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Investigation of locked mode thresholds on J-TEXT tokamak[1]
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— Locked mode thresholds have been studied by applying externally resonant magnetic perturbations (RMPs) on the J-TEXT plasma. The J-TEXT RMPs can be either induced by a set of in-vessel saddle coils (named as DRMP) which is now operating in DC mode and produces mainly 2/1 perturbations, or by another set of saddle coils located outside the vacuum vessel (named as SRMP) which produces 2/1, 3/1 and other higher poloidal mode perturbations, or by both sets. The experiments on searching for locked mode thresholds by adjusting the DRMP has been carried out with various plasma parameters, including plasma current, toroidal magnetic field and line averaged electron density. It's verified that the scaling of J-TEXT locked mode thresholds is similar to those of other conventional tokamaks. In the J-TEXT Ohmic discharges with the same plasma parameters, the locked mode thresholds founded by applying both DRMP and SRMP fields are lower than those obtained by implementing DRMP alone. More detailed experimental results and the analysis will be presented in the meeting.

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