

Abstract Submitted
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Turbulence studies using self-organized magnetic structures in a plasma wind tunnel¹ DAVID SCHAFFNER, CARLOS CARTAGENA-SANCHEZ, JOSHUA CARLSON, Bryn Mawr College — An overview and recent progress of activities at the Bryn Mawr Plasma Laboratory (BMPL) is presented. The main experiment at the facility, the Bryn Mawr eXperiment (BMX), consists of a 4mF, 2kV pulse-forming network that generates $\sim 180\mu\text{s}$ of stationary broadband fluctuations of magnetic field and plasma using a magnetized coaxial plasma gun source. These self-organized magnetized structures are launched into a 2.7m flux-conserving cylindrical wind tunnel. Single-loop magnetic pickup coils measure fluctuating magnetic field and time-delay estimated velocity. Multipoint measurements of spectra are made from linear arrays of probes along the axial direction of the chamber.

¹Turbulence studies using self-organized magnetic structures in a plasma wind tunnel

David Schaffner
Bryn Mawr College

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