

Abstract Submitted
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Test Blanket Module Mockup Experiments in DIII-D¹ E.J. STRAIT, N.H. BROOKS, R.J. BUTTERY, R.J. LA HAYE, M.J. SCHAFFER, General Atomics, H. REIMERDES, CRPP-EPFL, J.A. SNIPES, ITER Organization, J.M. HANSON, Columbia University, W.W. HEIDBRINK, Y. ZHU, UC-Irvine, Y. IN, FAR-TECH, Inc., G.J. KRAMER, M. OKABAYASHI, J.-K. PARK, W.M. SOLOMON, PPPL, A.G. MCLEAN, LLNL, N. OYAMA, JAEA, T. TALA, EURATOM-Tekes — Recent DIII-D experiments have investigated the effects of localized magnetic field perturbations, using coils that approximate the magnetization of the test blanket modules (TBMs) in one ITER port. In H-mode discharges, compensation of the TBM field using an applied $n = 1$ field yielded only partial recovery of the plasma rotation, and the compensation field that maximized plasma rotation differed significantly from the field that reduced the resonant magnetic response to a very low value. These results provide insight into the effects of error fields, and suggest an important role for non-resonant magnetic braking. In addition, measurements of localized heat deposition with the TBM field are being compared to orbit following calculations of fast ion loss, and a new fast ion detector has confirmed earlier observations of reduced 1 MeV triton confinement.

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