Effect on the tearing mode by adding rotating resonant magnetic perturbation with different frequency in J-TEXT

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The external resonant magnetic perturbation (RMP) has been proved to be an effective method on controlling the 2/1 tearing mode (TM) in tokamaks. In J-TEXT tokamak, sets of in-vessel saddle coils generate rotating RMP to control the 2/1 TM as the TM is locked to the RMP and rotating with the RMP. The RMP with higher, equal or lower frequency than the natural frequency of TM is used respectively in experiments. And the experimental results show that, the width of the TM magnetic island decreases (increases) with the increase (decrease) of the frequency before and after mode locking.

References:

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