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A Bicoherence Computation Tool for Analyzing Edge Transport Dynamics[1] C. HOLLAND, R.A. MOYER, M. BURIN, P.K. DIAMOND, D.L. RUDAKOV, G.R. TYNAN, UCSD, G.R. MCKEE, U. Wisconsin, T.L. RHODES, LLNL, J.C. ROST, MIT — Plasma transport barrier formation has been a primary topic of investigation in recent years. Current theories and simulations point to the importance of shear flows in decorrelating and regulating plasma turbulence and transport. Recent work[2] also indicates that nonlinear mode coupling between drift waves and shear flows is an important part of this picture. In particular, these theories make specific predictions for the cross-bispectrum of these modes, which can be checked against experimental data. In this poster we present a tool for computation of the auto- and cross-bispectrum of data, using either FFT or wavelets. Wavelets allow one to address the issue of intermittancy in the signal (i.e., "bursty" transport). Initial analysis of DIII-D and CCT data has been undertaken using this tool, and the results will be compared with theory.

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[2]P.H. Diamond et al., Phys. Rev. Lett. **84**, 4842 (2000); G.R. Tynan, R.A. Moyer, submitted to Phys. Plasmas.

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☐ Prefer Oral Session
☒ Prefer Poster Session

Special instructions: 4th poster in Transport Edge Session (after Rudakov)

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