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Transport Simulations for the Scrape-off Layer and Divertor Plasmas in KSTAR Tokamak SUNG SIK KIM, SI WOO YOON, National Fusion Research Center — Two-dimensional simulation results are presented for the transport of plasma and impurities in the edge scrape-off layer region of KSTAR discharges using B2.5 code. The effect of the injected impurities on divertor power dispersal and global confinement is predicted for the radiative divertor experiments which are planned for effective removal of heating power in KSTAR. The characteristic two dimensional patterns of heat and particle flows driven by cross-field drifts are also discussed in conjunction with in-out asymmetry of divertor plasmas and power loading to the first wall.

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