

M. Kassas, "Laser Short-Pulse Interaction With Gold: Budgeting of Energy Equation", **Journal for Lasers in Engineering** 14 (3-4): 229-246, June 2004.

ABSTRACT

In this work, laser short-pulse heating of gold substrates is considered. The electron kinetic theory is proposed to model the non-equilibrium energy transport process. The predictions of the two equations and the Fourier heating models are compared with those for the electron kinetic theory. It is found that electron kinetic theory and the two equations model predictions of electron and lattice temperatures are identical. However, the Fourier heating model overestimates the temperature rise in the surface region.