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Measurement of Runaway Electron Plateau Final Loss Energy Deposition into Wall of DIII-D[1] E.M. HOLLMANN, I. BYKOV, R.A. MOYER, D.L. RUDAKOV, UCSD, N. COMMAUX, D. SHIRAKI, ORNL, C. LASNIER, LLNL, R. MARTIN-SOLIS, U. Carlos III, C. COOPER, N. EIDIETIS, P. PARKS, C. PAZ-SOLDAN, GA — Intentional runaway electron (RE) plateau-wall strikes with different initial impurity levels are used to study the effect of background plasma relativistic electron Z (as well as plasma resistivity for slow electrons) on RE-wall loss dynamics. RE wall loss time is found to be close to the avalanche time $(m_e C/eE_{||})1n\lambda\sqrt{3(Z+5)/\pi}$, consistent with REs being lost by a series of MHD reconnection events, with timescale limited by current profile filling via avalanche. Local kinetic energy deposition is estimated with both hard x-ray emission and with infra-red imaging. At higher plasma impurity levels Z$\sim$ 10, energy deposition appears to be consistent with power balance estimates, as long as collisional dissipation during the final loss event is included. At low impurity levels Z$\sim$ 1, however, local energy deposition appears around 10 less than expected, indicating that the energy dissipation at low Z is still poorly understood.

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