

Abstract Submitted
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Evolution of Radial Electric Field due to RMP-induced density pump-out¹ R.J. GROEBNER, S.P. SMITH, T.E. EVANS, X. CHEN, C. PAZ-SOLDAN, K.H. BURRELL, GA, R. NAZIKIAN, B.A. GRIERSON, PPPL, R.A. MOYER, D. ORLOV, C. CHRYSTAL, UCSD, G.R. MCKEE, U. Wisc. — The time history of shear in the ExB field during application of resonant 3D magnetic perturbations (RMP) in DIII-D is studied with CER spectroscopy. Application of the RMP typically causes density pump-out and can ultimately lead to ELM suppression. Thus, understanding the origin of the density transport is an important issue for understanding ELM suppression by this technique. One hypothesis is that the RMP causes a reduction of ExB shear at the pedestal top, which then allows for an increase in density transport [1]. The ExB shear is examined in a new experiment in which the RMP was varied by a small amount around the threshold for causing density pump-out. In and on top of the pedestal, E_r is observed to become more positive coincident with density pumpout. E_r and its shear are examined over a range of RMP fields to determine if there is a relation between these quantities and the magnitude of density pumpout.

[1] S. Mordijck, R. A. Moyer, and G. R. McKee, Phys. of Plasmas **19**, 024504 (2012)

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