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Nota di contenuto	1. Introduction -- 2. Essentials of Optical Radiation Metrology -- 3. Theoretical Basis of Blackbody Radiometry -- 4. Effective Emissivity -- 5. Elements of Blackbodies Design -- 6. Materials for Blackbody Radiators -- 7. Contact Measurements of Blackbody Temperatures -- 8. Radiation Thermometry of Blackbodies -- 9. Absolute Primary Radiometric Thermometry.
Sommario/riassunto	This book, the first of a two-volume set, focuses on the basic physical principles of blackbody radiometry and describes artificial sources of blackbody radiation, widely used as sources of optical radiation, whose energy characteristics can be calculated on the base of fundamental physical laws. Following a review of radiometric quantities, radiation laws, and radiative heat transfer, it introduces the basic principles of blackbody radiators design, details of their practical implementation, and methods of measuring their defining characteristics, as well as metrological aspects of blackbody-based measurements. Chapters are dedicated to the effective emissivity concept, methods of increasing effective emissivities, their measurement and modeling using the Monte Carlo method, techniques of blackbody radiators heating, cooling, isothermalization, and measuring their temperature. An extensive and comprehensive reference source, this book is of considerable value to students, researchers, and engineers involved in any aspect of blackbody radiometry.

