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Correlating fractional hop whistlers detected on DEMETER with WWLLN lightning

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Abstract content
 (Max 300 words)

It is well known that the number of lightning strokes at a particular location far exceeds the number of whistlers detected at the conjugate point. Correlation analyses between global lightning and whistlers have revealed that it is possible for the initiating lightning stroke to be a significant distance from the conjugate point. This study aims to further explore this result. Whistlers are frequently observed at Tihany, Hungary, which is magnetically conjugate to a point off the east coast of South Africa. Using broadband VLF data from the DEMETER satellite and lightning data from WWLLN, we have computed the regions which produce lightning capable of launching whistler mode waves into the magnetosphere above the conjugate point. DEMETER is a satellite in a quasi Sun-synchronous, low earth orbit which suffers from timing inaccuracies. Due to these inaccuracies, we have calibrated the data using data from the South African Lightning Detection Network.

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

Yes

Level for award
 (Hons, MSc,
 PhD)?

PhD

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

Andrew Collier (collierab@gmail.com)

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

Yes

Primary author: Mr DELPORT, Brett (University of KwaZulu-Natal)

Co-authors: Dr COLLIER, Andrew (SANSA Space Science); Dr LICHTENBERGER, Janos (ELTE); Dr PARROT, Michel (CNRS); Dr STEINBACH, Peter (ELTE)

Presenter: Mr DELPORT, Brett (University of KwaZulu-Natal)

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