

Abstract Submitted  
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**Three dimensional internal-wave radiation by a horizontally oscillating body in a uniformly stratified fluid**<sup>1</sup> EVGENYI ERMANYUK, Lavrentyev Institute of Hydrodynamics, JAN-BERT FLOR, BRUNO VOISIN, LEGI — The energy radiated by a vertically oscillating sphere in a uniformly stratified fluid has, in shadow-graph and schlieren images, the well known “St. Andrew cross” ray pattern. Since the wave length does not appear in the dispersion relation, the spatial structure of internal waves has non-trivial dependence on the body geometry, direction and frequency of oscillations, and the viscosity. In contrast to former investigations, in the present investigation we consider the asymmetric 3D wave pattern for large and small amplitude *horizontal oscillation* of different size spheres. New experimental techniques are explored. For small oscillations good agreement is found with linear theory; in addition to comparison between experimental data and theoretical (near-field) solution we also present the comparison between the far-field and near-field solutions.

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