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Volume 13, Issue 10 (October 1983)

Journal of Physical Oceanography

Article: pp. 1809–1818 | Abstract | PDF (697K)

Turbulent Dissipation Over the Continental Slope Off Vancouver Island

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(Manuscript received December 10, 1982, in final form April 15, 1983) DOI: 10.1175/1520-0485(1983)013<1809:TDOTCS>2.0.CO;2

ABSTRACT

Thirteen profiles of the rate of viscous dissipation of turbulent kinetic energy &epsi⁻ were made over the continental slope off Vancouver Island between 12 and 14 May 1980 in conjunction with CTD and moored current-meter observations. Systematic variability was observed in the vertical but not in the horizontal direction. Above 200 m depth numerous salt-stabilized temperature inversions were seen and dissipation rates were significantly larger than below 200 m. Dissipation rates below 200 m are the lowest ever reported and coincide with a low level of energetics revealed by the current meter moorings. Comparison with the Garrett-Munk internal wave spectrum indicates an e-folding decay time of internal wave energy of \sim 50 days at depths below 200 m.

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