1. Record Nr.	UNINA9910132171203321

Titolo	Infrared and Raman spectroscopic imaging / / edited by Reiner Salzer and Heinz W. Siesler

Pubbl/distr/stampa	Weinheim, Germany : , : Wiley-VCH, , 2014
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ISBN	3-527-67815-8
3-527-67813-1
3-527-67816-6

Edizione	[Second, completely revised and updated edition.]

Descrizione fisica	1 online resource (657 p.)

Disciplina	543.08583

Soggetti	Infrared spectroscopy
Raman spectroscopy

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 at the end of each chapters and index.

Nota di contenuto	Infrared and Raman Spectroscopic Imaging; Contents; Preface; List of Contributors; Part I Basic Methodology; Chapter 1 Infrared and Raman Instrumentation for Mapping and Imaging; 1.1 Introduction to Mapping and Imaging; 1.2 Mid-Infrared Microspectroscopy and Mapping; 1.2.1 Diffraction-Limited Microscopy; 1.2.2 Microscopes and Sampling Techniques; 1.2.3 Detectors for Mid-Infrared Microspectroscopy; 1.2.4 Sources for Mid-Infrared Microspectroscopy; 1.2.5 Spatial Resolution; 1.2.6 Transmission Microspectroscopy; 1.2.7 Attenuated Total Reflection Microspectroscopy

1.3 Raman Microspectroscopy and Mapping1.3.1 Introduction to Raman Microspectroscopy; 1.3.2 CCD Detectors; 1.3.3 Spatial Resolution; 1.3.4 Tip-Enhanced Raman Spectroscopy; 1.4 Near-Infrared Hyperspectral Imaging; 1.5 Raman Hyperspectral Imaging; 1.6 Mid-Infrared Hyperspectral Imaging; 1.6.1 Spectrometers Based on 2D Array Detectors; 1.6.2 Spectrometers Based on Hybrid Linear Array Detectors; 1.6.3 Sampling; 1.7 Mapping with Pulsed Terahertz Radiation; 1.8 Summary; Acknowledgments; References; Chapter 2 Chemometric Tools for Image Analysis; 2.1 Introduction

Sommario/riassunto	This second edition of the successful ready reference is updated and revised with approximately 30% new content to reflect the numerous instrumental developments and improvements, as well as the significant expansion of this rapidly developing field. For example, the combination of IR imaging with AFM has enhanced the achievable lateral resolution by an order of magnitude down to a few hundred nanometers, thus launching a multiplicity of new applications in material science. Furthermore, Raman and IR spectroscopic imaging have become key technologies for the life sciences and today contribute