1. Record Nr.   UNINA9910483554403321

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Titolo   MATLABÂ® recipes for earth sciences / / Martin H. Trauth

Pubbl/distr/stampa   Cham, Switzerland : , : Springer, , [2021]
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ISBN   3-030-38441-1

Edizione   [Fifth edition.]

Descrizione fisica   1 online resource (XII, 517 p. 142 illus., 122 illus. in color.)

Collana   Springer textbooks in earth sciences, geography and environment

Disciplina   550.151

Soggetti   Earth sciences - Mathematics
Earth sciences - Data processing

Lingua di pubblicazione   Inglese

Formato   Materiale a stampa

Livello bibliografico   Monografia

Nota di contenuto   Data Analysis in Earth Sciences -- Introduction to MATLAB -- Univariate Statistics -- Bivariate Statistics -- Time-Series Analysis -- Signal Processing -- Spatial Data -- Image Processing -- Multivariate Statistics -- Statistics on Directional Data.

Sommario/riassunto   MATLAB® is used in a wide range of geoscientific applications, e.g. for image processing in remote sensing, for creating and processing digital elevation models, and for analyzing time series. This book introduces readers to MATLAB-based data analysis methods used in the geosciences, including basic statistics for univariate, bivariate and multivariate datasets, time-series analysis, signal processing, the analysis of spatial and directional data, and image analysis. The revised and updated Fifth Edition includes seven new sections, and the majority of the chapters have been rewritten and significantly expanded. New sections include error analysis, the problem of classical linear regression of log-transformed data, aligning stratigraphic sequences, the Normalized Difference Vegetation Index, Aitchison's log-ratio transformation, graphical representation of spherical data, and statistics of spherical data. The book also includes numerous examples demonstrating how MATLAB can be used on datasets from the earth sciences. The supplementary electronic material (available online through SpringerLink) contains recipes that include all the MATLAB commands featured in the book and the sample data.