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**Study of particle transport and turbulence with comb microwave reflectometer
in PANTA**

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Cross field particle transport is one of the key issues in magnetized fusion plasma. Particle transport and turbulence has been studied in the linear device PANTA. The argon plasma is produced by helicon wave (3kW/7MHz) on a double loop antenna [1]. Radial electron density and perturbation are reconstructed with a comb reflectometer with temporal resolution of 1 μ s. Radial particle flux is obtained according to the density profile. Low frequency drift wave turbulence is observed with Doppler reflectometer, and the mode structure is identified. The interaction between drift wave turbulence and particle transport is analyzed, and the mechanism of turbulence on particle transport is demonstrate.

[1] S. Inagaki et. al., Sci. Rep. 6 22189 (2016)