

Femtosecond Laser Matter Interaction Theory Experiments And Applications By Eugene G Gamaly 2011 10 06

Femtosecond Laser Matter Interaction Theory

This is the first comprehensive treatment of the interaction of femtosecond laser pulses with solids at nonrelativistic intensity. It connects phenomena from the subtle atomic motion on the nanoscale to the generation of extreme pressure and temperature in the interaction zone confined inside a solid. The femtosecond laser-matter interaction has already found numerous applications in industry ...

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Coulomb logarithm in femtosecond-laser-matter interaction.

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When analyzing the effect of femtosecond laser pulses on matter one has to consider the following: applicability of two-temperature model to description of the electron temperature, which is determined by the electron equilibrium and applicability of the notion of temperature; and taking into account multi-quantum effects in description of electron emission.

Interaction of Femtosecond Laser Pulses with Solids ...

aspects of ultrafast laser-matter interactions that are involved in femtosecond laser micromachining. The main scientific results of the program are as follows: 1. We have introduced a new universal criterion of femtosecond laser ablation that is independent on the angle of incidence and polarization of the laser beam. 2.

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