Geophysical Research Abstracts
Vol. 20, EGU2018-13529, 2018
EGU General Assembly 2018

Cases of simultaneous observations of equator-ward and poleward large scale TIDs during storm conditions

John Bosco Habarulema (1,2) and Zama T Katamzi-Joseph (1,2)

(1) South African National Space Agency, Hermanus 7200, South Africa (jhabarulema@sansa.org.za), (2) Department of Physics and Electronics, Rhodes University, Grahamstown 6140, South Africa

It is well known that particularly severe magnetic storms create complicated changes in the complex morphology of the electric fields, temperature, winds, wave activity and composition and affect all ionospheric parameters. The main feature of the stormy ionosphere is a great degree of irregular variability, which persists from several hours to days. Storm-time equator-ward large scale travelling ionospheric disturbances (LSTIDs) are known to originate from the auroral regions and are attributed to enhanced Joule heating and Lorentz coupling processes. However, the physical mechanisms for large scale TIDs that originate from around the geomagnetic equator are nowadays still not well established. The main reason is that they are rarely observed and also rarely reported in literature. This talk will present cases of simultaneous observations of both equatorward and poleward large scales TIDs during magnetic storm conditions and highlight possible mechanisms for poleward TIDs.