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Titolo	Functional estimation for density, regression models and processes [[electronic resource] /] / Odile Pons
Pubbl/distr/stampa	Singapore ; ; London, : World Scientific, 2011
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Descrizione fisica	1 online resource (210 p.)
Disciplina	519.5
Soggetti	Mathematical statistics Econometrics Estimation theory Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references (p. 191-196) and index.
Nota di contenuto	Preface; Contents; 1. Introduction; 1.1 Estimation of a density; 1.2 Estimation of a regression curve; 1.3 Estimation of functionals of processes; 1.4 Content of the book; 2. Kernel estimator of a density; 2.1 Introduction; 2.2 Risks and optimal bandwidths for the kernel estimator; 2.3 Weak convergence; 2.4 Minimax and histogram estimators; 2.5 Estimation of functionals of a density; 2.6 Density of absolutely continuous distributions; 2.7 Hellinger distance between a density and its estimator; 2.8 Estimation of the density under right-censoring 2.9 Estimation of the density of left-censored variables2.10 Kernel estimator for the density of a process; 2.11 Exercises; 3. Kernel estimator of a regression function; 3.1 Introduction and notation; 3.2 Risks and convergence rates for the estimator; 3.3 Optimal bandwidths; 3.4 Weak convergence of the estimator; 3.5 Estimation of a regression curve by local polynomials; 3.6 Estimation in regression models with functional variance; 3.7 Estimation of the mode of a regression function; 3.8 Estimation of a regression function under censoring; 3.9 Proportional odds model

3.10 Estimation for the regression function of processes3.11 Exercises; 4. Limits for the varying bandwidths estimators; 4.1 Introduction; 4.2 Estimation of densities; 4.3 Estimation of regression functions; 4.4 Estimation for processes; 4.5 Exercises; 5. Nonparametric estimation of quantiles; 5.1 Introduction; 5.2 Asymptotics for the quantile processes; 5.3 Bandwidth selection; 5.4 Estimation of the conditional density of Y given X; 5.5 Estimation of conditional quantiles for processes; 5.6 Inverse of a regression function; 5.7 Quantile function of right-censored variables
5.8 Conditional quantiles with variable bandwidth5.9 Exercises; 6. Nonparametric estimation of intensities for stochastic processes; 6.1 Introduction; 6.2 Risks and convergences for estimators of the intensity; 6.2.1 Kernel estimator of the intensity; 6.2.2 Histogram estimator of the intensity; 6.3 Risks and convergences for multiplicative intensities; 6.3.1 Models with nonparametric regression functions; 6.3.2 Models with parametric regression functions; 6.4 Histograms for intensity and regression functions; 6.5 Estimation of the density of duration excess
6.6 Estimators for processes on increasing intervals6.7 Models with varying intensity or regression coefficients; 6.8 Progressive censoring of a random time sequence; 6.9 Exercises; 7. Estimation in semi-parametric regression models; 7.1 Introduction; 7.2 Convergence of the estimators; 7.3 Nonparametric regression with a change of variables; 7.4 Exercises; 8. Diffusion processes; 8.1 Introduction; 8.2 Estimation for continuous diffusions by discretization; 8.3 Estimation for continuous diff usion processes; 8.4 Estimation of discretely observed diffusions with jumps
8.5 Continuous estimation for di usions with jumps

Sommario/riassunto

This book presents a unified approach on nonparametric estimators for models of independent observations, jump processes and continuous processes. New estimators are defined and their limiting behavior is studied. From a practical point of view, the book

2. Record Nr. UNINA9910574087803321

Autore	Frisch H (Helene)
Titolo	Radiative Transfer : An Introduction to Exact and Asymptotic Methods / / by Hélène Frisch
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2022
ISBN	9783030952471 9783030952464
Edizione	[1st ed. 2022.]
Descrizione fisica	1 online resource (611 pages)
Disciplina	530.138 523.0192
Soggetti	Mathematical physics Astrophysics Thermodynamics Heat engineering Heat - Transmission Mass transfer Optics Mathematical Methods in Physics Engineering Thermodynamics, Heat and Mass Transfer Light-Matter Interaction
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	1. An Overview of the Content -- Part I: Scalar Radiative Transfer Equations -- 2. Radiative Transfer Equations -- 3. Exact Methods of Solution: A Brief Survey -- 4. Singular Integral Equations -- 5. The Scattering Kernel and Associated Auxiliary Functions -- 6. The Surface Green Function and the Resolvent Function -- 7. The Emergent Intensity and the Source Function -- 8. Spectral Line with Continuous Absorption -- 9. Conservative Scattering: The Milne Problem -- 10. The Case Eigenfunction Expansion Method -- 11. The -law and the Nonlinear H-Equation -- 12. The Wiener–Hopf Method -- Part II: Scattering Polarization -- 13. The Scattering of Polarized Radiation --

14. Polarized Radiative Transfer Equations -- 15. The -law, the Nonlinear H-Equation, and Matrix Singular Integral Equations. 16. Conservative Rayleigh Scattering: Exact Solutions -- 17. Scattering Problems with No Exact Solution I: The Auxiliary Matrices -- 18. Scattering Problems with No Exact Solution II: The Resolvent Matrix, the H-Matrix, and the I-Matrix -- Part III: Asymptotic Properties of Multiple Scattering -- 19. Asymptotic Properties of the Scattering Kernel K() -- 20. Large Scale Radiative Transfer Equations -- 21. The Photon Random Walk -- 22. Asymptotic Behavior of the Resolvent Function -- 23. The Asymptotics of the Diffusion Approximation -- 24. The Diffusion Approximation for Rayleigh Scattering -- 25. Anomalous Diffusion for Spectral Lines -- 26. Asymptotic Results for Partial Frequency Redistribution.

Sommario/riassunto

This book discusses analytic and asymptotic methods relevant to radiative transfer in dilute media, such as stellar and planetary atmospheres. Several methods, providing exact expressions for the radiation field in a semi-infinite atmosphere, are described in detail and applied to unpolarized and polarized continuous spectra and spectral lines. Among these methods, the Wiener–Hopf method, introduced in 1931 for a stellar atmospheric problem, is used today in fields such as solid mechanics, diffraction theory, or mathematical finance. Asymptotic analyses are carried out on unpolarized and polarized radiative transfer equations and on a discrete time random walk. Applicable when photons undergo a large number of scatterings, they provide criteria to distinguish between large-scale diffusive and non-diffusive behaviors, typical scales of variation of the radiation field, such as the thermalization length, and specific descriptions for regions close and far from boundaries. Its well organized synthetic view of exact and asymptotic methods of radiative transfer makes this book a valuable resource for both graduate students and professional scientists in astrophysics and beyond.