



Dust Storm Signatures in Global Ionosphere Map of GPS Total Electron Content

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In this paper both MODIS data and GIM (global ionosphere map) TEC (total electron content) as well as numerical simulations are used to study ionospheric dust storm effects in May 2008. The aerosol optical depth (AOD) and the LTT (latitude-time-TEC) along the Sahara longitude simultaneously reach their maximum values on 28 May 2008. The LLT (latitude-longitude-TEC) map specifically and significantly increases over the Sahara region on 28 May 2008. The simulation suggests that the dust storm may change the atmospheric conductivity, which in turn modifies the GIM TEC over the Sahara area.