editors to support programming in FORTRAN D and HPF. The second part deals with libraries and languages to support various existing parallel programming models and some activities in parallel numerical software. It includes papers on message passing interface (MPI), varied communication models, migratable, exportable and multi-threaded versions of PVM for homogeneous and heterogeneous network-based computing, the C^{++} version of HPF pC^{++}, and a new C^{++} based language that allows parallel programming models to be implemented as libraries. The third and fourth parts of the book present environments that attempt to support various parallel programming paradigms and integrate compiling, debugging and tracing, performance evaluation, and visualization tools at various levels. It includes papers on various parallel environments such as CODE 2.0 (task/dependence), LHPC (distributed shared memory), τ (TAU:pC^{++}), PPPE (MPI and HPF), PARADYN (PVM), ParaGraph and CAPSE (message passing), EPPP (HPC), TOPSYS (Munich multitasking kernel), and IMPOV. The book will be useful to students and researchers working in the field of high performance computing.

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17[68-01, 65-01]—*Solving Problems in Scientific Computing Using MAPLE and MATLAB*, by Walter Gander and Jiří Hřebíček, Springer, Berlin, 1993, xiv+268 pp., $23\frac{1}{2}$ cm, softcover, $39.00

This text presents the solution to several interesting scientific computation problems via the use of either one of the computer languages of MAPLE or MATLAB. The solution to these problems would be difficult and time-consuming without the use of MAPLE or MATLAB. On the other hand, the authors make effective use of these powerful languages, enabling their solutions to these nontrivial problems presentable in a classroom setting.

The authors intend the book as a text for students in scientific computing. It is not a text for learning MAPLE or MATLAB; rather, the authors assume that the reader is familiar with these languages.

The text had several contributors, from three university sources:

The Department of Theoretical Physics and Astrophysics of Masaryk University, Brno, Chech Republic;

The Institute of Physics of the University of Agriculture and Forestry, Brno, Chech Republic; and

The Institute of Scientific Computing, ETH, Zürich, Switzerland.

The following people, listed with reference to the Universities as cited above, contributed solutions to problems in this text:

Stanislav Barton (Brno), Joroslav Buchar (Brno), Ivan Daler (Brno), Walter Gander (ETH), Dominik Gruntz (ETH), Jürgen Halin (ETH), Jirí Hřebíček (Brno), František Klvaňa (Brno), Urs von Matt (ETH), and Jörg Waldvogel (ETH).

The text consists of 19 chapters, with each chapter presenting a different problem, and with the following titles providing reasonably informative descriptions of the contents:

1. The Tractrix and Similar Curves;
2. Trajectory of a Spinning Tennis Ball;

3. The Illumination Problem;
4. Orbits in the Planar Three-Body Problem;
5. The Internal Field in Semiconductors;
6. Some Least Squares Problems;
7. The Generalized Billiard Problem;
8. Mirror Curves;
9. Smoothing Filters;
10. The Radar Problem;
11. Conformal Mapping of a Circle;
12. The Spinning Top;
13. The Calibration Problem;
14. Heat Flow Problems;
15. The Penetration of a Long Rod into a Semi-infinite Target;
16. Heat Capacity of a System of Bose Particles;
17. Compression of a Metal Disc;
18. Gauss Quadrature; and
19. Symbolic Computation of Explicit Runge-Kutta Formulas.

The presentation is unique, and extremely interesting. I was thrilled to read this text, and to learn the powerful problem-solving skills presented by these authors. I recommend the text highly, as a learning experience, not only to engineering students, but also to anyone interested in computation.

F. S.

18[68-01, 68Q40]—*Maple* V *by example*, by Martha L. Abell and James P. Braselton, AP Professional, Boston, MA, 1994, xii+500 pp., 23 cm, softcover, $39.95

This book appears to be aimed at first-year undergraduate students who are not specializing in either mathematics or computer science but are using mathematics and computers purely as tools, and are trying to use Maple for the first time. It presents computational models for a range of standard elementary mathematical tasks to which Maple can be applied. It is analogous to a book of recipes rather than a book about cookery, and whilst it presents the mathematical background to some topics, it discusses hardly any of the programming background.

After a general introduction, the book has chapters discussing the following topics: basic arithmetic and algebra; calculus; sets, lists and tables; matrices and vectors; more on linear algebra; a long and rather laboured chapter on differential equations; and finally a chapter showing the obligatory plots of weird shapes in three dimensions. The book has a detailed index—so detailed that it indexes two occurrences of ellipsis, neither of which refers to its Maple significance. At the back of the book is a gratuitous tear-out "Quick Reference" card that reminds the reader that, among other things, "+" is a "frequently used abbreviation" for addition, and briefly illustrates 23 elementary Maple commands in the general areas of calculus, linear algebra and graphics.

Students, especially the less academic, seem to like copious explicit examples, and that requirement is certainly met by this book. However, students tend to believe what is printed in textbooks in preference to what their lecturers write or say in class. Hence, authors of student textbooks have a considerable responsibility to get it right. Unfortunately, the authors of this book have not got it right, be-