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【804】 Plasma Edge Turbulence Characterization Using Gas Puff Imaging on the TCV Tokamak

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Understanding turbulence and anomalous transport in tokamaks remains an important open issue in plasma physics for fusion devices. A prominent feature of turbulence in the edge region of a plasma are coherent filamentary plasma structures that drift across the magnetic field lines at high velocities (\sim km/s).

In 2018, commissioned a Gas Puff Imaging (GPI) diagnostic at TCV. Data is acquired with an avalanche photodiode array at 2MHz, such that we can resolve structures with the diameter of the order of a cm with velocities of the order of km/s. We will present size and velocity distributions of the filaments, obtained with pattern recognition algorithms, and compare them to previous, more indirect measurements deduced from electrostatic diagnostic probes.

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