

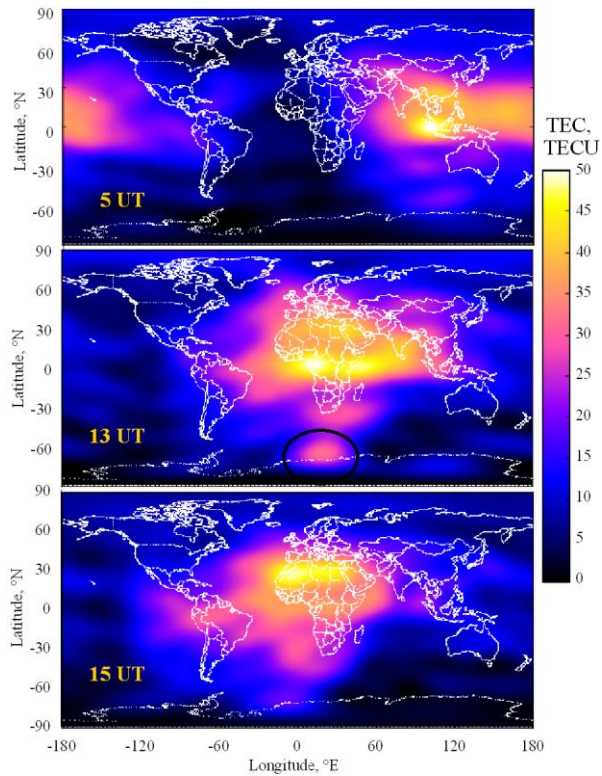
Dear Dr. Sotomayor-Beltran,

Thank you very much for submitting your paper to the *Annales Geophysicae*, as well as for valuable work you did when preparing the manuscript. It is well known fact, that geomagnetic storms could provide different manifestation and courses in the Earth's upper atmosphere depended on a number of factors and initial conditions. This is a reason, why observations and analysis of the atmospheric response to storm-induced disturbances are very useful and informative for the scientific community.

Now I am coming back to you on the status of your paper. As you already know, decision of the first referee is major revision, the second referee evaluated the manuscript as not acceptable for publication. Both referees are working for the long time in the field and provided very valuable comments, and I believe that their comments will be useful also for your future investigations.

From my side, I would like to point out that the space weather event you analysed, was very interesting, but complicated. Four days-long period before the storm maximum was under the diminishing influence of a positive polarity coronal hole high speed stream (CH HSS), when solar wind speed ranged from 430 to 680 km/s with total field between 3-9 nT. According to the warning issued by NOAA, the geomagnetic field was already at the active levels on 5-6 September. Total field increased twice, for the first time it increased to 16 nT at 6 of September at 23:24 UTC and solar wind increased to a maximum of 610 km/s at 23:09 UTC, once more the enhancement was observed at 8 of September at 11:21 UTC to a maximum of 18 nT while the Bz component went southward to a maximum of -17 nT. Geomagnetic sudden impulses of 21 nT (Fredericksburg magnetometer) were observed at 6 of September at 23:48 UTC and 70 nT at the end of the next day with the arrival of both CMEs. In addition, the Earth atmosphere experienced an influence of extraordinary flares (e.g., the M5 flare on 4 of September, X9 flare on 6 of September and the X8 flare on 10 September). The complicated situation before and after the 8 of September, influence of two CMEs gave a rise for some doubts of the referees, if the 8-days running mean is an appropriate measure for the comparison. My suggestion is to discuss in more details important aspects/display and consequences of the event taking into account significant dependences of the ionospheric response at different locations.

As for the paper Edemskiy et al. *Ann. Geophys.* vol 36, pp. 71-79, the authors were discussed particularly the anomalous feature which was observed at higher latitudes of the Southern Hemisphere (please, see the area indicated by the black ellipse in the middle panel of the figure below). If you see in your data some similar phenomenon, then it would support the finding published in the Edemkiy's paper.



As the paper contains results, which contribute to our knowledge on the manifestation of magnetic storms, I suggest a major revision. Please, consider very carefully and discuss in the revised version of the manuscript comments of both referees. Both of them (eventually some additional) and me will revise the manuscript again.

Kindest regards

Yours cordially

Dalia Buresova