluxes in the South Atlantic Anomaly and at high latitudes, with high flux increases during Solar Energetic Particles events.