

# **"Molecular Dynamics Simulations of Laser Ablation in Silicon and Germanium"**

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The well-known continuum two-temperature model for solids with highly excited electrons is extended from metals to semiconductors. It is combined with classical molecular dynamics simulations to study laser ablation in semiconductors where the charge carriers are created by the absorption of the laser light. The model is further enhanced by extending the static modified Tersoff potential to a dynamical interaction which depends on the electron temperature of the material. At the opposite side of the irradiated surface pressure-transmitting boundary conditions are applied to prevent reflections of the laser-induced pressure waves. Results are presented for single and multiple pulses in Silicon and Germanium films at different laser fluences.