

**Abstract Submitted for the Fiftieth Annual Meeting  
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Category Number and Subject: DIII-D

[°] Theory    [X] Experiment

**Resonant Character of Edge Plasma Parameters in Stochastic Boundary Experiments at DIII-D and TEXTOR,\*** O. Schmitz, *FZJ*, B.D. Bray, N.H. Brooks, T.E. Evans, A.W. Leonard, T.H. Osborne, W.P. West, *GA*, M.E. Fenstermacher, M. Groth, C.J. Lasnier, *LLNL*, H. Frerichs, M. Lehnen, B. Unterberg, *FZJ*, M.W. Jakubowski, *MPI*, R.A. Moyer, *UCSD*, J.G. Watkins, *SNL* – The dependence of electron pressure  $p_e$  profiles on the edge safety factor during resonant magnetic perturbations (RMPs) are analyzed and compared to target heat and particle fluxes. For TEXTOR, a strong reduction of  $p_e$  and an increase of target fluxes is measured when the inward penetration of the modeled vacuum stochastic layer is maximized. For DIII-D, target heat and particle fluxes follow the 3-D perturbed separatrix structure due to a stochastic layer of open, perturbed field lines with a minimum penetration to  $\Psi_N = 0.95$  in normalized poloidal flux. Experimental measurements show that the toroidally spiraling structure of perturbed target plate separatrix lobes depend on  $q_{95}$  and that there is a clear  $q_{95}$  dependent reduction of  $n_e(\Psi_N)$ ,  $T_e(\Psi_N)$  and thus  $p_e(\Psi_N)$  which follows the toroidal phase of the RMP field. These measurements provide evidence for pitch resonant edge stochastisation as one possible mechanism leading to peeling-ballooning stabilized RMP H-modes at DIII-D.

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