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Implications of Stochastic Edge Transport for DIII-D[1] I. JOSEPH, R.A. MOYER, University of California-San Diego, T.E. EVANS, M.J. SCHAFFER, GA, A. RUNOV, R. SCHNEIDER, MPIG, S.V. KASILOV, Kharkov IPT — The TRIP3D field-line tracing code is combined with the E3D two-fluid Monte-Carlo code in order to calculate the effect of resonant magnetic perturbations (RMPs) on DIII-D plasma profiles. RMPs have been experimentally shown to suppress ELMs at high collisionality and eliminate ELMs at low collisionality during H-mode operation. In the latter case, experiments show that the net effect of the RWP is to reduce the edge gradients below the stability boundary. In the absence of strong plasma response, TRIP3D shows that the RMPs break the outer 5%-10% of flux surfaces and allow field lines to directly connect to the divertor target. The E3D code can then accurately compute the change to the profiles caused by the stochastically enhanced perpendicular and direct parallel heat conduction. Preliminary results of both field line tracing and full transport calculations suggest qualitative agreement with the experimentally measured splitting of heat flux to the divertor.

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