

THE APPLICATION OF OPTICAL PARAMETRIC OSCILLATORS FOR GENERATION OF ULTRASOUND IN SEMICONDUCTORS

I.A.Veselovskii and H. Cha^{*}, K. Song^{*}, J. Lee^{*}

Physics instrumentation Center of General Physics Institute, Troitsk, Moscow
Region, 142092, Russia,

^{*} Laser Spectroscopy Laboratory, Korea Atomic Energy Research Institute, P.O.Box
105, Yusong, Taejon, 305-600

The results of application of optical parametric oscillator tunable in 450nm-1770nm range to photoacoustic studies in semiconductors are presented. The dependence of waveforms and amplitudes of photoacoustic signals in Si, Ge, GaAs, GaSb on the radiation wavelength are investigated. The obtained results can't be explained by only thermoelastic mechanism of ultrasound generation, but these may be understood when the deformation mechanism (electronic volume effect) is taken into consideration