

Abstract Submitted  
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**Velocity Field Analysis for Edge Turbulence Imaging** B.T. BROWN, T. MUNSAT, Center for Integrated Plasma Studies, University of Colorado, C. HOLLAND, G. TYNAN, Dept. Mechanical and Aerospace Engineering, UCSD — Techniques for extracting time-resolved 2-D velocity maps have been developed for turbulence imaging diagnostics. A hybrid technique combining optical flow and local pattern matching has been implemented to overcome the individual limitations of each when used with data of limited temporal and/or spatial resolution. The codes have been validated for a variety of test patterns of convective flow, including highly sheared cases. Recent work includes detailed consideration of the velocity divergence in the 2-D plane, and its significance to the derived results. We present comparison and validation studies to various artificial datasets with known velocity profiles, including sets with significant curl.

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