

Abstract Submitted
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Using Divertor Strike Point Splitting to Study Plasma Response and Its Sensitivity to Equilibrium Uncertainties¹ J.S. LEE, UCLA, D.M. ORLOV, R.A. MOYER, I. BYKOV, UCSD, T.E. EVANS, W. WU, B.C. LYONS, GA, L.E. SUGIYAMA, MIT — Magnetic field perturbations (RMPs) split the strike points in divertor tokamaks. This splitting is measured using fast imaging of filtered visible light from the divertor. We compare the observed splitting during n=3 RMP experiments to vacuum and plasma response modeling to determine if the measured splitting provides a sensitive diagnostic for the plasma response to the RMP. We also investigate the sensitivity of the computed plasma response to uncertainties in the initial 2D equilibrium. Strike point splitting was also observed in ELMing H-mode without the RMP, possibly due to n=1 error- and error-field correction fields. We compare the measured splitting during ELMs to linear plasma response modeling of the divertor footprints, and to nonlinear M3D ELM simulations[1].

[1] L.E. Sugiyama and H.R. Strauss Magnetic X-points, edge localized modes, and stochasticity Phys. Plasmas 17, 062505 (2010)

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