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## Influence of lightning on electron density in the ionosphere using WWLLN lightning data, Ionosonde data and GPS data

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**Abstract content**   
 &nbsp; (Max 300 words)   
 <a href="http://events.saip.org.za/getFile.py/?target="\_blank">Formatting & Special chars</a>

Lightning data from World-Wide Lightning Location Network (WWLLN) and GPS data from Trignet have been analysed to ascertain the influence of lightning on total electron content (TEC) in the F2 region of the ionosphere over southern Africa. In this study, data from four dual frequency GPS reference stations in regions with different lightning activity levels within South Africa have been used. The analysis reveal periods of TEC enhancement between 3-12 TECU on geomagnetic “quiet” days which correspond to periods of intense lightning activity in the regions. One of the hypotheses for this link between atmospheric weather and ionospheric activity is that the enhancement of TEC is caused by the infiltration of energy dissipated by lightning discharges in the troposphere into the F2 region.

**Apply to be considered for a student award (Yes / No)?**

Yes

**Level for award (Hons, MSc, PhD)?**

MSc

**Main supervisor (name and email) and his / her institution**

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**Would you like to submit a short paper for the Conference Proceedings (Yes / No)?**

Yes

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