

Study of the interplanetary and solar structures of two geoeffective events in September 2011

Antonio Guerrero¹, Judith Palacios¹, Elena Saiz¹, Consuelo Cid¹, and Yolanda Cerrato¹

¹ SRG-Spaceweather, Universidad de Alcalá, Spain

Abstract

From the 8th to the 20th of September, 2011 two Coronal Mass Ejections (CMEs) reached the Earth causing two moderate geomagnetic storms ($Dst < -50$ nT). The scenario would be simple except for the presence of a Coronal Hole (CH) which generates a High Speed Stream (HSS) situated between the trajectory of the two CMEs. In this study, we analyze possible interactions between different structures and their geoeffectiveness, connecting the observed in interplanetary medium (in-situ and remote) with the observed on earth. Data from ACE and WIND spacecraft for the interplanetary medium transients are used, as well as data from STEREO, SOHO, PROBA2 and SDO missions for the solar sources of the events.