was also made in my copy of the book: the binding was attached upside-down!

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4[34-00, 35-00].—DANIEL ZWILLINGER, *Handbook of Differential Equations*, 2nd ed., Academic Press, Boston, 1992, xx + 787 pp., $23\frac{1}{2}$ cm. Price $54.95.

The first edition of this book was published in 1989 and has been reviewed in [1]. That a second edition is appearing just three years after the first attests to the success of, and continued demand for, the book.

The principal changes made by the author are as follows. In Part I, dealing with basic concepts and transformations, new paragraphs have been added on chaos in dynamical systems, existence and uniqueness theorems in ODEs and PDEs, inverse problems, normal form of ODEs, and stability theorems for ODEs. Prüfer and modified Prüfer transformations, which originally appeared in Parts II and III, respectively, have been moved to Part I. Part II on exact methods has a new paragraph on exact first-order PDEs. The most extensive changes occur in Part IV, dealing with numerical methods, where one finds a reworked paragraph on available software, a long new paragraph on software classification, including excerpts from the GAMS manual, and new sections on finite difference methodology, grid generation, stability concepts in numerical ODEs, multigrid methods, parallel computer methods, and lattice gas dynamics (particle methods). In addition, many minor improvements have been made throughout the book: new examples, additional notes, and updated bibliographies. All in all, the text has expanded from the original 635 pages to 760 pages.

It should be clear from this brief review that the new edition of this reference work continues to be a useful aid to scientists and engineers and will be indispensable to anybody who needs to solve differential equations.

W. G.

1. W. F. Ames, Review 1, Math. Comp. **54** (1990), 479–480.

5[65-06, 65Y05, 68-06].—JACK DONGARRA, PAUL MESSINA, DANNY C. SOREN-SEN & ROBERT G. VOIGT (Editors), *Parallel Processing for Scientific Computing*, SIAM, Philadelphia, PA, 1990, 454 pp., $25\frac{1}{2}$ cm. Price: Softcover $49.50.

This collection of 83 papers and short abstracts from the 1989 SIAM Conference on Parallel and Scientific Computing covers five areas: matrix computations, numerical methods, differential equations, massive parallelism, and performance and tools. Papers range from theoretical studies to performance evaluation to descriptions of software systems. Many of the major researchers in these fields are represented, and these papers give a good overview of research in this fast-changing area as of 1989. Many of the topics are still current, and