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Altri autori (Persone)	PalikEdward D
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Livello bibliografico	Monografia
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Nota di bibliografia	Includes bibliographies.
Nota di contenuto	Front Cover; Handbook of Optical Constants of Solids; Copyright Page; Table of Contents; List of Contributors; Preface; Part I: DETERMINATION OF OPTICAL CONSTANTS; Chapter 1. Introductory Remarks; I. Introduction; II. The Chapters; III. The Critiques; IV. The Tables; V. The Figures of the Tables; VI. General Remarks; References; Chapter 2. Basic Parameters for Measuring Optical Properties; I. Introduction; II. Intrinsic Material Parameters in Terms of Optical Constants; III. Reflectance, Transmittance, and Absorptanceof Layered Structures IV. The General Lamelliform-Phase Coherency ThroughoutV. The General Lamelliform-Phase Incoherency in Substrate; VI. Summary; Appendix A. Basic Formulas for Fresnel Coefficients; Appendix B. General Formulas for the Case of a Parallel-Sided Slab; Appendix C. Reflectance, Rjk at j-k Interface; Appendix D. Reflectance of Single Layer on Each Side of a Slab and Single Layer on Either Side of a Slab; Appendix E. Critical Angle of Incidence; Definition of Terms; References; Chapter 3. Dispersion Theory, Sum Rules, and Their Application to the Analysis of Optical Data; I. Introduction II. Optical Sum Rules and Their Physical InterpretationIII. Finite-Energy Sum Rules; IV. Sum Rules for Reflection Spectroscopy; V. Analysis of Optical Data and Sum-Rule Applications; VI. Summary; References;

Chapter 4. Measurement of Optical Constants in the Vacuum Ultraviolet Spectral Region; I. Introduction; II. General Discussion of Reflectance Methods; III. Reflectance Method for Two Media; References; Chapter 5. The Accurate Determination of Optical Properties by Ellipsometry; I. Reflection Techniques; Background and Overview; II. Measurement Configurations
III. Accurate Determination of Optical Properties: Overlayer EffectsIV. Living with Overlayers; V. Eliminating Overlayers; VI. Bulk and Thin-Film Effects; Effective-Medium Theory; VII. Conclusion; References; References; Chapter 6. Interferometric Methods for the Determination of Thin-Film Parameters; I. Introduction; II. Basic Principles; III. Nonlaser Interferometers; IV. Kosters-Prism Interferometers; V. A Self-Calibrating Method; VI. Surface Effects; VII. Conclusions; References; Chapter 7. Thin-Film Absorptance Measurements Using Laser Calorimetry; I. Introduction
II. Single-Layer FilmsIII. Wedged-Film Laser Calorimetry; IV. Electric-Field Considerations in Laser Calorimetry; V. Entrance versus Exit Surface Films; VI. Experimental Determination of f, aaf, and afs; References; Chapter 8. Complex Index of Refraction Measurements at Near-Millimeter Wavelengths; I. Introduction; II. Fourier Transform Spectroscopy; III. Free-Space Resonant Cavity; IV. Mach-Zehnder Interferometer; V. Direct Birefringence Measurement; VI. Overmoded Nonresonant Cavity; VII. Crystal Quartz as Index Reference; VIII. Conclusion; References
Chapter 9. The Quantum Extension of the Drude-Zener Theory in Polar Semiconductors

Sommario/riassunto

While bits and pieces of the index of refraction n and extinction coefficient k for a given material can be found in several handbooks, the Handbook of Optical Constants of Solids gives for the first time a single set of n and k values over the broadest spectral range (ideally from x-ray to mm-wave region). The critiquers have chosen the numbers for you, based on their own broad experience in the study of optical properties. Whether you need one number at one wavelength or many numbers at many wavelengths, what is available in the literature is condensed down

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Titolo	Iron Metabolism in Human Health and Disease / / edited by Kostas Pantopoulos
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ISBN	9783031920332 9783031920325
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Soggetti	Metabolism Metabolism - Disorders Biochemistry Metal ions Medicine - Research Biology - Research Cytology Diseases Metabolic Disease Metal Ions Biomedical Research Mechanisms of Disease
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Nota di contenuto	Chapter 1. BioIron: Origin, Chemical Properties and Biological Functions -- Chapter 2. Cellular Iron Homeostasis -- Chapter 3. Systemic Iron Metabolism -- Chapter 4. The Labile Side of Iron in Health and Disease: a Narrative Review -- Chapter 5. Iron and Cell Death -- Chapter 6. Dietary Iron Absorption: Biochemical and Nutritional Aspects -- Chapter 7. Hepcidin and Tissue-Specific Iron Regulatory Networks -- Chapter 8. Control of Systemic Iron Homeostasis – Insights Gained from Studying Mouse Models -- Chapter 9. Diagnosis and Treatment of HFEC282Y-Linked Hemochromatosis -- Chapter 10. Diagnosis and Management of Non-HFE Hemochromatosis, Ferroportin Disease and

Rare Hereditary Iron Loading Disorders -- Chapter 11. Iron-Loading Anemias -- Chapter 12. Iron Deficiency Anemia -- Chapter 13. Anemia of Inflammation -- Chapter 14. Iron, Hepcidin, and Immunity -- Chapter 15. Iron Metabolism in Cardiovascular Disease -- Chapter 16. Iron and Liver Disease -- Chapter 17. The Impact of Iron Homeostasis in Insulin-Sensitive Tissues and Gut Microbiome on Obesity-Driven Metabolic Disorders -- Chapter 18. Iron and Cancer -- Chapter 19. Neurodegeneration with Brain Iron Accumulation -- Chapter 20. Iron and Bone Pathophysiology -- Chapter 21. Iron and Pregnancy -- Chapter 22. Iron and the Intestinal Microbiome -- Chapter 23. Iron Chelation Therapy -- Chapter 24. Oral and Intravenous Iron Therapy -- Chapter 25. Diagnostics: Markers of Body Iron Status -- Chapter 26. Current Landscape of Hepcidin Therapeutics.

Sommario/riassunto

This book provides a state-of-the-art overview on the role of bioiron in health and disease. Iron is an essential constituent of simple and complex organisms and has played a critical role in the origin of life. Cells utilize iron for energy metabolism, oxygen transport, and several biochemical reactions due to its flexible coordination chemistry and its unique ability to serve both as electron donor and acceptor. The term “bioiron” was coined to emphasize the importance of iron in biology and medicine. Even though iron is an abundant metal, its bioavailability is limiting. This often leads to iron-deficient states, which manifest in anemia and other co-morbidities. In fact, iron deficiency is the most common medical condition worldwide. On the other hand, excess iron is potentially toxic due to its redox reactivity. Iron toxicity is illustrated in pathologies of iron overload disorders, such as hereditary hemochromatosis or iron-loading anemias. Deregulation of iron metabolism is also observed in prevalent metabolic, cardiovascular, or neurological disorders. Our knowledge of iron metabolism has dramatically increased during the last 30-40 years with the discovery of elegant iron homeostatic networks that operate at the cellular and systemic levels. These include the IRE/IRP regulatory system and the hepcidin/ferroportin axis. The iron hormone hepcidin has emerged as a master regulator of systemic iron traffic and as a pharmacological target for iron-related disorders. The book offers a comprehensive overview of the rapidly growing bioiron field and aims to attract the attention of students, basic scientists, and clinicians.