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Nota di contenuto	High-Resolution Optical and Confocal Microscopy -- Introduction to the Fundamentals of Raman Spectroscopy -- Raman Instrumentation for Confocal Raman Microscopy -- Software Requirements and Data Analysis in Confocal Raman Microscopy -- Nanospectroscopy of Individual Carbon Nanotubes and Isolated Graphene Sheets -- Raman Spectroscopy and Confocal Raman Imaging in Mineralogy and Petrography -- Raman Micro-Spectral Imaging of Cells and Intracellular Drug Delivery using Nanocarrier Systems -- Confocal Raman Microscopy in Pharmaceutical Development -- Characterization of Therapeutic Coatings on Medical Devices -- Raman Imaging of Plant

Cell Walls -- Confocal Raman Imaging of Polymeric Materials -- Stress Analysis by Means of Raman Microscopy.

Sommario/riassunto

This second edition provides a cutting-edge overview of physical, technical and scientific aspects related to the widely used analytical method of confocal Raman microscopy. The book includes expanded background information and adds insights into how confocal Raman microscopy, especially 3D Raman imaging, can be integrated with other methods to produce a variety of correlative microscopy combinations. The benefits are then demonstrated and supported by numerous examples from the fields of materials science, 2D materials, the life sciences, pharmaceutical research and development, as well as the geosciences.