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Effects of toroidal field direction and heating power on divertor asymmetry and scrape-off layer flow in EAST SHAOCHENG LIU, Institute of Plasma Physics, Chinese Academy of Sciences, HOUYANG GUO, Tri Alpha Energy, Inc., LIANG WANG, HUIQIAN WANG, KAIFU GAN, GUOSHENG XU, LIANG CHEN, NING YAN, WEI ZHANG, RAN CHEN, LINMING SHAO, HAO XIONG, SIYE DING, GUANGHAI HU, YELU LIU, NAN ZHAO, YONGLIANG LI, XIANG GAO, XIANZU GONG, Institute of Plasma Physics, Chinese Academy of Sciences — Divertor asymmetry and scrape-off layer (SOL) flow have been systematically investigated in the EAST, with respect to toroidal field direction, divertor configuration, power injection methods and heating power. Divertor plasma exhibits an outboard-enhanced in-out asymmetry in heat flux in LSN configuration for both normal and reversed field directions. USN exhibits an inboard-favored asymmetry for normal field, while exhibits a balanced or even outboard-favored asymmetry for reversed field. DN has the strongest in-out asymmetry in heat flux, favoring the outer divertor. 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 flow with the parallel Mach number $M_{||}$ decreasing with the line averaged density but increasing with P_{loss}.

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