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Low-m Tearing Mode Studies on Pegasus[1] J.L. BARR, M.W. BONGARD, R.J. FONCK, B.T. LEWICKI, A.J. REDD, University of Wisconsin-Madison — Large scale, low-m/n=1 tearing activity is commonly observed in ohmic discharges on PEGASUS. Accentuated by broad regions of low magnetic shear, this tearing activity can limit performance in high TF utilization regimes ($I_p/I_{TF} \approx 1$) where q_0 is a low-order rational. In addition to increasing TF to raise q_0, tearing activity can be mitigated by: TF ramp-downs; electrostatic preioniziation to obtain OH breakdown at lower TF; and, DC helicity injection to provide strong edge current drive. Systematic scans of TF, I_p, and $\partial I_p/\partial t$ are presently being conducted to characterize these modes under a range of operational conditions. Measurements of magnetic activity via internal Mirnov probes are complicated by electrostatic noise arising from PEGASUS' high-frequency switching power supplies. This noise can be mitigated somewhat by shielding and signal processing, but can be eliminated altogether by freewheeling all power supplies for a brief period.

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