magnitude estimates, and a mathematical framework.

A brief summary might alert the reader to the book's contents: The first three, introductory, chapters are followed by the basic theory of single-point statistics arising from the equations of motion (chapter 4) and examples of classical engineering flows (chapter 5). Chapter 6 is a description of spectral (and multipoint) analysis, and chapter 7 deals with Andrei Nikolaevich Kolmogorov's ideas (in both 1941 and 1962). The book ends with a description in chapter 8 of numerical simulation of turbulent flows; direct numerical simulations, large eddy simulations, and engineering closure schemes are described briefly. The material is more or less standard for a course taught in a US engineering science department to students with a moderate background in fluid dynamics.

The character of a book is determined at least partly by the care with which the material is presented, and this one amply demonstrates the care that the authors have invested. For instance, their treatment, in chapter 3, of length and time scales is lively and refreshing, and their description of the physics of shear flows, without much use of mathematical equations, though somewhat longish, makes rewarding reading. The authors have succeeded in the task they set out to do, and I recommend the book to all students of turbulence, no matter what their persuasion. Patient students who work their way through the authors' arguments will be rewarded by an improved intuition for the subject.

What, then, are its shortcomings? One could say that some details of the analysis of the turbulent boundary layers are slightly unconventional (and the appendix A to chapter 5 is hard to penetrate); the references are sometimes idiosyncratic and incomplete; the book avoids mention of such controversies as logarithmic versus power laws in the intermediate layer of the boundary layer and the existence or otherwise of power laws in the inertial range; and so forth. These issues and more modern developments will perhaps receive their due share of attention in the second volume the authors have promised. And, for a book aimed essentially at students, it would have been better had it included some exercises on which students could test their understanding and mastery.

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Handbook of Medical Imaging. Volumes 1–3

Volume 1: Physics and Psychophysics
Edited by Jacob Beutel, Harold L. Kundel, and Richard L. Van Metter
$110.00 (949 pp.).
ISBN 0-8194-3621-6

Volume 2: Medical Image Processing and Analysis
Edited by Milan Sonka and J. Michael Fitzpatrick
$130.00 (1218 pp.).
ISBN 0-8194-3622-4

Volume 3: Display and PACS
Edited by Yongmin Kim and Steven C. Horii
$110.00 (512 pp.).
ISBN 0-8194-3623-2

SPIE, Bellingham, Wash., 2000.
$315.00 set (2679 pp.).
Set no. PM81Z

Handbook of Medical Imaging, published by SPIE (The International Society for Optical Engineering) Press, is a three-volume edited reference providing a comprehensive overview of the theory and current practice of medical imaging.

Volume 1: Physics and Psychophysics, edited by Jacob Beutel, Harold L. Kundel, and Richard L. Van Metter, contains 20 chapters. Part I consists of 8 chapters devoted to the physics principles of medical imaging, and Part II covers psychophysics. *Volume 2: Medical Image Processing and Analysis*, edited by Milan Sonka and J. Michael Fitzpatrick, contains 19 chapters presenting the ideas and the methods of image processing and analysis that are at work in the field of medical imaging. *Volume 3: Display and PACS*, edited by Yongmin Kim and Steven C. Horii contains 13 chapters, with the first 7 on image display technology and the rest on PACS (Picture Archiving and Communication Systems).

These three volumes are probably one of the most comprehensive collections of topics in medical imaging available today, both in theory and practice. Each chapter is written by researchers in medical imaging who have participated frequently in the annual SPIE conference in medical imaging in southern California; for this reason, the chapters reflect the respective authors' accumulated knowledge, gained through years of interaction with colleagues in their field of expertise. Each chapter in these three volumes is self-contained and can be understood without referring to other chapters. The volumes can be used as a reference for the professional or as a textbook in medical imaging.

For educational purposes, chapters can be selected to form senior or graduate courses; the prerequisite would be a one-year course in image processing. The instructor can select different chapters according to the medical imaging curriculum and supplement with outside readings based on references given in the chapter. In addition, the instructor may want to formulate problem sets and experiments to augment the class lectures. The descriptions in each chapter of problems remaining to be solved could provide excellent ideas for dissertation research.

Medical imaging is physics, engineering, technology, and human acceptance and interaction. Although physics principles are the driving force in medical imaging, the roles of engineering and technology evolve through time and are dictated by user requirements and demand. The readers are cautioned that today's prevailing medical imaging technology may render itself obsolete in a very short time, because of technological advancement, human, and social factors. Medical imaging is not just the practice of science, but also the practice of art.

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Shoemaker by Levy: The Man Who Made an Impact

David H. Levy
Princeton U. Press, Princeton, N.J., 2000. $27.95 (303 pp.).
ISBN 0-691-00225-8

David H. Levy's *Shoemaker by Levy* is a love story. It is the story of Eugene M. "Gene" Shoemaker's love of geology, the story of the loving relationship between Gene and his remarkable wife, Carolyn, and it is the story of Carolyn's midlife discovery of a passion for comet and asteroid hunting alongside her husband and scientific colleague, Gene.

Levy is an astronomer well known for his comet discoveries. He met Gene and Carolyn in 1988, and developed a unique friendship and collaboration with them. The trio's mutual interest and complementary experience in comet observing quickly melded them into an observing team.

This is a book for anyone interested in modern planetary sciences, in the progression and expansion of classical