

SLOVAK UNIVERSITY OF TECHNOLOGY IN BRATISLAVA

Abstract

Faculty of electrical engineering and information technology
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Doctor of Philosophy

Electrophysical properties of the MOS structure with implanted bulk

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This thesis is devoted to the description of automated working set-up features for MOS structure evaluation. Using automated HF, LF, QC and CCT methods the homogeneity of doping profile, lifetime profile, density of interface states, flatband voltage and oxide thickness was investigated, with special attention given to the study of MOS structures with ion-implanted impurity distribution. The homogeneity of investigated parameters can be depicted by means of two-dimensional color pictures providing the operator with fast overview of the parameter's distribution and fluctuations.