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Influence of light intensity on the lifetime of carriers in silicon investigated by a photoacoustic method

Bychto, L.; Maliński, M.

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Abstract:

The paper presents experimental results of the lifetime of light induced excess carriers in the n-type silicon. The lifetimes of carriers of silicon crystals were analysed as a function of the intensity of light illuminating the sample. As a measurement method of the lifetime of carriers, the photoacoustic method in a transmission configuration with different surfaces was used. The dependence character was next analysed in the frame of the Shockley Reed Hall statistics in approximation of the light low intensity.