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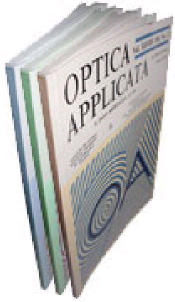

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Optical beam injection methods as a tool for analysis of semiconductor structures

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Keywords

transparent semiconducting oxide, heterojunction, p-i-n diode, optical beam, induced current

Abstract

Optical beam injection methods, such as an optical beam induced current (OBIC) one, have several advantages. Such methods enable a comprehensive analysis of photocurrent generated at the microregion of a semiconductor material or a device by focused light beam. In the paper, examples of applications of the OBIC method for : i) examination of the silicon p-i-n diodes used in a scanning electron microscope (SEM) as a detector and ii) localization of electrically active regions at the interface of the new transparent oxide semiconductor (TOS)-semiconductor structure have been outlined.

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