

Abstract Submitted
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Simulation Studies of MHD-modes in ADITYA/ADITYA-U tokamak¹ JERVIS RITESH MENDONCA, JOYDEEP GHOSH, RAKESH L TANNA, ABHIJIT SEN, Institute For Plasma Research — Recently, frequency of the MHD modes are modulated using periodic gas-puffs in the ADITYA-U tokamak have been investigated [1,2]. Further, experiments using biased electrodes have previously shown disruption avoidance by controlling the MHD modes effectively in the ADITYA tokamak [3]. In this presentation, we have attempted to simulate the MHD activities in the ADITYA/ADITYA-U tokamak using an MHD code [4]. Particularly, the effect of flows on MHD modes are studied using the above-mentioned code and the results are compared with experimental observations. The simulation results of effect of gas-puffing and electrode biasing on MHD modes in ADITYA/ADITYA-U tokamak are presented in this paper. References: [1] Overview of recent experimental results from the Aditya tokamak, R. Tanna et al. October 2017, Nuclear Fusion 57(10):102008 [2] Effect of periodic gas-puffs on drift-tearing modes in ADITYA/ADITYA-U tokamak discharges, Nuclear Fusion, Volume 60, Number 3, 036012 [2] A novel approach for mitigating disruptions using biased electrode in Aditya tokamak. Nucl. Fusion 54 (2014) 083023 [4] Visco-resistive MHD study of internal kink ($m = 1$) modes, J. Mendonca et al, Physics of Plasmas 25, 022504 (2018)

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