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Modeling and Measurement of Disruption Halo Current Evolution on DIII-D,* N.W. Eidietis, *GA*; E.M. Hollman, *UCSD*, D.A. Humphreys, *GA*; T.C. Jernigan, *ORNL*; E.J. Strait, J.C. Wesley, *GA* — Disruption halo current $J \times B$ forces present a significant danger to the physical integrity of vessel components in ITER. Understanding the evolution of halo currents is critical to ensuring safe and reliable tokamak operation. A model for halo current evolution was presented in [1] which reliably recreated DIII-D halo current evolution, but it assumes a halo width and temperature, both of which are significant factors in the halo current evolution. A diffusion model for halo width evolution is presented here, and compared to DIII-D data. To better test this model, an upgraded halo current monitoring system with fine toroidal and poloidal resolution is planned for installation in 2010. In addition, the design of an accelerometer array for measuring disruption force asymmetries is presented.

[1] D.A. Humphreys and A.G. Kellman, *Phys. Plasmas* **6**, 2742 (1999).

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