

ZMATH 2016d.00896

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Numerics 3×9 . Three topics in nine short chapters respectively. (Numerik 3×9 . Drei Themengebiete in jeweils neun kurzen Kapiteln.)

Springer-Lehrbuch. Heidelberg: Springer Spektrum (ISBN 978-3-662-48202-5/pbk; 978-3-662-48203-2/ebook). xiii, 380 p. (2016).

The multiplication “ 3×9 ” in the book’s title is not a reference to the content but indicates its subdivision into the three parts: indent=6mm

- Part I: Numerical linear algebra (71 pages),
- Part II: Numerical analysis (86 pages),
- Part III: Numerics of ordinary differential equations (84 pages), each of them subdivided into nine short chapters. The next 90 pages contain a wide collection of exercises for each chapter. The last four chapters of the book are entitled indent=6mm
- Chapter 31: Results from linear algebra, (4 pages)
- Chapter 32: Results from analysis (4 pages),
- Chapter 33: An introduction to \mathbb{C} (7 pages),
- Chapter 34: An introduction to Matlab (17 pages). The organization of the book corresponds to courses given by the author at the universities of Bonn and Freiburg (Germany). The material of each chapter is adequate for a ninety minutes lecture and hence the book can serve as the basis of a one semester course introducing basic topics of numerical analysis. The numerical methods are not presented in their most general form and the interested reader should consult more specialized literature. In correspondence to the didactic aim of the book, each chapter is concluded by a section entitled “Aims of the chapter, quiz and an application”.

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Classification: N15

Keywords: numerical linear algebra; numerical analysis; numerical ODEs; introduction to \mathbb{C} ; introduction to Matlab; collection of exercises

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