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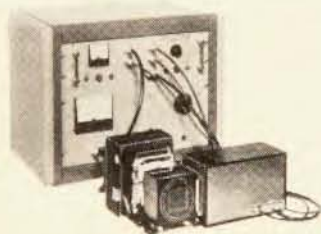
Professor Silvan S. Schweber, of Brandeis University, is preparing a manuscript, *An Introduction to Relativistic Field Theories*, which will be published in the early fall. Basically, this book is a revision of Volume I, *Fields*, of the two-volume set, *Mesons and Fields*.

The most recent formulations of relativistic field theories, particularly Wightman's and LSZ's are being incorporated. A discussion of the analytic properties of scattering amplitudes, a proof of dispersion relations based on the Jost-Lehmann Dyson representation, as well as a proof of the TCP theorem and of the connection between spin and statistics are included.

The foreword to this volume is being written by Professor Hans A. Bethe.

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Proceedings of the Sixth Midwestern Conference on Fluid Mechanics (U. of Texas, Sept. 1959). 465 pp. U. of Texas, Austin, Tex., 1959. \$12.50. *Reviewed by R. E. Street, University of Washington.*

EACH of the papers in the present proceedings is, like those in the previous five volumes, a contribution to theoretical or experimental research in fluid mechanics, except for the first one, which is an invited summary of recent progress in rarefied gas dynamics research. The thirty papers cover so many different aspects of fluid flow that the reader will probably not read more than the few in which he is specifically interested. In this sense the book is more like a bound volume of a journal and its purpose is the same, but with one difference, to provide in a considerably quicker form the papers read at a meeting held just a few months previous to publication instead of delaying their appearance for a year or more which would be the case if they were submitted to the standard journals in the field.

Although this procedure may not lead to as rigid editorial standards, screening of papers submitted to the conference has resulted in a selection of those of consistently high quality. This is partly because most of the authors are well known in the field of fluid dynamics research.

The subjects covered include at random: heat transfer by free and forced convection, wind profiles, explosions, combustion, compressible and incompressible flow, naval hydrodynamics, mixed phase flows, hypersonic flows, turbulence including boundary layers, lubrication, and finally magnetogasdynamics. The papers primarily have the engineer in mind yet those physicists who are also fluid dynamicists will find that the latest Midwestern Conference was similar to the preceding ones, and if he found the proceedings of those earlier conferences useful, he will find these useful as well.

Kinetics of High-Temperature Processes: Conf. Report (MIT, June 1958). Edited by W. D. Kingery. 326 pp. The Technology Press of MIT & John Wiley & Sons, Inc., New York, 1959. \$13.50. *Reviewed by Stuart A. Rice, Institute for the Study of Metals, The University of Chicago.*

THIS book consists of the proceedings of a conference on the Kinetics of High-Temperature Processes held in June 1958. The contributions (35 papers) provide a reasonable survey of the fields which are roughly grouped as follows: Imperfections and Diffusion in Non-Metals (10 papers), Diffusion in Liquids and Liquid-Liquid Reactions (4 papers), Nucleation and Grain Growth (5 papers), Sintering and Vitrification (5 papers), Phase Transformations (4 papers), Solid-Solid Reactions (3 papers), and Solid-Gas Reactions (4 papers). In this reviewer's view, the most important contribution made by a conference is the discussion of papers. If this were not so, there would be little excuse for not submitting papers to the standard

technical journals and forgetting about personal intercommunication. I think it particularly unfortunate, then, that the discussion section has been cut so badly as to be useless in parts.

Analysis of Linear Systems. By David K. Cheng. 431 pp. Addison-Wesley Publishing Co., Inc., Reading, Mass., 1959. \$8.50. *Reviewed by W. T. Wintringham, Bell Telephone Laboratories.*

AS circuit analysis and design become increasingly sophisticated, greater and greater dependence is being placed on advanced mathematical techniques. This is not a new situation. Throughout the years the analysis of linear circuits has progressed through the addition of improved mathematical methods. But, oddly enough, most textbooks in this field are written by electrical engineers instead of by mathematicians. Listing a few names at random—Bode, Gardner and Barnes, Guillemin, Middelndorf, Schelkunoff, Seshu and Balabanian, and Weber—we find only a small minority who might be called professional followers of Muse.

Cheng fits into the pattern, since he is an electrical engineer. And, as is so often the case, his book *Analysis of Linear Systems* is a good one.

Cheng has chosen a method of presentation which makes his book of particular value as a text. He has elected to interleave—in successive chapters—electrical and mathematical principles. We find a chapter on elementary linear circuits followed by one on the classical methods for solving linear differential equations. Chapters on lumped-constant electrical and mechanical systems are followed by chapters on the Fourier and the Laplace transforms. The subject of feedback in linear systems is used as an excuse to introduce flow graphs, and serves as a springboard for the treatment of sampled systems by the *Z* transformation. Problems illustrating the subject matter are included in each chapter, and answers are appended to the book.

Methods for the numerical solution of the common algebraic equations and a short table of Laplace transforms are given in appendixes.

The author states, his book may be used either in advanced undergraduate or beginning graduate courses. It should prove useful in this area.

Atlas of γ -Ray Spectra from Radiative Capture of Thermal Neutrons. By L. V. Groshev, V. N. Lutsenko, A. M. Demidov, and V. I. Pelekhov. Translated from Russian by J. B. Sykes. 198 pp. Pergamon Press, London & New York, 1959. \$20.00. *Reviewed by Evans Hayward, National Bureau of Standards.*

THIS atlas is frankly a compilation of data. In it the authors have collected the results available up to January, 1958, on the gamma-ray spectra produced in thermal neutron capture. The introduction contains an almost too brief discussion and evaluation of the methods by which the data have been obtained. This is

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