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Volume 1, Issue 1 (January 1971)

Journal of Physical Oceanography

Article: pp. 12–16 | Abstract | PDF (359K)

On the Detection of "Inertial" Waves with Pycnocline Followers

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(Manuscript received February 5, 1970, in final form March 31, 1970) DOI: 10.1175/1520-0485(1971)001<0012:OTDOWW>2.0.CO;2

ABSTRACT

The vertical displacements associated with oscillations near the local inertial frequency f, in a stratified ocean, are found to be significant, even very close to f. For a frequency, $\omega = (1+\mathbf{E})f$, the ratio of rms vertical velocity to horizontal velocity is $O(\mathbf{E}^{1/2})$. Observations near Hawaii, made with a recently developed pycnocline follower, show inertial oscillation events similar to those found by Webster in current meter records, and discussed theoretically by Crepon and by Pollard.

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