Picosecond vibration relaxation in glasses
V. N. Novikov

Institute of Automation and Electrometry, Russian Academy of Sciences,
Novosibirsk, 630090, Russia

Recent experimental data on the picosecond relaxation in glasses obtained by light scattering measurements in the frequency range 0.5-1000 GHz are analyzed within the frames of a few models. Relaxation in asymmetric double well potentials, anharmonicity of vibrations, and the soft potential model are considered. Applicability of these models for description of the picosecond relaxation in various glasses is discussed. It is shown, in particular, how the soft potential model can be modified in order to describe the low-frequency power-law tail of the picosecond relaxation. New evidences of the origin of the quasielastic scattering in glasses due to vibration-relaxation coupling are presented.