

Abstract Submitted
for the DPP20 Meeting of
The American Physical Society

Theoretical analysis of the saturation phase of the 1/1 energetic-ion-driven resistive interchange mode¹ JACOBO VARELA, Universidad Carlos III de Madrid, DONALD SPONG, Oak Ridge National Laboratory, LUIS GARCIA, Universidad Carlos III de Madrid, SATOSHI OHDACHI, KIYOMASA WATANABE, National Institute for Fusion Science, YASHIKA GHAI, Oak Ridge National Laboratory, RYOSUKE SEKI, National Institute for Fusion Science — The aim of the present study is to analyze the saturation of the energetic-ion-driven resistive interchange mode (EIC) in LHD plasma using FAR3d code. The non linear simulation results show similar 1/1 EIC saturation phases with respect to the experimental observations, reproducing the enhancement of the $n/m = 1/1$ resistive interchange modes (RIC) amplitude and width as the EP β increases, the EP β threshold for the 1/1 EIC excitation, the further destabilization of the 1/1 EIC as the population of the helically trapped EP increases and the triggering of burst events.

¹This work was supported by the Comunidad de Madrid under the project 2019-T1/AMB-13648 and NIFS07KLPH004

Jacobo Varela Rodriguez
Universidad Carlos III de Madrid

Date submitted: 23 Jun 2020

Electronic form version 1.4