

Ritz, Christian; Streibig, Jens Carl

Nonlinear regression with R. (English) [Zbl 1245.62084](#)

Use R!. New York, NY: Springer (ISBN 978-0-387-09615-5/pbk; 978-0-387-09616-2/ebook). xi, 144 p. (2008).

Publisher's description: R is a rapidly evolving lingua franca of graphical displays and statistical analysis of experiments from the applied sciences. Currently, R offers a wide range of functionality for nonlinear regression analysis, but the relevant functions, packages and documentation are scattered across the R environment. This book provides a coherent and unified treatment of nonlinear regression with R by means of examples from a diversity of applied sciences such as biology, chemistry, engineering, medicine, and toxicology.

The book begins with an introduction on how to fit nonlinear regression models in R. Subsequent chapters explain in more depth the salient features of the fitting function `nls()`, the use of model diagnostics, the remedies for various model departures, and how to do hypothesis testing. In the final chapter grouped-data structures, including an example of a nonlinear mixed-effects regression model, are considered.

MSC:

[62J02](#) General nonlinear regression

[62-04](#) Software, source code, etc. for problems pertaining to statistics

[62-01](#) Introductory exposition (textbooks, tutorial papers, etc.) pertaining to statistics

[97K80](#) Applied statistics (educational aspects)

Cited in **3** Documents

Software:

[NISTnls](#); [R](#); [drc](#); [nls2](#); [alr3](#); [NRAIA](#); [nlrwr](#); [nlstools](#); [car](#); [nlme](#); [sandwich](#); [lmtest](#); [HydroMe](#); [MASS \(R\)](#)

Full Text: [DOI](#)