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Ionospheric Irregularities studies using GPS and radio astronomy interferometers

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Abstract content (Max 300 words) **Formatting & Special chars**

The study of ionospheric structures and irregularities is beneficial to both the scientific advancement of knowledge as well as the practical applicability to high frequency (HF) communications, navigation, surveying and understanding various aspects of space weather effects on technological systems. For example ionospheric disturbances can cause errors in the accuracy of Global Positioning System (GPS) measurements, as much as 2 m in navigation error. Research is underway to utilise radio astronomy data in the investigation of ionospheric irregularities and structures (such as traveling ionospheric disturbances, geomagnetic storm induced ionospheric perturbations) over the African region. Radio interferometer instruments have been used to study ionospheric structures in the past. However such instruments have never been used over the African region mainly due their non-existence, but with the construction of the SKA (Square Kilometer Array) and the African VLBI (very large baseline interferometer) and the installation of MeerKAT and PAPER (Precision Array for Probing the Epoch of Reionization), study of this nature is feasible.

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

Yes

Level for award (Hons, MSc, PhD, N/A)?

Hons

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)?

No

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Yes

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