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A Database Investigation of Advanced Tokamak Mode Disruptivity in DIII-D,* A.W. Hyatt, D.A. Humphreys, T.C. Luce, P.L. Taylor, *GA* – A fully realized Advanced Tokamak (AT) mode plasma runs steady-state. Therefore the disruptivity of an AT plasma is best described by a probability of disruption per second, rather than per shot. Previous analyses of DIII-D overall disruptivity have estimated ~13% per-shot-disruptivity for all operating regimes [1], and AT regime per-shot disruptivity of ~5% [2]. We expand a 3-year DIII-D experimental operation database to add all identified AT discharges for comparison. Each shot in this database that does not reach the end of programmed flat-top is analyzed to identify the cause of premature termination. Rampdown is not analyzed. A complete time history of selected data is associated with each shot, so a disruptivity frequency can be calculated for each phase of a shot as a function of the time spent in that phase. We report on the results of this disruptivity analysis for all AT shots, and compare them with similar analysis for the 3 continuous years' shots.

[1] A.W. Hyatt, et al., Bull. Am. Phys. Soc. **45**, 279 (2000)

[2] T.C. Luce, review talk, submitted to Phys. Plasmas (2010)

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