

Ionosphere and Thermosphere response to major and minor stratosphere sudden warming

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[1] None

Stratosphere sudden warming (SSW) is a meteorological event where the stratospheric temperature experiences a rapid and significant rise of more than a few tens Kelvin in the winter polar region. Although being a local event, its impact is found to extend in both altitude and latitude. Particularly during the major 2009 warming event, strong semi-diurnal perturbation in the vertical plasma drift and TEC, along with a general depletion of the plasma and thermospheric density have been observed. However, many questions remain. For instance, are the striking features observed in 2009 SSW general features during SSW? What are the differences between responses to major and minor SSW? Do they have any solar cycle dependence? Hereby, these questions are investigated using satellite and ground observations.