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Turbulence experiments on the PKU Plasma Test (PPT) device[1]
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The PKU Plasma Test (PPT) device is a linear plasma device in Peking University, China. It has a vacuum chamber with 1000mm length and 500mm diameter. A pair of Helmholtz coils can generate toroidal magnetic field up to 2000 Gauss, and plasma was generated by a helicon source. Probes and fast camera were used to diagnose the parameters and got the turbulence spectrums, coherent structure, etc. The dynamics of turbulence, coherent structure and parameter profiles have been analyzed, and it has been found that the turbulence states are related to the equilibrium profiles; Some coherent structures exist and show strongly interactions with the background turbulences; The spatial and temporal evolutions of these coherent structures are related to the amplitude of the density gradient and electric field. These results will help on further studies of plasma transport.

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