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| Nota di contenuto | Raman Spectroscopy for Chemical Analysis; CONTENTS; PREFACE; ACKNOWLEDGMENTS; LIST OF SYMBOLS; CUMULATIVE LISTING OF VOLUMES IN SERIES; CHAPTER 1 INTRODUCTION AND SCOPE; 1.1. History Preceding 1986; 1.2. Technological Advances; 1.3. Comparison to FTIR and NIR Absorption; 1.4. Overview of the Book; CHAPTER 2 MAGNITUDE OF RAMAN SCATTERING; 2.1. Theoretical Overview; 2.2. Definition of Raman Cross Section; 2.3. Magnitude of Raman Cross Sections; 2.4. Raman Scattering Intensity; CHAPTER 3 COLLECTION AND DETECTION OF RAMAN SCATTERING; 3.1. Signal Magnitude and Collection Function 3.2. Instrumental Variables Comprising the Collection Function 3.3. Spectrometer Response Function; 3.4. Multiplex and Multichannel Spectrometers; CHAPTER 4 SIGNAL-TO-NOISE IN RAMAN SPECTROSCOPY; 4.1. Definition and Measurement of SNR; 4.2. Noise Sources; 4.3. Signal-to-Noise Ratio Expressions; 4.4. SNR Figure of Merit; 4.5. SNR and Detection Limits; 4.6. SNR for Multiplex Spectrometers; CHAPTER 5 INSTRUMENTATION OVERVIEW AND |

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Sommario/riassunto

Owing to its unique combination of high information content and ease of use, Raman spectroscopy, which uses different vibrational energy levels to excite molecules (as opposed to light spectra), has attracted much attention over the past fifteen years. This book covers all aspects of modern Raman spectroscopy, including its growing use in both the laboratory and industrial analysis.
