1. Record Nr. UNINA9910438105903321

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Titolo	Optical Absorption of Impurities and Defects in Semiconducting Crystals [[electronic resource]] : Electronic Absorption of Deep Centres and Vibrational Spectra / / by Bernard Pajot, Bernard Clerjaud
Pubbl/distr/stampa	Berlin, Heidelberg : , : Springer Berlin Heidelberg : , : Imprint : Springer, , 2013
ISBN	1-283-61298-4 9786613925435 3-642-18018-3
Edizione	[1st ed. 2013.]
Descrizione fisica	1 online resource (531 p.)
Collana	Springer Series in Solid-State Sciences, , 0171-1873 ; ; 169
Disciplina	621.38152
Soggetti	Solid state physics Lasers Photonics Optical materials Electronic materials Microwaves Optical engineering Materials science Nanotechnology Solid State Physics Optics, Lasers, Photonics, Optical Devices Optical and Electronic Materials Microwaves, RF and Optical Engineering Characterization and Evaluation of Materials
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Foreword -- Preface -- Notations and symbols -- Introduction -- Bulk optical absorption -- Instrumental methods for absorption spectroscopy -- Absorption of deep centres and bound excitons -- Vibrational absorption of substitutional atoms and related centres -- Vibrational absorption of interstitial atoms and related centres --

	Vibrational absorption III -- Quasi substitutional atoms and related centres -- Vibrational spectra related to hydrogen.
Sommario/riassunto	This book outlines, with the help of several specific examples, the important role played by absorption spectroscopy in the investigation of deep-level centers introduced in semiconductors and insulators like diamond, silicon, germanium and gallium arsenide by high-energy irradiation, residual impurities, and defects produced during crystal growth. It also describes the crucial role played by vibrational spectroscopy to determine the atomic structure and symmetry of complexes associated with light impurities like hydrogen, carbon, nitrogen and oxygen, and as a tool for quantitative analysis of these elements in the materials.