

EVIDENCE OF GRAVITY WAVES IN UHF/VHF BEACON MEASUREMENTS

T. W. Garner*, C. L. Slack, K. Mehta, A. Scholze, A. Mahrous

*Space and Geophysics Laboratory Applied Research Laboratories
The University of Texas at Austin
Austin, Texas 78713-8029 (USA)

Key words: UHF/VHF radio signals, ionosphere, relative TEC, Coherent Ionospheric Doppler Receivers

Abstract. The UHF/VHF radio signals from beacons on board LEO spacecraft can be used to make high precision measurements of the ionospheres horizontal spatial structure. Frequently, these observations are presented as relative TEC (relative to an unknown integration constant) profile along the orbit of the spacecraft. However, the observations can also be presented as TEC/ t measurements, which are the raw ionospheric observable from the Coherent Ionospheric Doppler Receivers (CIDRs) developed at the Applied Research Laboratories, the University of Texas. A detailed analysis of the TEC/ t measurements often reveals the presence of wave phenomena. This paper will present show of the initial analysis of these wave-like structures from the distributed network of CIDRs.