



Abstract View

[Volume 5, Issue 1 \(January 1975\)](#)

Journal of Physical Oceanography

Article: pp. 164–172 | [Abstract](#) | [PDF \(622K\)](#)

Rotary Cross-Bispectra and Energy Transfer Functions Between Non-Gaussian Vector Processes I. Development and Example

Neng-Chun Yao, Steve Neshyba, and Henry Crew

School of Oceanography, Oregon State University, Corvallis 97331

(Manuscript received March 25, 1974, in final form July 5, 1974)

DOI: 10.1175/1520-0485(1975)005<0164:RCBAET>2.0.CO;2

ABSTRACT

Bispectrum and cross-bispectrum analyses of the rotary components of stationary random vector processes are more easily interpreted than similar analyses of their scalar components, and have the advantage that the bispectral estimates are invariant to coordinate rotation. Application to some wind-ocean current data shows these to be non-Gaussian and subject to significant nonlinear coupling over a wide range of interacting triplets of rotary components. A set of complex-valued energy transfer functions are developed by which the magnitudes of the linear and quadratic interactions may be compared.

Options:

- [Create Reference](#)
- [Email this Article](#)
- [Add to MyArchive](#)
- [Search AMS Glossary](#)

Search CrossRef for:

- [Articles Citing This Article](#)

Search Google Scholar for:

- [Neng-Chun Yao](#)
- [Steve Neshyba](#)
- [Henry Crew](#)

top ▲



© 2008 American Meteorological Society [Privacy Policy and Disclaimer](#)

Headquarters: 45 Beacon Street Boston, MA 02108-3693

DC Office: 1120 G Street, NW, Suite 800 Washington DC, 20005-3826

amsinfo@ametsoc.org Phone: 617-227-2425 Fax: 617-742-8718

[Allen Press, Inc.](#) assists in the online publication of AMS journals.