

1. Record Nr.	UNINA9910364955903321
Autore	Christensen Ronald
Titolo	Advanced Linear Modeling : Statistical Learning and Dependent Data / / by Ronald Christensen
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2019
ISBN	9783030291648 3030291642
Edizione	[3rd ed. 2019.]
Descrizione fisica	1 online resource (618 pages) : illustrations
Collana	Springer Texts in Statistics, , 2197-4136
Disciplina	519.5
Soggetti	Probabilities Mathematics - Data processing Statistics Probability Theory Computational Mathematics and Numerical Analysis Statistical Theory and Methods
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Includes index.
Nota di contenuto	1. Nonparametric Regression -- 2. Penalized Estimation -- 3. Reproducing Kernel Hilbert Spaces -- 4. Covariance Parameter Estimation -- 5. Mixed Models and Variance Components -- 6. Frequency Analysis of Time Series -- 7. Time Domain Analysis -- 8. Linear Models for Spacial Data: Kriging -- 9. Multivariate Linear Models: General. 10. Multivariate Linear Models: Applications -- 11. Generalized Multivariate Linear Models and Longitudinal Data -- 12. Discrimination and Allocation -- 13. Binary Discrimination and Regression -- 14. Principal Components, Classical Multidimensional Scaling, and Factor Analysis -- A Mathematical Background -- B Best Linear Predictors -- C Residual Maximum Likelihood -- Index -- Author Index.
Sommario/riassunto	Now in its third edition, this companion volume to Ronald Christensen's Plane Answers to Complex Questions uses three fundamental concepts from standard linear model theory—best linear prediction, projections, and Mahalanobis distance— to extend standard linear

modeling into the realms of Statistical Learning and Dependent Data. This new edition features a wealth of new and revised content. In Statistical Learning it delves into nonparametric regression, penalized estimation (regularization), reproducing kernel Hilbert spaces, the kernel trick, and support vector machines. For Dependent Data it uses linear model theory to examine general linear models, linear mixed models, time series, spatial data, (generalized) multivariate linear models, discrimination, and dimension reduction. While numerous references to *Plane Answers* are made throughout the volume, *Advanced Linear Modeling* can be used on its own given a solid background in linear models. Accompanying R code for the analyses is available online.
