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A Comparison of Divertor Heat Flux Profile Evolution in DIII-D Disruptions Unmitigated and Mitigated by Pre-**Disruption Impurity Atom Injection**¹ A.W. HYATT, R.L. LEE, P.L. TAYLOR, T.E. EVANS, D.A. HUMPHREYS, A.G. KELLMAN, General Atomics, J.W. CUTHBERTSON, D.G. WHYTE, University of California, San Diego, C.J. LASNIER, Lawrence Livermore National Laboratory, T.C. JERNIGAN, Oak Ridge National Laboratory, AND THE DIII–D TEAM — Plasma disruptions result in the rapid loss of stored thermal and magnetic energy. In DIII–D, the thermal and magnetic energies, the radiated and conducted energy fluxes, and the magnetic topology are determined using magnetic, bolometry, infrared video (IRTV) measurements, and the equilibrium reconstruction codes EFIT and JFIT. Argon pellet and massive (3000 T-l) helium gas puff mitigation techniques roughly halve the thermal flux conducted to the divertor floor. We explain the measurement and analysis techniques and compare disruption thermal flux profiles with pre-disruption profiles at the divertor floor.

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Prefer Oral Session Prefer Poster Session A.W. Hyatt hyatt@gav.gat.com General Atomics

Special instructions: DIII–D Poster Session II (divertor physics, disruptions, RF, & diagnostics), immediately following Humphreys

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