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book reviews

STEAM AND AIR TABLES IN SI UNITS, Irvine and Hartnett, Editors, Hemisphere Publishing Corporation, 1025 Vermont Avenue N.W., Washington, D.C.

REVIEWED BY V. KADAMBI[1]

The book is a very valuable addition to the data on steam, air and other vapours, since not much of information is available in English language books, in SI units. The tables are well-presented, clear and easily readable. They will be of immediate use in many universities and to industrialists as well after a period of time, as they gradually switch over to the SI units.

A few modifications that would considerably improve the value of the book are noted belwo:

(i) Only the saturation properties of liquid water and steam have been presented. Though not of extensive use, a short table on the saturation properties of ice and steam in the sublimation region will be helpful, especially to students and research workers.

(ii) In Table 5 which lists steam pressure, temperature, density and other properties, the pressures listed are 1 at, 2 at, . . . , 10 at, and their equivalent values in bars. It appears that the data available from standard Metric tables of property values have just been taken and converted into their equivalents in SI units by using the appropriate multiplication factors. It would be much better to list the required properties at round numbers in SI units (say at 1 bar, 2 bars, . . .)

(iii) A similar set of comments as in (ii), apply to Table 6.

(iv) In Table 11, the properties enthalpy, internal energy and entropy of air at various temperatures have been listed. It would add considerably to the usefulness of the table to list the property values p_r and v_r, as listed in Keenan and Kaye's Gas Tables.

(v) The Mollier diagram provided at the end is a little confusing to the average reader, since only two colours (black and green) have been used in it. Clarity of the figure will be considerably improved if three colours are used.

(vi) It would be helpful to provide a psychrometric chart for the properties of moist air.

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"AEROACOUSTICS: JET AND COMBUSTION NOISE; DUCT ACOUSTICS" AND "AEROACOUSTICS: FAN, STOL, AND BOUNDARY LAYER NOISE; SONIC BOOM; AEROACOUSTICS INSTRUMENTATION," Volumes 37 and 38 of Progress in Aeronautics and Astronautics, Editor: H. T. Nagamatsu, Associate Editors: J. V. O'Keefe and I. R. Schwartz. Published by AIAA in Cooperation with the MIT Press, 1975, 1050 pages.

REVIEWED BY DONALD ROCKWELL[1]

This two volume text stems from the 1973 AIAA Aeroacoustics Specialists Conference, and presents a diversity of papers dealing with aircraft noise. The first volume entitled "Aeroacoustics: Jet and Combustion Noise; Duct Acoustics" treats these topics in three chapters. Jet noise is considered from the basic perspective of unbounded subsonic and supersonic jets to more complex aspects such as hot jet acoustic radiation, noise supression by swirling flow, and jets as acoustic shields. Combustion and core engine noise topics are treated in an equally diverse manner; the reader seeking a timely overview of combustion generated noise will delight in discovering Prof. W. C. Strahle's state of the art summary. Duct acoustics are considered with regard to wave propagation in variable area ducts with and without time mean shear flow and helical flow, among other problems.

The second volume "Aeroacoustics: Fan STOL, and Boundary Layer Noise; Sonic Boom; Aeroacoustics Instrumentation" contains an examination of these topics in five chapters. The variety of these interesting papers precludes detailing their subject matter here.

This reviewer feels that documentation of conference discussions is of great value. It has been done for panel discussions at this conference; documentation of discussion on each paper, difficult as it is, is urged for future undertakings. In summary, the papers of this conference have been effectively edited, and workers will benefit greatly from timeliness of this two volume proceedings.

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