

disturbance. The mechanism for this case is not important from the practical viewpoint of enhancing the flat plate heat transfer. However, to obtain a more general understanding of the control of turbulent heat transfer from the plate, a more detailed experimental study of the flow and turbulence fields for this case is desired.

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BOOK REVIEW

Thermal Sciences 16, Volumes 1 and 2 Proceedings of the 16th Southeastern Seminar

Ed. T. N. Veziroglu

Since its inception in 1965, the Southeastern Seminar on Thermal Sciences has experienced a steady increase in growth and popularity. Attesting to its current national and international reputation, the 16th seminar was attended by researchers from 36 nations, with more than one half of the participants coming from countries outside of the United States. The seminar was held in April 1982, and 71 papers were included in the proceedings.

Following a keynote paper which addresses opportunities in applied heat transfer research, the papers are divided into 17 subject areas which encompass a broad range of research activities. In Volume 1 specific areas include thermophysical properties (4 papers), measurement techniques (6 papers), turbulence (4 papers), forced convection (8 papers), natural convection (4 papers), radiation/convection (4 papers), heat transfer analysis (2 papers), and melting and solidification (4 papers). With the exception of the first two areas and the last area, most of the papers deal with theoretical (numerical) studies of extensions to classical problems, such as flows involving flat plates, spheres, concentric cylinders, parallel plates, and porous media. The section on measurement techniques includes several interesting papers on specialized topics such as temperature measurement during the casting of molten metals and flowrate measurements in multiphase systems.

The largest topical concentration appears in the first two sections of Volume 2, which deal with two-phase flows and heat transfer (6 papers) and two-phase instabilities (5 papers). There is a good blend of

experimental and theoretical work, and several of the papers are of high quality. Sections on mass transport (2 papers) and combustion (6 papers) cover a broad range of highly diverse topics. The remaining sections deal with energy systems and include solar energy collection and storage (6 papers), solar energy applications (3 papers), cooling and dehumidifying (3 papers), thermal curing (2 papers), and hybrid energy systems (2 papers). Most of these papers involve models of overall system behavior and generally involve subject matter which is well covered in the existing literature.

The principal deficiency of the volumes relates to their lack of a central focus. Many different topics are covered and, even with the same section, there is often little cohesion between the included papers. In this age of specialization, it would therefore be difficult to recommend purchase by an individual. However, the volumes have a significant number of good papers, which should be accessible to individuals through institutional libraries.

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Published price \$195.00 by Hemisphere Publishing Corporation, 79 Madison Avenue, New York, NY 10016, USA. Springer-Verlag, Heidelberger Platz 3, Postfach, D-1000 Berlin 33, FRG