1. Record Nr. UNINA9910132340403321

Titolo	Stochastic Geometry, Spatial Statistics and Random Fields : Models and Algorithms / / edited by Volker Schmidt
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2015
ISBN	3-319-10064-5
Edizione	[1st ed. 2015.]
Descrizione fisica	1 online resource (XXIV, 464 p. 133 illus., 63 illus. in color.)
Collana	Lecture Notes in Mathematics, , 0075-8434 ; ; 2120
Disciplina	519.2
Soggetti	Probabilities Mathematical models Algorithms Geometry Probability Theory and Stochastic Processes Mathematical Modeling and Industrial Mathematics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di contenuto	Stein’s Method for Approximating Complex Distributions, with a View towards Point Processes -- Clustering Comparison of Point Processes, with Applications to Random Geometric Models -- Random Tessellations and their Application to the Modelling of Cellular Materials -- Stochastic 3D Models for the Micro-structure of Advanced Functional Materials -- Boolean Random Functions -- Random Marked Sets and Dimension Reduction -- Space-Time Models in Stochastic Geometry -- Rotational Integral Geometry and Local Stereology - with a View to Image Analysis -- An Introduction to Functional Data Analysis -- Some Statistical Methods in Genetics -- Extrapolation of Stationary Random Fields -- Spatial Process Simulation -- Introduction to Coupling-from-the-Past using R -- References -- Index.
Sommario/riassunto	Providing a graduate level introduction to various aspects of stochastic geometry, spatial statistics and random fields, this volume places a special emphasis on fundamental classes of models and algorithms as well as on their applications, for example in materials science, biology and genetics. This book has a strong focus on simulations and includes

extensive codes in Matlab and R, which are widely used in the mathematical community. It can be regarded as a continuation of the recent volume 2068 of Lecture Notes in Mathematics, where other issues of stochastic geometry, spatial statistics and random fields were considered, with a focus on asymptotic methods.