

Zeitschrift: Elemente der Mathematik
Herausgeber: Schweizerische Mathematische Gesellschaft
Band: 71 (2016)
Heft: 2

Buchbesprechung: Rezensionen

Autor: Liebling, T.M.

Nutzungsbedingungen

Die ETH-Bibliothek ist die Anbieterin der digitalisierten Zeitschriften auf E-Periodica. Sie besitzt keine Urheberrechte an den Zeitschriften und ist nicht verantwortlich für deren Inhalte. Die Rechte liegen in der Regel bei den Herausgebern beziehungsweise den externen Rechteinhabern. Das Veröffentlichen von Bildern in Print- und Online-Publikationen sowie auf Social Media-Kanälen oder Webseiten ist nur mit vorheriger Genehmigung der Rechteinhaber erlaubt. [Mehr erfahren](#)

Conditions d'utilisation

L'ETH Library est le fournisseur des revues numérisées. Elle ne détient aucun droit d'auteur sur les revues et n'est pas responsable de leur contenu. En règle générale, les droits sont détenus par les éditeurs ou les détenteurs de droits externes. La reproduction d'images dans des publications imprimées ou en ligne ainsi que sur des canaux de médias sociaux ou des sites web n'est autorisée qu'avec l'accord préalable des détenteurs des droits. [En savoir plus](#)

Terms of use

The ETH Library is the provider of the digitised journals. It does not own any copyrights to the journals and is not responsible for their content. The rights usually lie with the publishers or the external rights holders. Publishing images in print and online publications, as well as on social media channels or websites, is only permitted with the prior consent of the rights holders. [Find out more](#)

Download PDF: 09.12.2025

ETH-Bibliothek Zürich, E-Periodica, <https://www.e-periodica.ch>

Rezensionen

M. Bierlaire: Optimization. Principles and Algorithms. 736 Seiten, CHF 90.–. EPFL Press, Lausanne, 2015; ISBN 978-294022278-0.

Every engineer and decision scientist must have a good mastery of optimization, an essential element in their toolkit. Thus, this articulate introductory textbook will certainly be welcomed by students and practicing professionals alike. Drawing from his vast teaching experience, the author skillfully leads the reader through a rich choice of topics in a coherent, fluid and tasteful blend of models and methods anchored on the underlying mathematical notions. The only prerequisites are first year calculus and linear algebra.

Topics range from the classics to some of the most recent developments in smooth unconstrained and constrained optimization, like descent methods, conjugate gradients, Newton and quasi-Newton methods, linear programming and the simplex method, trust region and interior point methods. Furthermore elements of discrete and combinatorial optimization like network optimization, integer programming and heuristic local search methods are also presented. This book presents optimization as a modeling tool that – beyond supporting problem formulation plus design and implementation of efficient algorithms – also is a language suited for interdisciplinary human interaction. Readers further become aware that while the roots of mathematical optimization go back to the work of giants like Newton, Lagrange, Cauchy, Euler or Gauss, it did not become a discipline on its own until World War II. Also that its present momentum really resulted from its symbiosis with modern computers, which made it possible to routinely solve problems with millions of variables and constraints.

With his witty, entertaining, yet precise style, Michel Bierlaire captivates his readers and awakens their desire to try out the presented material in a creative mode. One of the outstanding assets of this book is the unified, clear and concise rendering of the various algorithms, which makes them easily readable and translatable into any high level programming language. This is an addictive book that I am very pleased to recommend.

T.M. Liebling, Lausanne