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Study of particle transport during application of resonant magnetic perturbations in the J-TEXT tokamak[1] QIMING HU, GE ZHUANG, WEI CHEN, State Key Laboratory of Advanced Electromagnetic Engineering and Technology, Huazhong University of Science and Technology, Wuhan, 430074, China, QINQUAN YU, Max-Planck-Institut für Plasmaphysik, EURATOM association, 85748 Garching, Germany, NENGCHAO WANG, JIE CHEN, LI GAO, YONGHUA DING, BO RAO, XIWEI HU, State Key Laboratory of Advanced Electromagnetic Engineering and Technology, Huazhong University of Science and Technology, Wuhan, 430074, China, J-TEXT TEAM — In the J-TEXT tokamak, electron density pump-out is frequently observed during the application of resonant magnetic perturbations (RMPs). It is found that the applied RMPs cause obvious density pump-out in plasma core, while the edge plasma density changes little. In order to study the density pump-out caused by RMPs, the direct perturbed particle transport measurements are carried out during the application of RMPs in J-TEXT ohmic plasmas. It is found that, compared to the case without application of RMPs, the applied RMPs substantially decrease the pinch velocity V and increase the diffusion coefficient D. Stronger amplitude of applied RMPs results in more obvious change in both the transport coefficients.

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