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Autore	Milosevic Milan <1955->
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Nota di contenuto	INTERNAL REFLECTION AND ATR SPECTROSCOPY; CONTENTS; PREFACE; 1: Introduction to Spectroscopy; 1.1 HISTORY; 1.2 DEFINITION OF TRANSMITTANCE AND REFLECTANCE; 1.3 THE SPECTROSCOPIC EXPERIMENT AND THE SPECTROMETER; 1.4 PROPAGATION OF LIGHT THROUGH A MEDIUM; 1.5 TRANSMITTANCE AND ABSORBANCE; 1.6 S/N IN A SPECTROSCOPIC MEASUREMENT; 2: Harmonic Oscillator Model for Optical Constants; 2.1 HARMONIC OSCILLATOR MODEL FOR POLARIZABILITY; 2.2 CLAUSIUS-MOSSOTTI EQUATION; 2.3 REFRACTIVE INDEX; 2.4 ABSORPTION INDEX AND CONCENTRATION; 3: Propagation of Electromagnetic Energy 3.1 POYNTING VECTOR AND FLOW OF ELECTROMAGNETIC ENERGY 3.2 LINEAR MOMENTUM OF LIGHT; 3.3 LIGHT ABSORPTION IN ABSORBING MEDIA; 3.4 LAMBERT LAW AND MOLECULAR CROSS SECTION; 4: Fresnel Equations; 4.1 ELECTROMAGNETIC FIELDS AT THE INTERFACE; 4.2 SNELL'S LAW; 4.3 BOUNDARY CONDITIONS AT THE INTERFACE; 4.4 FRESNEL FORMULAE; 4.5 REFLECTANCE AND TRANSMITTANCE OF INTERFACE; 4.6 SNELL'S PAIRS; 4.7 NORMAL INCIDENCE; 4.8

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12.1 ELECTROMAGNETIC FIELDS IN METALS; 12.2 PLASMA
12.3 REFLECTANCE OF METAL SURFACES

Sommario/riassunto

Attenuated Total Reflection (ATR) Spectroscopy is now the most frequently used sampling technique for infrared spectroscopy. This book fully explains the theory and practice of this method. Offers introduction and history of ATR before discussing theoretical aspects. Includes informative illustrations and theoretical calculations. Discusses many advanced aspects of ATR, such as depth profiling or orientation studies, and particular features of reflectance
