

## **Mechanism of Turbulence Stabilization**

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The Helimak is an approximation to the infinite cylindrical slab. Radially segmented isolated end plates allow application of radial electric fields that drive radial currents. Above a sharp threshold in applied voltage (driven current), the fractional turbulent amplitude is greatly reduced, as is the radial turbulent particle transport. The mechanism is rather complex, with density fluctuations, potential fluctuations, and particle flux changing independently in different locations. Contrary to expectation, the radial correlation length is not always reduced by turbulence suppression. Initial spectroscopic measurements of ion flow velocity profiles will be presented. Work supported by the Department of Energy Office of Fusion Energy Sciences DE-FG02-04ER54766.