

Saltelli, Andrea (ed.); Chan, Karen (ed.); Scott, E. Marian (ed.)

Sensitivity analysis. (English) Zbl 0961.62091

Wiley Series in Probability and Statistics. Chichester: Wiley. xv, 475 p. (2000).

According to the definition given in the book, sensitivity analysis (SA) studies the relationships between information flowing in and out of the model. The book presents many different sensitivity analysis methodologies and demonstrates their usefulness in scientific research.

The handbook contains 22 chapters written by 25 contributors from 10 countries and is divided into four sections. In the first section, a general introduction and overview is given (Chapters 1 and 2). The second section includes chapters devoted to the methods: design of experiments, screening methods, local sensitivity, sampling-based methods, reliability algorithms, variance-based methods, Bayesian SA, graphical methods, etc. (Chapters 3-11). The next section introduces a series of applications from a wide variety of applied sciences, including geology, chemistry, physics, economics and policy-making (Chapters 12-20). The last section of the handbook (Chapters 21 and 22) gives a more general view of SA and the activity of modelling. A brief description of some SA software and their capabilities is provided in the Appendix.

Reviewer: [Jaroslaw Bartoszewicz \(Wrocław\)](#)

MSC:

62Pxx Applications of statistics

62-00 General reference works (handbooks, dictionaries, bibliographies, etc.) pertaining to statistics

93B35 Sensitivity (robustness)

00B15 Collections of articles of miscellaneous specific interest

Cited in 1 Review
Cited in 124 Documents

Keywords:

Sensitivity analysis; robustness; modelling; ANOVA; stability; Bayesian analysis; uncertainty; sensitivity