

Reply

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We are aware of the complexities involved in the correlation of vector quantities. For this reason we chose to deal not with the vector wind, but rather with its east-west component (u). This is a scalar quantity which is independent of any arbitrary Cartesian frame of reference and is immune from the considerations described by Buell.

It should have been evident from the context that our criterion for isotropy was that formulated by Gandin (1963, Chap. 2) for scalar meteorological fields. This is distinct from the classical criterion for isotropic turbulence which applies to the total velocity vector

whose components are determined by their frame of reference.

Buell is correct in implying that our computations were intended for practical application. The form of the empirical expression we used was chosen after much experimentation and provides for a good fit to the wind statistics. We doubt that the data at hand would have justified a more complex formulation.

REFERENCE

- Gandin, L. S., 1963: *Objective Analysis of Meteorological Fields*. Leningrad, Hydrometeor. Publ. House (English version, Israel Program for Scientific Translations, 1965).