Spatio-temporal Design: Advances in Efficient Data Acquisition
Jorge Mateu (Editor), Werner G. Müller (Editor)

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DESCRIPTION

A state-of-the-art presentation of optimum spatio-temporal sampling design - bridging classic ideas with modern statistical modeling concepts and the latest computational methods.

Spatio-temporal Design presents a comprehensive state-of-the-art presentation combining both classical and modern treatments of network design and planning for spatial and spatio-temporal data acquisition. A common problem set is interwoven throughout the chapters, providing various perspectives to illustrate a complete insight to the problem at hand.

Motivated by the high demand for statistical analysis of data that takes spatial and spatio-temporal information into account, this book incorporates ideas from the areas of time series, spatial statistics and stochastic processes, and combines them to discuss optimum spatio-temporal sampling design.

Spatio-temporal Design: Advances in Efficient Data Acquisition:

• Provides an up-to-date account of how to collect space-time data for monitoring, with a focus on statistical aspects and the latest computational methods

• Discusses basic methods and distinguishes between design and model-based approaches to collecting space-time data.

• Features model-based frequentist design for univariate and multivariate geostatistics, and second-phase spatial sampling.
• Integrates common data examples and case studies throughout the book in order to demonstrate the different approaches and their integration.

• Includes real data sets, data generating mechanisms and simulation scenarios.

• Accompanied by a supporting website featuring R code.

_Spatio-temporal Design_ presents an excellent book for graduate level students as well as a valuable reference for researchers and practitioners in the fields of applied mathematics, engineering, and the environmental and health sciences.

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