



## **Short-term ionospheric disturbances associated with solar energetic events**

Rebeca López-Montes (1), Román Pérez-Enríquez (2), and Eduardo A. Araujo-Pradere (3)

(1) Centro de Geociencias, Universidad Nacional Autónoma de México, México (rebecamont@gmail.com), (2) Centro de Geociencias, Universidad Nacional Autónoma de México, México(roman@geociencias.unam.mx), (3) University of Colorado, Boulder, Colorado, U.S.A. (earaujo4@gmail.com)

The Earth's ionosphere is generated mainly by the arrival of high-energy electromagnetic radiation in the upper atmosphere (EUV). However, other types of radiation such as X-rays, gamma rays and energetic particles are known to disturb the ionosphere, as in the case of the 14th of July 2000 solar event. In this paper this event is taken as a reference for analyzing similar solar flares for understanding their possible impact on the ionosphere. A total of 5 events were studied from 2006 to date. Events from 2000 to 2005 were not considered because the solar activity during this time period was such that the events were not sufficiently isolated to differentiate between ionospheric disturbances caused by radiation or geomagnetic storm. This study was performed by calculating the total electron content (TEC) in the ionosphere using GPS stations data located in different regions of Mexico.