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Influence of Rotation and Error Field on Tearing Stability in Low Torque ITER-like Plasmas in DIII-D,* R.J. Buttery, *EURATOM/UKAEA Fusion Association*; J.S. deGrassie, G.L. Jackson, R.J. La Haye, E.J. Strait, *General Atomics*; M. Maraschek, *IPP*; H. Reimerdes, *Columbia U.*; and the DIII-D Team — 2/1 tearing mode beta limits are known to fall in ITER baseline-like plasmas as the usual co-injected neutral beam torque is reduced. New DIII-D studies have explored the physics and sensitivities of this process in two ways. Beta limits were found to fall further as counter torque and rotation (relative to plasma current direction) was increased, reaching a minimum at modest net counter torque/rotation, before partially recovering to higher beta with strong counter torque. This suggests that rotation is not "simply stabilizing" to tearing modes but more subtle physics is at play. Further, resonant magnetic field probing of such plasmas shows error field sensitivity increasing substantially in the normalised beta range ~1-2, both with beta, as the beta limit for intrinsic tearing is approached, or as co-torque and rotation are reduced. This leaves ITER baseline-like plasmas in DIII-D just stable, provided error fields are minimised.

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