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Differences in Dynamics of Enhanced Core Confinement States in Various Experimental Configurations and the Role of Driven Rotation[1] E.J. SYNAKOWSKI, D. ERNST, G. SCHMIDT, Princeton Plasma Physics Laboratory, K.H. BURRELL, C.M. GREENFIELD, AND THE DIII-D TEAM, General Atomics, D.E. NEWMAN, University of Alaska, Fairbanks — Aspects of transport barrier dynamics that can differ between experiments include the heating power required for formation, and rates of formation and collapse. The theory of $\mathbf{E} \times \mathbf{B}$ flow shear effects on turbulence suggests that some differences may be traced to the interplay between terms of the radial force balance equation and changes that result as rotation is modified in magnitude and sign. On DIII–D, studies with counter neutral beam injection complement previous work performed with co-injection, as well as that performed on TFTR with co- and counter-NBI. The role of the interplay between pressure and rotation drive in governing barrier dynamics will be examined using data from these studies. Dynamics are also addressed using a 1-dimensional envelope model that self-consistently evolves $\mathbf{E} \times \mathbf{B}$ shear, turbulence, transport, and plasma profiles.

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☐ Prefer Oral Session
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