Abi
Komanduru
Purdue University
James Garrison, Purdue University
Jonathan Snively, Embry Riddle Aeronautical University
Michael Hickey, Embry Riddle Aeronautical University
Poster
Acoustic Gravity waves from seismic events can induce disturbances in the ionosphere. Ionospheric conditions during underground nuclear tests are observed using total electron content (TEC) data from large ground-based GNSS networks. By performing time-frequency analysis on TEC time series from multiple stations and looking for common structures, potential candidates for Travelling Ionospheric Disturbances (TIDs) can be identified. This approach is used to identify and track potential TIDs from underground nuclear tests. Candidate TIDs from North Korean UGTs are identified through a combination of wavelet analysis and cross correlation of TEC time series obtained from GEONET base stations in Japan for events on 9 Oct 2006 and 25 May 2009. The authors have begun to look at identifying disturbances from the NK UGT on 9 Sep 2016 as well as finding similarities in the TEC time-frequency signatures of these events. TEC data from COSMIC can assist in further detection of TIDs as well as providing an independent set of TEC measurements to validate observations from ground based networks.
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