

PECULIARITIES OF THE ABSORPTION
OF ULTRASHORT LASER PULSES
BY ASYMMETRIC METALLIC
NANOPARTICLES

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S u m m a r y

The theory allowing the calculations of the energy absorbed by the particles of a non-spherical shape subjected to the irradiation by laser pulses of various durations in the region of surface plasmon excitation is developed. For the particles of the oblate or prolate spheroidal shape, the dependence of the absorbed energy on a number of variables, including a particle volume, a degree of the shape deviation from a spherical one, a pulse duration, and the value of a shift of the carrier frequency of a laser ray from the frequency of the surface plasmon excitation in a spherical particle, is found.