

Abstract Submitted  
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**Comparison of Edge Turbulence Velocity Analysis Techniques using Gas Puff Imaging Data on Alcator C-Mod**<sup>1</sup> J.M. SIERCHIO, J.L. TERRY, A.E. WHITE, MIT-PSFC, I. CZIEGLER, UCSD, S.J. ZWEBEN, PPPL — Two methods for analyzing turbulence velocities have been used in the past on Gas Puff Imaging (GPI) data. One is based on time-delay cross-correlation of successive images that is used to track motion of discrete structures. The other uses Fourier analysis to obtain frequency and poloidal wavenumber spectra, from which phase velocities are derived. Recent experiments were completed with imaging at the outboard midplane and analysis using the cross-correlation technique, yielding magnitudes of poloidal velocities in the 0.1-1.4 km/s range [Zweben et al., in press PoP (2013)]. The Fourier analysis yielded values up to an order of magnitude larger for the same data. To understand the reasons for these differences, we have created and analyzed synthetic data. Comparisons between the two analysis techniques applied to both the actual experimental and synthetic data will be presented.

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