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**Runaway Electron Diagnostic for Disruptions in DIII-D**<sup>1</sup> P.L. TAYLOR, R.L. LEE, T.E. EVANS, D.A. HUMPHREYS, A.W. HYATT, A.G. KELLMAN, M.J. SCHAFFER, General Atomics, D.S. GRAY, S. LUCKHARDT, D.G. WHYTE, J. ZHANG, University of California, San Diego, T.C. JERNIGAN, Oak Ridge National Laboratory — Disruption generated runaway electrons have been observed in many tokamaks and are a concern for future devices where the discharge must be safely terminated without the generation of runaways. Recent experiments on DIII-D studying the use of “killer” pellets for disruption mitigation have produced high energy runaway electrons. To improve our ability to investigate runaway electron generation and confinement during disruptions two new diagnostics are being installed on DIII-D. A tangentially viewing infrared (IR) camera and a dual wavelength IR diode will be used to detect the presence of runaways in the plasma by observing the IR synchrotron radiation from the circulating runaway electrons. The diodes will provide 100 kHz time resolution throughout both the thermal and current quenches while the IR camera should indicate the location of the runaways. Details of the diagnostics and preliminary results from experiments dedicated to investigating runaway electron production in disruptions will be presented.

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