

## Changes in particle transport as a result of Resonant Magnetic Perturbations in DIII-D

S. Mordijck,<sup>1</sup> E.J. Doyle,<sup>2</sup> G.R. McKee,<sup>3</sup> R.A. Moyer,<sup>4</sup> T.L. Rhodes,<sup>2</sup> and L. Zeng<sup>2</sup>

<sup>1</sup>*Dept. of Computer Science, College of William and Mary, Williamsburg, VA 23187<sup>a</sup>*

<sup>2</sup>*Dept. of Physics and Astronomy, University of California, Los Angeles, Los Angeles, CA 90095*

<sup>3</sup>*Dept. of Engineering, University of Wisconsin, Madison, WI 53706*

<sup>4</sup>*Dept. of Mechanical and Aerospace Engineering, University of California, San Diego, La Jolla, CA 92093*

(Dated: 19 March 2012)

In this paper we introduce the first direct perturbed particle transport measurements in resonant magnetic perturbation (RMP) H-mode plasmas. The perturbed particle transport increases as result of application of RMP deep into the core. In the core, a large reduction in  $E \times B$  shear to a value below the linear growth rate, in conjunction with increasing density fluctuations is consistent with an increase in turbulent particle transport. In the edge, the changes in turbulent particle transport are less obvious. There is a clear correlation between the linear growth rates and the density fluctuations measured at different scales, but it is uncertain which is cause and which is consequence.

PACS numbers: 52.55.Fa, 52.35.Ra, 52.25.Fi

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<sup>a</sup>)Electronic mail: mordijck@cs.wm.edu