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Comparison of Ideal MHD Stability Predictions with MHD Behavior in DIII-D[1] A.D. TURNBULL, L.L. LAO, E.J. STRAIT, M.S. CHU, J.R. FERRON, T.H. OSBORNE, P.A. POLITZER, R.D. STAMBAUGH, T.S. TAYLOR, General Atomics, A.M. GAROFALO, Columbia U, E.A. LAZARUS, ORNL, J.D. CALLEN, K. COMER, UW-Madison, B.W. RICE, LLNL — New diagnostics in DIII–D have greatly improved equilibrium reconstructions over the past decade. This, coupled to a corresponding improvement in ideal MHD stability code accuracy and capabilities has resulted in a convergence between the predicted MHD stability limits and the observed limits. The comparisons have evolved beyond global scalings to detailed comparisons of the stability predictions of unstable mode structures and growth rates for individual discharges. These demonstrate that ideal MHD predictions are remarkably accurate — to within a few percent — for a wide range of discharges. Several prominent examples include infernal modes, resistive wall modes, and intermediate n ideal edge modes in H–Mode discharges, VH–Mode and NCS H–Mode discharges, and $n = 1$ ideal modes in L–Mode NCS discharges.

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☐ Prefer Oral Session
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Special instructions: DIII-D Poster Session 1, immediately following LL Lao

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