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[Volume 7, Issue 6 \(November 1977\)](#)

Journal of Physical Oceanography

Article: pp. 892–903 | [Abstract](#) | [PDF \(744K\)](#)

Rotary Cross-Bispectra and Energy Transfer Functions Between Non-Gaussian Vector Processes. II. Winds and Currents off the Oregon Coast

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(Manuscript received August 13, 1976, in final form May 12, 1977)

DOI: 10.1175/1520-0485(1977)007<0892:RCBAET>2.0.CO;2

ABSTRACT

Application of rotary cross-bispectra and energy transfer functions to a set of wind and current data measured from the *Totem* research buoy shows these elements to be non-Gaussian and that nonlinear interactions do occur between the wind stress and current at 14 m depth. Such transfers account for 35% of the total energy estimates and for 100% of the estimates at the inertial frequency. For the latter, the most effective set of nonlinear interacting components include half-day and quarter-day components of wind stress. No energy transfers linearly. The effect of nonlinear interaction in broadening the current response spectrum is noted.

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