

Abstract Submitted  
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**Effect of pulse resonant magnetic perturbation on magnetic island rotation in the J-TEXT tokamak**<sup>1</sup> LI DA, DING YONGHUA, HU QIMING, HU FEIRAN, YAN MINXIONG, JI XINKE, ZHU LIZHI, HUANG ZHUO, SONG ZEBAO, School of Electrical and Electronics Engineering, Huazhong University of Science and Technology, J-TEXT TEAM TEAM — The influence of the static resonant magnetic perturbation (RMP) on the magnetic island depends on the phase difference between the island and RMP. According to the numerical simulation, the pulse RMP, which is applied in certain island phase region, could accelerate and suppress island. Feedback control system has been developed on J-TEXT for passing pulse electricity through resonant magnetic perturbation (RMP) coil when the phase difference between the mode and RMP is in the unique range. It is confirmed by experiment that the effects on magnetic island by modulated RMP varies with the difference phase range, which agreement with theoretical expectation and simulation result. The pulse RMP could accelerate island until the electromagnetic torque generated by RMP is balanced by viscous torque. However, The mode frequency increases inconspicuousl for finite RMP strength and eddy currents

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