

Abridged Book Reviews

Frank W. Schmidt, Editor-in-Chief

Principles of Enhanced Heat Transfer

Ralph L. Webb

John Wiley Inner Science, 556 pp., \$84.95

Since 1960 there has been a great interest in the augmentation of heat transfer processes. Workers in both the academic and industrial fields shared this interest, and as a result between 100 to 200 papers were published annually on these topics. Although most of these were authored by members of the academic and research communities, the interest from industry was demonstrated by the fact that approximately 15 patents were issued each year dealing with heat transfer augmentation or enhancement. Consequently, a tremendous amount of information has been produced, but in a noncoherent fashion.

The author's objective was to summarize the activities in the enhancement of heat transfer in an organized manner and to define the current understanding of the mechanism by which the enhancement takes place. He has done well in fulfilling these objectives.

The first two chapters deal with the introduction to enhancement and basic heat transfer principles. This is followed by a discussion of performance

evaluations of single and two-phase flows. The use of plate and fin extended surfaces, fin on internal and external surfaces and devices inserted into tubes are discussed. Next a discussion of the influence of roughness and fouling on heat transfer is presented. Enhancement in two-phase flows involving pool and forced convection boiling is followed by a discussion of space and convective condensation. The book concludes with a discussion of the use of electric fields and additives as well as the influence of simultaneous heat and mass transfer on enhanced heat transfer.

This book will be of value to the industrial community in their quest for ways to improve the design and manufacture of heat transfer equipment. The research community will also profit from the material presented because it clearly demonstrates that there is much basic research work yet to be done in order to improve the understanding and predictive ability of enhancement techniques.

Heat Transfer

A. Bejan

John Wiley & Sons, 675 pp., \$75.95

This book was written as a textbook for a first course in heat transfer and, of course, can also serve as a reference for

practicing engineers who wish to gain knowledge of the basic principles of heat transfer. Throughout the book, an effort has been made to relate heat transfer to thermodynamics and fluid mechanics. The material is presented in such a way as to emphasize how one designs heat transfer apparatuses. In addition to describing the conventional problems, numerous chapters have described special projects that are more challenging and emphasize the use of the theory presented in the design of the actual devices. This book is a welcomed addition to the existing heat transfer textbooks available.

Thermofluids

C. Marquand and D. Croft

John Wiley & Sons, 403 pp., \$39.95 (paperback)

This is an elementary text in which the authors present an integrated approach to the study of thermodynamics and fluid mechanics suitable for students in all branches of engineering. A set of problems with answers can be found at the end of the book. Although there are numerous examples used in the text of the book, the attractiveness of the book for instructional purposes is diminished by the fact that there is a rather limited number of problems given, on the average of ten per chapter.

CALENDAR

Heat transfer '94—Advanced computational methods in heat transfer

22–24 August 1994
Southampton, UK

Jane Evans, Conference Secretariat, HEAT TRANSFER '94, Wessex Institute of Technology, Ashurst Lodge, Ashurst, Southampton SO4 2AA, UK

Second international workshop on boundary element methods in fluid dynamics

25–26 August 1994
Southampton, UK

Jane Evans, Wessex Institute of Technology, Ashurst Lodge, Ashurst, Southampton, SO4 2AA, UK

CFCs, The day after

21–23 September 1994
Padova, Italy

Organizing Committee, IIR-AICARR Conference, c/o AICARR, Viale Monte Grappa, 2, I-20124 Milano MI, Italy

EWEC '94—European wind energy association conference and exhibition

10–14 October 1994
Thessaloniki, Greece

Secretariat of the Organizing Committee, EWEC '94, 19th km Marathonos Ave., 190 09 Pikermi Attica, Greece

9th International conference on numerical methods in laminar and turbulent flow

10–14 July 1995
Atlanta, GA, USA

Prof. C. Taylor, Dept. of Civil Engineering, University of Wales, Swansea, Singleton Park, Swansea SA2 8PP, UK

9th International conference on numerical methods for thermal problems

17–21 July 1995
Atlanta, GA, USA

Prof. R. W. Lewis, Institute of Numerical Methods in Engineering, University of Wales, Swansea, Singleton Park, Swansea SA2 8PP, UK

Fourth symposium on experimental and numerical flow visualization

13–18 August 1995
Hilton Head, SC, USA

Dr. Bahram Khalighi, Engine Research Dept., GM Research & Development, Warren, MI 48090-9055, USA. Deadline for receiving abstracts: August 31, 1994

Tenth symposium on turbulent shear flows

14–16 August 1995
University Park, PA, USA

Prof. F. W. Schmidt, Secretary, Turbulent Shear Flows, Dept. of Mechanical Engineering, Pennsylvania State University, University Park, PA 16802, USA

MCWASP VII—7th International conference on the modelling of casting, welding and advanced solidification processes

10–15 September 1995
London, UK

Prof. Mark Cross, Centre for Numerical Modelling and Process Analysis, University of Greenwich, Wellington St., London SE18 6PF, UK. Deadline for receiving abstracts: September 1, 1994