1. Record Nr. UNINA9910830625803321

Titolo	Sensitivity analysis in practice [[electronic resource]] : a guide to assessing scientific models / / Andrea Saltelli ... [et al.]
Pubbl/distr/stampa	Hoboken, NJ, : Wiley, c2004
ISBN	1-280-53978-X 9786610539789 0-470-87094-X 0-470-87095-8
Descrizione fisica	1 online resource (233 p.)
Altri autori (Persone)	SaltelliA <1953-> (Andrea)
Disciplina	003/.5 511.8
Soggetti	Sensitivity theory (Mathematics) - Simulation methods
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references (p. [211]-216) and index.
Nota di contenuto	SENSITIVITY ANALYSIS IN PRACTICE; CONTENTS; PREFACE; 1 A WORKED EXAMPLE; 1.1 A simple model; 1.2 Modulus version of the simple model; 1.3 Six-factor version of the simple model; 1.4 The simple model 'by groups'; 1.5 The (less) simple correlated-input model; 1.6 Conclusions; 2 GLOBAL SENSITIVITY ANALYSIS FOR IMPORTANCE ASSESSMENT; 2.1 Examples at a glance; 2.2 What is sensitivity analysis?; 2.3 Properties of an ideal sensitivity analysis method; 2.4 Defensible settings for sensitivity analysis; 2.5 Caveats; 3 TEST CASES; 3.1 The jumping man. Applying variance-based methods 3.2 Handling the risk of a financial portfolio: the problem of hedging. Applying Monte Carlo filtering and variance-based methods3.3 A model of fish population dynamics. Applying the method of Morris; 3.4 The Level E model. Radionuclide migration in the geosphere. Applying variance-based methods and Monte Carlo filtering; 3.5 Two spheres. Applying variance based methods in estimation/calibration problems; 3.6 A chemical experiment. Applying variance based methods in estimation/calibration problems; 3.7 An analytical example. Applying the method of Morris; 4 THE SCREENING EXERCISE 4.1 Introduction4.2 The method of Morris; 4.3 Implementing the

Sommario/riassunto

Sensitivity analysis should be considered a pre-requisite for statistical model building in any scientific discipline where modelling takes place. For a non-expert, choosing the method of analysis for their model is complex, and depends on a number of factors. This book guides the non-expert through their problem in order to enable them to choose and apply the most appropriate method. It offers a review of the state-of-the-art in sensitivity analysis, and is suitable for a wide range of practitioners. It is focussed on the use of SIMLAB - a widely distributed freely-available sensitivity anal