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Impurity transport due to electromagnetic drift wave turbulence[1]

SARA MORADI, ISTVAN PUSZTAI[2], ALBERT MOLLÉN, TÜNDE FÜLÖP, Chalmers University of Technology, FUSION THEORY GROUP TEAM — In the view of an increasing interest in high β operation scenarios, such as hybrid scenarios for ITER the question of finite β effects on the impurity transport is a critical issue due to possible fuel dilution and radiative cooling in the core. Here, electromagnetic effects at finite β on impurity transport are studied through local linear gyro-kinetic simulations with GYRO [J. Candy and E. Belli, General Atomics Report GA-A26818 (2011)]; in particular we investigate the parametric dependences of the impurity peaking factor (zero-flux density gradient) and the onset of the kinetic ballooning modes (KBM) and micro-tearing modes (MTM) in spherical (NSTX) and standard tokamaks (AUG and JET).

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