

THE PROPERTIES AND SOURCES OF GRAVITY WAVES DETECTED BY THE TIDDBIT SOUNDER OVER WALLOPS ISLAND ON 30 OCTOBER, 2007

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We discuss recent research relating the properties and sources of gravity waves detected by the TIDDBIT ionospheric sounder near Wallops Island at $z=240-280$ km on 30 October, 2007. Reverse ray-tracing permits tracking these waves back to possible tropospheric and thermospheric sources. Although the Kp index was high, we find that most of the observed waves probably originated from a source to the SE of Wallops Island. Specifically, intense convection associated with Tropical Storm Noel may account for most of the gravity waves. We also find that the wave properties agree well with the anelastic dissipative gravity wave dispersion relation.

Gravity wave, source, convection

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