

6. Sparrow E. M. and Albers L. U. Apparent Emissivity and Heat Transfer in a Long Cylindrical Hole, *J. Heat Transfer*, August 1960, 253-255
7. Williams C. S. Discussion of the Theories of Cavity Type Sources of Radiant Energy, *J. Opt. Soc. Am.*, 1961, 51, 564-571
8. Sparrow E. M., Albers L. U. and Eckert E. R. G. Thermal Radiation Characteristics of Cylindrical Enclosures, *J. Heat Transfer*, February 1962, 73-81
9. Treuenfels E. W. Emissivity of Isothermal Cavities, *J. Opt. Soc. Am.*, 1963, 53(10), 1162-1171
10. de Vos J. C. Evaluation of the Quality of a Blackbody, *Physica*, 1954, XX, 669-689
11. Sumpner W. E. The Diffusion of Light, *Proc. Phys. Soc.*, 1892, 12, 10-29
12. Walsh J. W. T. Radiation from a Perfectly Diffusing Circular Disc, *Proc. Phys. Soc.*, 1920, 32, 59-71
13. Bartlett A. C. On Radiation from a Cylindrical Wall *Phil. Mag.*, 1920, 40, 111-113



BOOK REVIEW

Gas Turbine Combustion

A. H. Lefebvre

This book should be compulsory reading for those interested in combustion processes. It is directed particularly at gas-turbine combustion and brings together a wealth of personal knowledge and experience within a framework which is sensible and helpful to the reader. The approach to the various aspects of the subject is a mixture of phenomenological and empirical.

Of the 11 chapters, two describe basic principles of combustors and combustion, two are concerned with the aerodynamic characteristics of the flow in diffusers and combustors, three with the combustion topics of efficiency, stability and injection, one with heat transfer, two with fuels and their injection and one with pollution. Consistent with the author's main interests, approximately half of the book is devoted to the chapters dealing with aerodynamics, heat transfer, fuels and their injection. Since the basis for the book has been provided by a lecture course given and developed at the Cranfield Institute of Technology and elsewhere over a period of years, it is not surprising that the material is based largely on papers and reports which are more than 10 years old. An important exception is the material on emissions which, necessarily, is more recent.

The lack of emphasis on more recent material means that development arising from numerical methods and optical diagnostic techniques tend to be ignored. It can be argued, and the author would probably subscribe to this view, that these developments have so far done little to improve design methods. It is a little odd, nevertheless, to end the chapter on aerodynamics with the advice that the major aerodynamic problem is one of stability, and that the cure may lie in the compressor.

The text is clear and displays an enthusiasm for the subject. As a result, reading is a pleasure and gleaning new information an easy matter. There are few books on combustion and very few which deal with gas-turbine combustion. It is a pleasure to recommend this one to all with an interest in the subject.

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Forthcoming articles

Pool boiling performance of finned surfaces in R-113
N. Abauf, S. H. Black and F. W. Staub

Natural convection in an inclined enclosure containing internal energy sources and cooled from below
S. Acharya

Numerical simulation of transient response of heat transfer from a hot-wire anemometer transducer
K. J. Bullock, M. A. Ledwich and J. C. S. Lai

A technique for obtaining approximate solutions for a class of integral equations which arise in radiative heat transfer
B. C. Choi and S. W. Churchill

Determination of principal characteristics of turbulent swirling flow along annuli - Part 2: Measurement of turbulence components
B. R. Clayton and Y. S. M. Morsi

Effect of blade profile on the performance of the Wells self rectifying airturbine
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Effect of frequency of air flow on the performance of the Wells turbine
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G. Settles

Fundamental sloshing frequencies of stratified two-fluid systems in closed prismatic tanks
Y. L. Sinai

Prediction of turbulent source flow between stationary and rotating discs
C. R. Truman and D. F. Jankowski

These articles, listed in alphabetical order of first-named author, will appear in forthcoming issues of the *International Journal of Heat and Fluid Flow*.