

THE PHOTOGENERATION OF SOUND BY  
THE ENSEMBLE OF NANOCCLUSERS  
INCORPORATED IN A DIELECTRIC MATRIX

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S u m m a r y

Two main mechanisms of sound generation by light-absorbing nanoclusters incorporated in the transparent dielectric matrix are discussed. We have shown that, for definite parameters of the matrix and nanoclusters, the sound signal is generated by the thermoelastic mechanism. It is proved that the generation of short sound signal with high efficiency is possible by the pulsation mechanism with a definite relation between the duration of a laser signal and the size of nanoclusters. Thus, we demonstrate the importance of dimensional effects in optoacoustic transformations in such systems.