



Remote sensing of buoyancy waves in dusty atmospheres.

Ofer Yaron , Peter Israelevich, Joachim H. Joseph, Eyal Yaroslavitz

Dept. of Geophysics and Planetary Sciences, TAU, TA 69978

Buoyancy waves and wave fields are often observed in the atmosphere and studied due to the specific cloud formations often typical of such waves.

During the MEIDEX campaign in January 2003, such wave fields were observed in dust layers over the Eastern Atlantic Ocean.

Remote sensing of waves within such layer enables one to “see through” the waves and thus to generate a wave profile. Desert dust is mostly non- absorbing. Therefore it is also an almost inert tracer with hardly any influence on the thermo- hydrodynamics of the air and consequently enables the observation of buoyancy waves in non- cloudy air. This type of information cannot be obtained with the same clarity from images containing clouds which are optically thick, have a significant radiative flux divergence and generate latent heat that influences the wave.

Properties of a wave field in a dust layer will be shown.