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Titolo	Design of experiments in nonlinear models [[electronic resource]] : asymptotic normality, optimality criteria and small-sample properties / / by Luc Pronzato, Andrej Pázman
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Note generali	Description based upon print version of record.
Nota di bibliografia	Include bibliographical references and index.
Nota di contenuto	Introduction -- Asymptotic designs and uniform convergence. Asymptotic properties of the LS estimator -- Asymptotic properties of M, ML and maximum a posteriori estimators -- Local optimality criteria based on asymptotic normality -- Criteria based on the small-sample precision of the LS estimator -- Identifiability, estimability and extended optimality criteria -- Nonlocal optimum design -- Algorithms—a survey -- Subdifferentials and subgradients -- Computation of derivatives through sensitivity functions -- Proofs -- Symbols and notation -- List of labeled assumptions -- References.
Sommario/riassunto	Design of Experiments in Nonlinear Models: Asymptotic Normality, Optimality Criteria and Small-Sample Properties provides a comprehensive coverage of the various aspects of experimental design for nonlinear models. The book contains original contributions to the theory of optimal experiments that will interest students and researchers in the field. Practitionners motivated by applications will find valuable tools to help them designing their experiments. The first three chapters expose the connections between the asymptotic properties of estimators in parametric models and experimental

design, with more emphasis than usual on some particular aspects like the estimation of a nonlinear function of the model parameters, models with heteroscedastic errors, etc. Classical optimality criteria based on those asymptotic properties are then presented thoroughly in a special chapter. Three chapters are dedicated to specific issues raised by nonlinear models. The construction of design criteria derived from non-asymptotic considerations (small-sample situation) is detailed. The connection between design and identifiability/estimability issues is investigated. Several approaches are presented to face the problem caused by the dependence of an optimal design on the value of the parameters to be estimated. A survey of algorithmic methods for the construction of optimal designs is provided.