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Babatunde Adeyemi, Characterisation of Anomalous Radio Propagation and Radio trapping over West Africa using using ERA interim and NCEP/NCAR Data
Kayode Adedayo, Characterisation of Anomalous Radio Propagation and Radio trapping over West Africa using using ERA interim and NCEP/NCAR Data
Poster
Radio signal experiences propagation distortion in troposphere due to the interaction of electromagnetic signals with atmospheric medium. Using Global Positioning System (GPS)radio occultation (RO)data from CHAMP, FORMOSAT-3/COSMIC and MetOp-A GRAS in the European Center for Medium-range Weather Forecasts(ECMWF) global reanalysis ERA–Interim, characteristics of anomalous conditions and radio trapping were estimated over West Africa climate. The analysis of the result were carried out via grads and pyferret. Correlation between the percentage occurrence of abnormal condition and latitude with maritime and continental winds were also estimated. Percentage of ducting occurrence was more at midnight and morning in the Sahel region of the West Africa compare with other period. Likewise, the presence of ducting which can be associated with the ocean breeze was also high in the coastal region. Strong link were established between the latitude and the percentage occurrence of ducting and super refractive. The result will help radio engineer to develop good radio circuitry for different region of the West Africa.
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