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	Nota di contenuto	Chapter 1. Elements of Stochastic Processes -- Chapter 2. Systematic approach for portmanteau tests in view of Whittle likelihood ratio -- Chapter 3. A new look at portmanteau test -- Chapter 4. Adjustments for a class of tests under nonstandard conditions -- Chapter 5. Adjustments for variance component tests in ANOVA models -- Chapter 6. Robust causality test of infinite variance processes.
	Sommario/riassunto	This book contains new aspects of model diagnostics in time series analysis, including variable selection problems and higher-order asymptotics of tests. This is the first book to cover systematic approaches and widely applicable results for nonstandard models including infinite variance processes. The book begins by introducing a unified view of a portmanteau-type test based on a likelihood ratio test, useful to test general parametric hypotheses inherent in statistical models. The conditions for the limit distribution of portmanteau-type tests to be asymptotically pivotal are given under general settings, and very clear implications for the relationships between the parameter of interest and the nuisance parameter are elucidated in terms of Fisher-information matrices. A robust testing procedure against heavy-tailed time series models is also constructed in the context of variable selection problems. The setting is very reasonable in the context of financial data analysis and econometrics, and the result is applicable to

causality tests of heavy-tailed time series models. In the last two sections, Bartlett-type adjustments for a class of test statistics are discussed when the parameter of interest is on the boundary of the parameter space. A nonlinear adjustment procedure is proposed for a broad range of test statistics including the likelihood ratio, Wald and score statistics.