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**Instability Prediction and Disruption Avoidance.**[1] A.D. TURNBULL, Y.Q. LIU, General Atomics, J.M. HANSON, F. TURCO, Columbia University, N.M. FERRARO, PPPL — Disruption avoidance requires both a prediction of the instability proximity and an estimate of the 'disruptability' - the likelihood that the instability will ultimately result in a disruptive event. MHD spectroscopy is a promising option for obtaining information on the proximity of instabilities. Both the direct response and the antenna impedance provide valuable information on the low frequency global normal modes corresponding to stabilized kink modes. Data from DIII-D experiments and available nonlinear simulations are used to define quantitative criteria that signify when instabilities ultimately disrupt and when they saturate or dissipate. The key distinction in this approach is the use of physical characteristics of the modes rather than more accessible operation parameters. Simple characteristics of the linear instability for example include the linear growth or damping rate and the mode spatial extent. Criteria can also involve identifying sources of free energy in the nonlinear evolution.

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