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Particle Transport in RMP H-modes[1] R.A. MOYER, V.A. IZZO, S. MORDIJCK, J.A. BOEDO, D.L. RUDAKOV, UCSD, T.E. EVANS, N.H. BROOKS, P. GOHIL, General Atomics, E.A. UNTERBERG, ORISE, M.E. FENSTERMACHER, LLNL, H. FRERICHS, O. SCHMITZ, B. UNTERBERG, FZJ, M.W. JAKUBOWSKI, MPI, J.G. WATKINS, SNL, G.R. MCKEE, U. Wisc-Madison, T.L. RHODES, L. SCHMITZ, L. ZENG, UCLA, C.S. CHANG, G. PARK, NYU — Increased transport in resonant magnetic perturbations (RMP) H-modes reduces the pedestal pressure gradient below the Type I ELM stability limit. The RMP induces more particle transport and less electron thermal transport than expected from simple stochastic transport models. This increased transport starts during the RMP rise-time, and displays a broader resonance in q95 than ELM suppression. Evidence suggests that the transport is at first caused by a combination of neoclassical transport in the 3D equilibrium, $E \times B$ convection in the weakly stochastic layer, and fluctuation-driven transport. After the ELMs are suppressed, fluctuations increase due to Er shear changes. Optimizing these transport changes will improve the viability of RMP ELM-control for ITER.

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