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Gyrokinetic-neoclassical study of resonant magnetic perturbations in DIII-D[1] R. HAGAR, C.S. CHANG, R. NAZIKIAN, N. FERRARO, Princeton University — The gyrokinetic neoclassical, total-f, particle-in-cell code XGCa is utilized to study the kinetic effects of resonant magnetic perturbations (RMP) on a DIII-D H-mode plasma. Compared to the earlier efforts by G. Y. Park et al., [Phys. Plasmas 17, 102503 (2010), APS invited talk, Bull. Am. Phys. Soc. 56 (2011)] using the guiding center code XGC0, the gyrokinetic code XGCa adds important new capabilities to the study, such as a 2D Poisson solver and a fully nonlinear collision operator, which enhances the fidelity of the simulation in the H-mode pedestal and the scrape-off layer.

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