



## Abstract View

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# Doppler Sonar Observations of Internal Waves, Wave-Field Structure

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### ABSTRACT

During May of 1980 an internal-wave-measurement experiment was conducted from the Research Platform FLIP off the California coast. This paper discusses an 18-day sequence of velocity profiles obtained during the experiment using a pair of Doppler sonars. The sonars Profile to a depth of 700 m, with approximately 20 m depth resolution. Plots of the velocity and shear field indicate the dominance of near-inertial motions. Much of the near-inertial variance can be ascribed to a few identifiable wave groups. The progress of these groups can be tracked for many days. The shear at the base of the mixed layer is often dominated by near-inertial motions propagating vertically through the thermocline rather than wind-forced motions in the mixed layer itself. Power-spectral analysis suggests that the low-frequency component of the wave field is dominated by the near-inertial and tidal peaks and their harmonics. The wisdom in modeling the low-frequency wave field as an “equivalent continuum” is questioned.

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