

Abstract Submitted
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Sawtooth and Triggering Mechanism for Tearing Modes on the Tokamak a Configuration Variable¹ DUCCIO TESTA, GUSTAVO CANAL, STEFANO CODA, Centre de Recherches en Physique des Plasmas, Lausanne, Switzerland, FEDERICO FELICI, Eindhoven University of Technology, The Netherlands, TIMOTHY GOODMAN, Centre de Recherches en Physique des Plasmas, Lausanne, Switzerland, MIHO JANVIER, LESIA, Paris, FR, JOSEF KAMLEITNER, DONHYUN KIM, HOLGER REIMERDES, OLIVIER SAUTER, Centre de Recherches en Physique des Plasmas, Lausanne, Switzerland, TCV TEAM — The onset and sawtooth triggering mechanisms for Tearing Modes (TMs) has been extensively investigated during recent experimental campaigns on the Tokamak a Configuration Variable. The main long-term aim of this work is to provide understanding of the relation between sawteeth and TMs so that reliable real-time schemes can be devised for combined sawtooth and TM control in burning plasma experiments such as ITER. Hence, our work has focused on studying the dynamical relation between sawtooth crash and subsequent onset of TMs, sometimes leading to disruptions, using control techniques for the duration of the sawtooth period and the TM seeding mechanism via real-time pacing and localized electron cyclotron heating and current drive.

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