

Abstract Submitted  
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**Influence of driven current on resistive tearing mode in Tokamaks**<sup>1</sup> ZHIWEI MA, SHENG WANG, WEI ZHANG, Zhejiang Univ — Influence of driven current on the  $m/n = 2/1$  resistive tearing mode is studied systematically using a three-dimensional toroidal MHD code (CLT). A uniform driven current with Gaussian distribution in the radial direction is imposed around the unperturbed rational surface. It is found that the driven current can locally modify the profiles of the current and safety factor, such that the tearing mode becomes linearly stable. The stabilizing effect increases with increase of the driven current  $I_{cd}$  or decrease of its width  $\delta_{cd}$ , unless an excessively large driven current reverses the magnetic shear near the rational surface and drives other instabilities such as double or triple tearing modes. The stabilizing effect can be negligible or becomes reversed if the maximum driven current density is not at the unperturbed rational surface.

<sup>1</sup>ITER-CN Program

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