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Autore	Kedem Benjamin <1944->
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Nota di contenuto	Regression Models for Time Series Analysis; Dedication; Contents; Preface; 1 Time Series Following Generalized Linear Models; 1.1 Partial Likelihood; 1.2 Generalized Linear Models and Time Series; 1.3 Partial Likelihood Inference; 1.3.1 Estimation of the Dispersion Parameter; 1.3.2 Iterative Reweighted Least Squares; 1.4 Asymptotic Theory; 1.4.1 Uniqueness and Existence; 1.4.2 Large Sample Properties; 1.5 Testing Hypotheses; 1.6 Diagnostics; 1.6.1 Deviance; 1.6.2 Model Selection Criteria; 1.6.3 Residuals; 1.7 Quasi-Partial Likelihood; 1.7.1 Generalized Estimating Equations 1.8 Real Data Examples1.8.1 A Note on Computation; 1.8.2 A Note on Model Building; 1.8.3 Analysis of Mortality Count Data; 1.8.4 Application to Evapotranspiration; 1.9 Problems and Complements; 2 Regression Models for Binary Time Series; 2.1 Link Functions for Binary Time Series; 2.1.1 The Logistic Regression Model; 2.1.2 Probit and Other Links; 2.2 Partial Likelihood Estimation; 2.3 Inference for Logistic Regression; 2.3.1 Asymptotic Relative Efficiency; 2.4 Goodness of Fit; 2.4.1 Deviance; 2.4.2 Goodness of Fit Based on Response Classification; 2.5 Real Data Examples

2.5.1 Rainfall Prediction; 2.5.2 Modeling Successive Eruptions; 2.5.3 Stock Price Prediction; 2.5.4 Modeling Sleep Data; 2.6 Problems and Complements; 3 Regression Models for Categorical Time Series; 3.1 Modeling; 3.2 Link Functions for Categorical Time Series; 3.2.1 Models for Nominal Time Series; 3.2.2 Models for Ordinal Time Series; 3.3 Partial Likelihood Estimation; 3.3.1 Inference for $m=3$; 3.3.2 Inference for $m>3$; 3.3.3 Large Sample Theory; 3.3.4 Inference for the Multinomial Logit Model; 3.3.5 Testing Hypotheses; 3.4 Goodness of Fit; 3.4.1 Goodness of Fit Based on Response Classification; 3.4.2 Power Divergence Family of Goodness of Fit Tests; 3.4.3 A Family of Goodness of Fit Tests; 3.4.4 Further Diagnostic Tools; 3.5 Examples; 3.5.1 Explanatory Analysis of DNA Sequence Data; 3.5.2 Soccer Forecasting; 3.5.3 Sleep Data Revisited; 3.6 Additional Topics; 3.6.1 Alternative Modeling; 3.6.2 Spectral Analysis; 3.6.3 Longitudinal Data; 3.7 Problems and Complements; Appendix: Asymptotic Theory; 4 Regression Models for Count Time Series; 4.1 Modeling; 4.2 Models for Time Series of Counts; 4.2.1 The Poisson Model; 4.2.2 The Doubly Truncated Poisson Model; 4.2.3 The Zeger-Qaqish Model; 4.3 Inference; 4.3.1 Partial Likelihood Estimation for the Poisson Model; 4.3.2 Asymptotic Theory; 4.3.3 Prediction Intervals; 4.3.4 Inference for the Zeger-Qaqish Model; 4.3.5 Hypothesis Testing; 4.4 Goodness of Fit; 4.4.1 Deviance; 4.4.2 Residuals; 4.5 Data Examples; 4.5.1 Monthly Count of Rainy Days; 4.5.2 Tourist Arrival Data; 4.6 Problems and Complements; 5 Other Models and Alternative Approaches; 5.1 Integer Autoregressive and Moving Average Models; 5.1.1 Branching Processes with Immigration; 5.1.2 Integer Autoregressive Models of Order 1; 5.1.3 Estimation for INAR(1) Process; 5.1.4 Integer Autoregressive Models of Order p

Sommario/riassunto

A thorough review of the most current regression methods in time series analysis. Regression methods have been an integral part of time series analysis for over a century. Recently, new developments have made major strides in such areas as non-continuous data where a linear model is not appropriate. This book introduces the reader to newer developments and more diverse regression models and methods for time series analysis. Accessible to anyone who is familiar with the basic modern concepts of statistical inference, *Regression Models for Time Series Analysis* provides a much-needed examina