

Radio Propagation Effects from Infrasonic Waves in the Ionosphere

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Several experiments were conducted to observe infrasonic waves in the ionosphere during rocket launches. Observations were made with the Vertically Incident Pulsed Ionospheric Radar located at Wallops Flight Facility in Virginia. The primary goal of these experiments was to identify and specify the waves using HF remote sensing.

The successful observations provide information on the propagation of radio waves. This presentation will discuss how the radio wave is effected in terms of range delay, received power and arrival angle of ionospheric echoes.

Observations of specific interest are decreases in D region absorption in the presence of the wave, oscillations that have the characteristics of PC-1 oscillations, rapid changes in the electron density profiles presented as variations in range and received power, and changes in propagation path presented as variations in range and arrival angle.