Abstract Submitted
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Measurement of Plasma Displacement Due to Resonant Field Amplification in High Beta DIII-D Plasmas Using CER Spectroscopy[1]

M.J. LANCTOT, A.M. GAROFALO, H. REIMERDES, G.A. NAVRATIL, Columbia U., M. OKABAYASHI, W.M. SOLOMON, PPPL, G.L. JACKSON, R.J. LA HAYE, E.J. STRAIT, General Atomics, Y. IN, FAR-TECH, Inc. — In a plasma with beta above the no-wall limit, externally applied magnetic perturbations can couple to the rotationally stabilized RWM via resonant field amplification [1]. This phenomenon is routinely exploited in the technique of active MHD spectroscopy to test the stability of the RWM [2]. We utilize measurements of the ion temperature from charge exchange recombination spectroscopy at two toroidal locations during MHD spectroscopy experiments to obtain a direct measurement of the $n = 1$ plasma fluid displacement due to the RFA. The displacement profiles are compared with those expected for the stabilized RWM.

[1] A.M. Garofalo, et al., Phys. Plasmas 10, 4776 (2003).
[2] H. Reimerdes, et al., Phys. Rev. Lett. 93, 135002 (2004).

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