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**Understanding Compressive Fluctuations in Solar Wind Turbulence using Artificially Generated Data** KRISTOPHER KLEIN, GREGORY HOWES, Department of Physics and Astronomy, University of Iowa — At large scales the turbulent fluctuations in the solar wind are approximately 90% incompressible and 10% compressible. The composition of the compressible component is an open question, specifically if it behaves like MHD fast or slow modes. The nature of the mode can be determined by investigating the correlation between the pressure and parallel magnetic field fluctuations. We have generated artificial data of fast and slow turbulent fluctuations in order to determine the observational signature from single point satellite measurements. However, given the low collisionality of solar wind plasma, MHD theory is not strictly valid. Therefore, we also compare artificial data generated from MHD and fully kinetic Vlasov-Maxwell eigenfunctions of fast and slow modes.

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