β \ $\alpha(S_3)$	for	read
1.6	2.51308	2.51309
2.0	2.66777	2.66776
3.8	3.46578	3.46579
4.4	3.69216	3.69215
5.6	4.01149	4.01150

β \ $\alpha(S_4)$	for	read
1.6	4.07660	4.07659
1.8	4.09433	4.09432
2.4	4.15212	4.15211
2.6	4.17199	4.17200
12.0	3.38817	3.38820

β \ $\alpha(C_4)$	for	read
1.6	4.09776	4.09777
2.4	4.24889	4.24891
2.8	4.35867	4.35865
4.8	5.18127	5.18128
6.0	5.74803	5.74303

β \ $\alpha(C_5)$	for	read
16.0	6.52721	6.52709

Column headings for $\alpha(S_5)$ and $\alpha(S_6)$ are interchanged on p. 234.

β \ $\alpha(S_5)$	for	read
0.4	6.25333	6.25334
2.2	6.35487	6.35488
3.2	6.48591	6.48590
4.8	6.86185	6.86180
5.2	6.99394	6.99396
5.6	7.14093	7.14116
20.0	10.33749	10.33744

β \ $\alpha(S_6)$	for	read
3.8	9.20714	9.20713
5.2	9.38281	9.38279
16.0	10.59848	10.59849
20.0	10.35813	10.35825

BOOK REVIEWS

Theory of Structures. By S. Timoshenko and D. H. Young. McGraw-Hill Book Company, Inc., New York and London, 1945. xiv+488 pp. $5.00.

This valuable addition to text-book literature is based on the senior author's earlier volume, published in Russia in 1926 (S. Timoshenko, Theory of Structures, Leningrad). The book is intended for engineering students with some background in mechanics. The keynote of this book is that familiarity with the general principles of mechanics is indispensable to a thorough understanding of the analysis of stresses in trusses and frames. For this reason two of the nine chapters are devoted to a comprehensive recapitulation of the rudiments of plane statics and of such general theorems on elastic systems as the Principle of Least Work, Castigliano's Theorem, Maxwell's Reciprocal Theorem, etc.

As one would expect from the authors, the book is very clearly written. It abounds in carefully constructed figures and diagrams, and contains a wealth of well-graded problems.

The chapter headings are as follows: Elements of Plane Statics, Statically Determinate Plane Trusses, Influence Lines, Statically Determinate Space Structures, General Theorems Relating to Elastic Systems, Deflection of Pin-jointed Trusses, Statically Indeterminate Pin-jointed Trusses, Beams and Frames, Arches.

This book will be of considerable interest to structural engineers and will be welcomed by the teachers of mechanics and theory of structures.

I. S. SOKOLNIKOFF

Table of arc sin x. Prepared by the Mathematical Tables Project conducted under the sponsorship of the National Bureau of Standards. Official Sponsor: Lyman J. Briggs. Project Director: Arnold N. Lowan. Columbia University Press, New York, 1945. xix+121 pp. $3.50.

The main tables give the values of arc sin x to twelve decimal places, the intervals of the argument being .0001 in the range between 0 and .9890, and .00001 in the range between .98900 and unity. To facilitate interpolation the second (and, wherever necessary, the fourth) differences are tabulated, and auxiliary tables are given for the coefficients in the interpolation formulas of Newton-Gregory and Everett. For values of x exceeding 0.99950, interpolation by means of differences becomes unsatisfactory. For such values of x the use of the formula arc $\sin(1-v)=\pi/2-f(v)\sqrt{2v}$ is recommended, and $f(v)=1+v/12+3v^2/160+5v^3/896+\cdots$ is tabulated (with first and second differences) to thirteen decimal places at intervals of .00001 in the range from 0 to 0.00050.

W. PRAGER

Network Analysis and Feedback Amplifier Design. By Hendrick W. Bode. D. Van Nostrand Company, Inc., New York, 1945, xii+551 pp. $7.50.

This book is concerned with a complete exposition of electrical circuit theory, the properties and design of feedback amplifiers, non-feedback amplifiers, and the discussion of certain problems of wide band transmission. A great deal of the material presented in this book has not appeared before in text book form.

The book is divided into nineteen chapters. The first two chapters are devoted to the presentation of the fundamental principles of linear, passive, electrical circuits and to a formulation of the fundamental equations of these circuits from the mesh and nodal standpoints. The response of linear circuits to driving functions of the exponential type is considered and the very useful concept of the complex frequency plane in the study of the properties of linear circuits is introduced.

In the next four chapters, the basic principles and theorems of feedback are considered in detail. A thorough discussion of stability, physical realizability, contour integration, Nyquist's criterion for stability, and the physical representation of driving point impedance functions, occupies a central position in the book. The remaining chapters are devoted to the design of impedance functions, equalizers, interstage networks, single loop amplifiers, single loop feedback amplifiers, and a discussion of the relations between the real and imaginary components of network functions.

From a mathematical standpoint, the material presented in this book is a beautiful example of the power and utility of the application of the fundamental theorems of the complex variable to a most important physical problem. Since the subject of network analysis and synthesis is of such great importance not only in itself but also because it serves as a model for the analysis of mechanical and acoustical systems, the excellent original analysis of the problem presented by Dr. Bode in this book is a great contribution to the field of applied mathematics.

LOUIS A. PIPES

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