SHORT NOTICES

Geodynamics. By D. L. Turcotte & G. Schubert. Cambridge University Press, 2002. 456 pp. ISBN 0-521-66624-4. £29.95.

J. Fluid Mech. (2003), *vol.* 477. DOI: 10.1017/S0022112002223708

This is the second edition of the classic 1982 textbook on simple applications of continuum mechanics and thermodynamics to geophysics and, in particular, to plate tectonics and crustal processes. Now in paperback, this edition contains a number of short new subsections dealing with topics such as mantle plumes, erosion and mantle mixing. The survey of other planetary bodies has been updated with the results from recent space missions. The major addition is a concluding chapter on 'chemical geodynamics' which presents the geochemists' world-view of interacting isotopic reservoirs. This is complementary to the physical modelling in the rest of the book. Like the first edition, this book will be of most use as an introduction to simple quantitative modelling for geology students or as an overview of geodynamic processes for physics and mathematics students.

Fluid Mechanics. By P. K. Kundu & I. M. Cohen. Academic, 2002. 730 pp. ISBN 0-12-178251-4. $69.95.

J. Fluid Mech. (2003), *vol.* 477. DOI: 10.1017/S0022112002233704

This is the second edition of the textbook by Kundu originally reviewed in JFM vol. 244 (1992). The revision by Cohen adds additional material to most chapters, and a brand new chapter on Computational Fluid Dynamics has been provided by H. H. Hu. In total, the length of the book has been increased by 15%, but it is still intended for undergraduate and graduate students.

Interfaces for the 21st Century. Edited by M. K. Smith, M. J. Miksis, G. B. McFadden, G. P. Neitzel & D. R. Canright. Imperial College Press, 2002. 317 pp. ISBN 1-86094-319-5. £42.

J. Fluid Mech. (2003), *vol.* 477. DOI: 10.1017/S0022112002243700

This volume, subtitled 'New Research Directions in Fluid Mechanics and Materials Science', is the proceedings of a conference in 1999 dedicated to Professor S. H. Davis on his 60th birthday. It contains 16 invited papers (230 pp.) that discuss problems and methods associated with the motion of interfaces, including solidification, melting and two-phase flow. One-page abstracts (70 pp.) of the poster sessions are also included.

Scattering, Volumes 1 and 2. Edited by R. Pike & P. Sabatier. Academic Press, 2002. 1831 pp. ISBN 0-12-613760-9. $1000.

J. Fluid Mech. (2003), *vol.* 477. DOI: 10.1017/S0022112002253707

This massive two-volume set, subtitled Scattering and Inverse Scattering in Pure and Applied Science, 'endeavors to present a comprehensive work of reference of all the various features of scattering, written by specialists and edited by two of the greatest experts in the field'. More than 100 authors are involved. Scattering topics include acoustics, water waves, inverse transforms as well as electromagnetic waves, elastic waves, black holes and more mathematical topics. There is no uniformity of style

between authors ranging from the highly mathematical to the physical. The clarity of presentation is good and a 24 page index is provided.

Advances in Coastal and Ocean Engineering, Volume 8: Interaction of Strong turbulence with Free Surfaces. Edited by M. Brocchini & D. H. Peregrine. World Scientific, 2002. 145 pp. ISBN 981-02-4952-7. £29.

J. Fluid Mech. (2003), *vol.* 477. DOI: 10.1017/S0022112002263703

This volume arises out of a Euromech Colloquium in September 2000. There are four papers. Two (by the guest editors reprinted from JFM, volume 449) are on strong turbulence at free surfaces. The other two are by T. Steinbach, X. Liu & J. H. Duncan on the cross-stream crest profile of gentle spilling breakers and by H. Chanson on free-surface aeration.

Mathematical Fluid Mechanics. Edited by J. Neustupa & P. Penel. Birkhauser, 2000. 269 pp. ISBN 3-7643-6593-5. SFr 118 or DM 156 or EUR 78.

J. Fluid Mech. (2003), *vol.* 477. DOI: 10.1017/S002211200227370X

Originating from a conference held in Marseille in March 2000, the book contains 10 papers by different authors describing recent mathematical progress in numerical schemes for computation and issues of existence and stability of solutions for the Navier–Stokes equations.

Turbulent Flow Computation. Edited by D. Drikakis & B. J. Geurts. Kluwer, 2002. 369 pp. ISBN 1-4020-0523-7. £61 or US$87 or EUR 100.

J. Fluid Mech. (2003), *vol.* 477. DOI: 10.1017/S0022112002283706

Intended to constitute an advanced textbook for PhD candidates in the field of turbulent flow computation, this contains ten multiauthored chapters, each separate from the others. There is no uniformity of notation and no index.