UEDGE Simulation of Triple-X Divertors

J. WILEY, M. KOTSCHENREUTHER, P. VALANJU, M. PEKKER, IFS Univ of Texas at Austin, T. ROGNLIEN, LLNL — Novel magnetic divertors with additional X-points downstream from the main plasma X-point have been proposed to overcome reactor heat flux limitations. These divertor designs may allow a fully detached state at the divertor plate - without the poor confinement and disruptive tendencies by avoiding x-point MARFEs found in conventional divertor magnetic geometries. These new configurations are examined using UEDGE for existing machines that are considering experimental implementation of these divertors: PEGASUS, MAST, and EAST (Chinas new long-pulse, superconducting tokamak) as well as proposed reactor designs.

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