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	Nota di contenuto	Spatial Statistics and Point Processes -- Basic Ideas ofSpatial Statistics -- Stationary Models in Stochastic Geometry - Palm Distributions as Distributions of Typical Elements. An Approach Without Limits -- Statistical Analysis of Large-Scale Structure in the Universe -- Dynamics ofStructure Formation in Thin Liquid Films: A Special Spatial Analysis -- Integral Geometry and Morphology of Patterns -- Mixed Measures and Inhomogeneous Boolean Models -- Additivity, Convexity, and Beyond: Applications of Minkowski Functionals in Statistical Physics -- Considerations About the Estimation ofthe Size Distribution in

Wicksell's Corpuscle Problem -- Local Porosity Theory and Stochastic Reconstruction for Porous Media -- Stochastic Models as Tools for the Analysis of Decomposition and Crystallisation Phenomena in Solids -- Phase Transitions and Simulations of Hard Particles -- Phase Transition and Percolation in Gibbsian Particle Models -- Fun with Hard Spheres -- Finite Packings and Parametric Density -- A Primer on Perfect Simulation -- Grand Canonical Simulations ofHard-Disk Systems by Simulated Tempering -- Dynamic Triangulations for Granular Media Simulations.

| Sommario/riassunto | Modern physics is confronted with a large variety of complex spatial patterns. Although both spatial statisticians and statistical physicists study random geometrical structures, there has been only little interaction between the two up to now because of different traditions and languages. This volume aims to change this situation by presenting in a clear way fundamental concepts of spatial statistics which are of great potential value for condensed matter physics and materials sciences in general, and for porous media, percolation and Gibbs processes in particular. Geometric aspects, in particular ideas of stochastic and integral geometry, play a central role throughout. With nonspecialist researchers and graduate students also in mind, prominent physicists give an excellent introduction here to modern ideas of statistical physics pertinent to this exciting field of research. |