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Autore	Brophy, Jere H.
Titolo	Volume secondo: Termodinamica strutturale / Jere H. Brophy, Robert M. Rose, John Wulff
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Descrizione fisica	xiii, 218 p. ; 22 cm
Altri autori (Persone)	Wulff, John Rose, Robert M.
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Autore	Kaye Brian H (Brian Howard), <1932->
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Nota di contenuto	A Random Walk Through Fractal Dimensions; Contents; Word Finder; Coloured Plates; 1 A Starting Point for the Randomwalk; References; 2 Fractal Description of Fineparticle Boundaries; 2.1 The Fractal Dimensions of a Famous Carbonblack Profile; 2.2 The Dangerous Art of Extrapolation for Predicting Physical Phenomena; 2.3 Discovering Texture Fractals; 2.4 Experimental Methods for Characterizing Fineparticle Boundaries; References; 3 What Use are Fractals?; 3.1 Elegance and Utility of Fractal Dimensions; 3.2 Fractal Description of Powder Metal Grains and Special Metal Crystals 3.3 Fractals and the Flow of Dry Powders3.4 Fractals in the Mining Industry; 3.5 Fractal Structure of Cosmic Fineparticles; 3.6 Fractal Structure of Some Types of Sand Grains; 3.7 Fractal Structure of Some Respirable Dusts; 3.7.1 What is the Technical Meaning of Respirable Dust?; 3.7.2 Is Fumed Silica a Respirable Hazard?; 3.7.3 Dust from Nuclear Reactor Systems; 3.7.4 Fuse Fumes and Welding Dust; 3.7.5 Characteristics of Dust Generated by Explosions; 3.7.6 Diesel Soot and Fumed Pigments; 3.7.7 Fractal Specimens of Flyash; 3.8 Polymer Grains and Rubber Crumbs; 3.9 Fineparticle Look-Alikes References4 Delinquent Coins and Staggering Drunks; 4.1 A Capricious Selection of Terms that Describe Random Events; 4.2 Chance, Probability and Error; 4.3 Monte Carlo Technique for Studying Stochastic Processes; 4.4 Randomwalks in One-Dimensional Space; 4.5 Delinquent Coins and Cantorian Dusts; 4.6 The Devil's Staircase and Crystal Structure; 4.7 Pin-ball Machines and Some Random Thoughts on the Philosophical Significance of Fractal Dimensions; 4.8 Plumes with Fractal Boundaries; 4.9 Gaussian Graph Paper, Fractal Distributions and Elephants in the Face Powder; References 5 Fractal Systems Generated by Randomwalks in Two-Dimensional Space5.1 Randomwalks on a Rectangular Lattice in Two-Dimensional Space; 5.2 The Use of Polar Co-ordinates to Describe Random Progress in Two-Dimensional Space; 5.3 Randomwalk Modelling of Fractal Deposits in Two-Dimensional Space; 5.4 Pigmented Coatings and Percolating Systems; 5.5 Mathematical Description of Fractal Clusters; 5.6 Percolating Pathways and Scaling Properties; 5.7 The Fractal Structure of Clusters Generated by Diffusion-Limited Aggregation (DLA); References 6 Vanishing Carpets, Fractal Felts and Dendritic Capture Trees6.1 Sierpinski Carpets and Swiss Cheese; 6.2 A Fractal Description of the Deposition Efficiency of Simulated Pesticide Spray Systems; 6.3 Sierpinski Fractal Description of Real Dispersed Systems; 6.4 Exploring the Fractal Structures of Filters; 6.5 Dendritic Capture Trees in Filter Systems; 6.6 Cantor on the Rocks; References; 7 An Exploration of the Physical Significance of Fractal Structures in Three-Dimensional Space; 7. l Randomwalk Theory of Powder Mixing in Three- and Four-Dimensional Space 7.2 Fractal Geometry and Aerosol Physics
Sommario/riassunto	Fractal geometry is revolutionizing the descriptive mathematics of applied materials systems. Rather than presenting a mathematical treatise, Brian Kaye demonstrates the power of fractal geometry in describing materials ranging from Swiss cheese to pyrolytic graphite. Written from a practical point of view, the author assiduously avoids the use of equations while introducing the reader to numerous interesting and challenging problems in subject areas ranging from geography to fine particle science. The second edition of this successful book provides up-to-date literature coverage of the use of