Electron Induced Damage in Silicon - TRIM and TCAS Simulations

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The maximum Si-recoil energy is strongly dependent on the electron energy, reaching values at e.g. 30 MeV, which are also specific for MeV neutron irradiation. A systematic investigation of the damage on the electron energy could therefore reveal a tool to distinguish between point and cluster effects, see report given ba Roxana Radu. Supporting calculations are presented here. Recoil energy distributions are calculated from Mott scattering and displacement cascades simulated using TRIM and Crystal-TCAS. Details are presented including intracascade recombinations. Results are discussed and compared with currently used damage functions.

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