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The experiment and simulation of the divertor power asymmetry in EAST SHAOCHENG LIU, Institute of Plasma Physics, Chinese Academy of Sciences, XUEQIAO XU, Lawrence Livermore National Laboratory, TIANYANG XIA, Institute of Plasma Physics, Chinese Academy of Sciences, HOUYANG GUO, Tri Alpha Energy, Inc., ZIXI LIU, LIANG WANG, HUIQIAN WANG, GUOSHENG XU, KAIFU GAN, Institute of Plasma Physics, Chinese Academy of Sciences — Divertor asymmetry and scrape-off layer (SOL) flow have been systematically investigated in the Experimental Advanced Superconducting Tokamak (EAST), with respect to toroidal field direction, divertor configuration, power injection methods and heating power. The in-out asymmetry ratio of $q_{t,out}/q_{t,total}$ increases with the power across the separatrix P_{loss}. The characteristics of the measured SOL parallel flow under various discharge conditions are consistent with the Pfirsch-Schlüter (PS) flow with the parallel Mach number $M_{||}$ decreasing with the line averaged density but increasing with P_{loss}, in the same direction as the PS flow. The mechanisms of divertor asymmetry are investigated by the BOUT++ simulation.

Shaocheng Liu
Institute of Plasma Physics, Chinese Academy of Sciences

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