Abstract Submitted
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Investigation of torque generated by Test Blanket Module mock-up in DIII-D[1] A. SALMI, T. TALA, VTT, M. LANCTOT, J.S. DEGRASSIE, C. PAZ-SOLDAN, GA, N. LOGAN, W.M. SOLOMON, B.A. GRIERSON, PPPL — Experiments at DIII-D have investigated the scaling of Test Blanket Module (TBM) torque with plasma pressure and collisionality by performing dimensionless parameter scans. In each configuration, neutral beam torque modulation and TBM torque modulation were sequentially applied to allow experimental characterization of the TBM generated torque and the underlying transport. Calculations of the neoclassical toroidal viscosity (NTV) torque with PENT code of these plasmas find that TBM torque is strongly edge localized while the tentative experimental analysis indicates a more radially broad TBM torque profile. Both the experimental and PENT results will be elaborated and experimental TBM torque scaling with pressure and collisionality presented. Experimental validation of existing plasma response and NTV torque models is an important step toward understanding the impact of magnetic field ripple on plasma rotation, and for predicting the required compensation fields.

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