

颱風及熱帶風暴所引起之高空擾亂在
美國南部之觀測

Observation of Upper Atmospheric Disturbances Caused by
Hurricanes and Tropical Storms

洪儒吟
R. J. Hung

The University of Alabama in Huntsville
Huntsville, Alabama 35807, U.S.A.

An experiment conducted by using a continuous wave-spectrum high frequency Doppler sounder array with three sites and nine transmitters (each site with three transmitters) was carried out to observe the coupling of energy between stratosphere and ionosphere during the period of hurricanes and tropical storms. The analysis of the Doppler sounder records indicated that gravity waves were detected when the eye wall of Hurricane Eloise was located at the Gulf of Mexico. A group ray tracing computation has been used in an attempt to locate the sources of these waves. By comparing the results of the computed sources of the waves and the actual storm track (time dependent location of the eye wall) of Hurricane Eloise, it is found that the computed locations of the source were located along the storm track 3 to 4 hours ahead of the actual location of the eye wall for the case of Hurricane Eloise. The nature of the applicability of the present study to a hurricane or typhoon warning system is discussed.

