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Non-diffusive perpendicular transport of strongly magnetized plasma MIN-KEUN BAE, Hanyang University, RICHARD PITTS, ITER Organization, JUN GYO BAK, SUK-HO HONG, HEONG SU KIM, NFRI, KYU-SUN CHUNG, Hanyang University — Characteristics of high energy particles spilled out from magnetically confined plasma reaching the wall are measured by electric probes. Energetic plasma bursts, called filament, during the edge localized mode(ELM) of fusion device are non-diffusively moving to the wall, which is perpendicular to the magnetic field($B_t = 1 \sim 3$ T). These intermittent ELM filaments can carry significant particle and heat to the first wall. Poloidal probes which are composed of two triple probes(TPs) and one Mach probe(MP) installed at first wall of Korea Superconducting Tokamak Advanced Research(KSTAR) device. These probes are located 2398mm from the machine center and 74mm behind the poloidal limiter. Poloidal probes are used as a triple probe and measured ion saturation current and floating potential with 200 kHz. From the direct measurement of electron temperature, ion saturation currents(TP) and Mach numbers(MP), relevant plasma parameters such as heat flux, three dimensional flow velocities, and plasma density have been deduced.

Min-Keun Bae
Hanyang University

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