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**Modeling 3-D Effects in the DIII-D Boundary**[1] T.E. EVANS, R.A. MOYER, UCSD, D. REITER, S.V. KASILOV, IPP Forschungszentrum Jülich, A.M. RUNOV, MPI — Resonant magnetic perturbations $\delta b_r$ from the DIII-D locked and resistive wall mode control coils (C-coil and I-coil, respectively) affect $n_e$ and $T_e$ profiles in both the pedestal and core. To understand why these $\delta b_r$ perturbations change the plasma profiles we first model the edge magnetic topology with a field line integration code, TRIP3D code. In general, the TRIP3D results indicate that the control coils create stochastic layers with as much as 25% edge magnetic flux connected to the divertors and walls. While heat and particle transport modeling in open stochastic layers is inherently very difficult, Monte Carlo methods appear to provide the most reasonable approach with which to address these issues. As such, we have assessed the possibility of coupling a recently developed Monte Carlo heat transport code, the E3D code, [A.M. Runov *et al.*, Phys. Plasmas **8**, 916 (2001)] to TRIP3D. We will discuss how this coupling can best be accomplished and what must be done to benchmark the TRIP3D/E3D ensemble using DIII-D experimental data. We will also discuss the analysis of proposed designs for a dedicated DIII-D stochastic boundary layer coil which produce minimal $\delta b_r$ core perturbations.

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