

Abstract Submitted
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Edge MHD Stability of Co-injected QH-mode Discharges in DIII-D¹ T.H. OSBORNE, K.H. BURRELL, M.S. CHU, P.B. SNYDER, W.P. WEST, General Atomics — In this paper we compare the ideal MHD stability of the H-mode edge transport barrier region in QH-mode discharges with neutral beam injection oriented toroidally in the same direction as the plasma current (Co-NBI) to previous results with neutral beam injection counter to the plasma current (Counter-NBI). QH-mode had until recently only been obtained in discharges with a large fraction of neutral beam heating in the counter current direction under conditions where low toroidal number peeling modes are the dominate instability (low plasma density and/or strong cross-sectional shaping). The high rotational shear in the edge of Counter-NBI discharges, which is thought to provide the saturation mechanism for the instability [1], was also present in the Co-NBI QH-mode discharges.

[1] P.B. Snyder, et al., 2006 *Proc. 21st Intl Conf. on Plasma Physics and Controlled Nucl. Fusion* (Chengdu) (IAEA Vienna) Paper TH/4-1Ra.

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