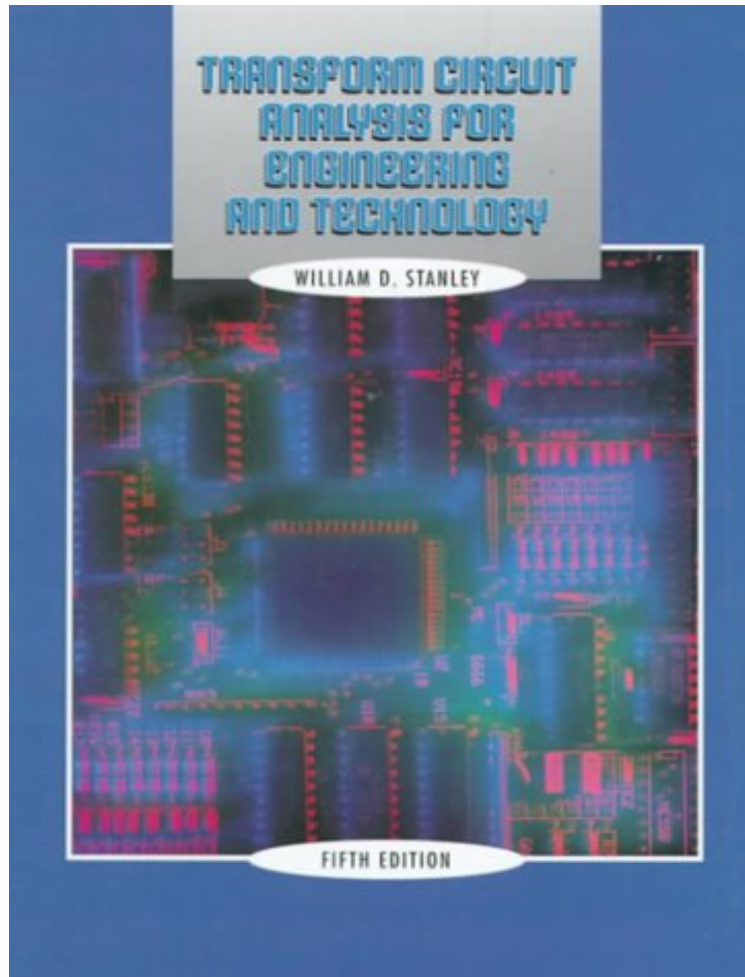


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Transform Circuit Analysis for Engineering and Technology (4th Edition)

William D. Stanley

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William D. Stanley : Transform Circuit Analysis for Engineering and Technology (4th Edition) before purchasing it in order to gauge whether or not it would be worth my time, and all praised Transform Circuit Analysis for Engineering and Technology (4th Edition):

0 of 0 people found the following review helpful. Excellent Engineering Reference! By Dwight Townes Excellent engineering reference on transform circuit analysis! A great desktop reference for the engineering tech. like myself and any electronics engineer or engineering student. 0 of 0 people found the following review helpful. Got this used and it was in great condition. Good book on the topic. By HelloGot this used and it was in great condition. Good book on the topic, easy to read. I don't understand why these books don't give solutions to all the problems...seems to be something all text books have done from the beginning of time. That's silly. 2 of 2 people found the following review helpful.

great condition, By Brian Thurberit is the same exact book as the 5th edition except for the multisim example parts, which are few, and its about 130 dollars cheeper!!!!

For junior/senior-level courses in Advanced Circuit Analysis, Network Analysis, Transient Circuit Analysis, and Transform Analysis in an applied engineering curriculum or in an upper-division engineering technology curriculum. Written specifically to meet the needs of students in engineering technology or applied engineering programs, this text presents the fundamentals of transient circuit and system analysis with an emphasis on the Laplace transform and pole-zero approach for analyzing and interpreting problems.

From the Publisher This revision continues to present the fundamentals of transient circuit and system analysis with an emphasis on the Laplace transform and pole-zero approach for analyzing and interpreting problems. From the Back Cover Designed specifically to meet the needs of engineers and technologists, this book presents the fundamentals of transient circuit and system analysis with an emphasis on the Laplace transform and pole-zero approach for analyzing and interpreting problems. Waveform Analysis. Circuit Parameters. The Basic Time-Domain Circuit. Laplace Transform. Circuit Analysis by Laplace Transforms. System Considerations. The Sinusoidal Steady State. Fourier Analysis. Introduction to Discrete-Time Systems. A self-study reference for engineers and technologists. Excerpt. Reprinted by permission. All rights reserved. As in the case of the first four editions, this fifth edition was designed for an advanced undergraduate circuit analysis course in an applied engineering curriculum or in an upper-division engineering technology curriculum. The book could also serve as a self-study reference for engineers and technologists. The reader should be familiar, with the fundamentals of differential and integral calculus and with basic do circuit analysis techniques. It is anticipated that most readers will also be familiar with steady-state ac circuit theory. However, the latter condition is not a necessity, since a major portion of the book may be mastered without a background in ac circuits. The first four chapters are devoted to time-domain considerations. Chapter 1 is an introduction to the general philosophy of the book. The fundamentals of waveform analysis are presented in Chapter 2. The reader should find that his or her knowledge of differentiation and integration will be strengthened after mastering this chapter, particularly in regard to graphical techniques. The voltage-current relationships for each of the basic circuit elements are explained in Chapter 3 and developed fully in Chapter 4. The next four chapters are devoted to transform-domain considerations. Following a detailed development of the Laplace transform and inverse transform in Chapter 5, the use of transform techniques in obtaining complete circuit responses is presented in Chapter 6. In Chapter 7, the emphasis shifts to the system concepts of circuit theory. Among the topics considered are transfer functions, impedance functions, convolution, and stability. In Chapter 8, sinusoidal steady-state techniques are developed and compared with Laplace transform techniques. The frequency response concept is developed, and the use of pole-zero methods for obtaining frequency response plots is explored. Chapter 9 deals with Fourier analysis and the concept of a spectrum. Both the Fourier series and the Fourier transform are covered. Chapter 10 provides an introduction to discrete-time systems. Topics covered include sampled signals, the sampling theorem, difference equations, and the z-transform. This chapter represents a modern and timely supplement to the continuous-time material predominant through the remainder of the book. Among the topics presented in the appendices are complex algebra and several proofs of transform theorems. These topics may be considered at the discretion of the instructor whenever possible. Depending on the nature of the course and the background of the students, there is reasonable latitude available on the depth and rigor with which the material in this book can be presented. On the one hand, the derivation and formulation of the principles involved can be emphasized. On the other hand, the use of principles as tools for solving and interpreting practical problems can be emphasized, with only casual consideration of the mathematical fine points. Any suitable compromise between these limits should be possible. Multisim and MATLAB The circuit analysis program featured in the previous edition of the text was Electronics Workbench. This program has now evolved into a new product with the name Multisim. The result has been a continued improvement in the product. It served as the basis fir computer-aided circuit analysis in this fifth edition. The Electronics Workbench examples of the fourth edition have been modified to work with Multisim and all instructions have been modified accordingly. This coverage is optional and is not a prerequisite for other topics within the text. Multisim continues to be one of the most widely employed Windows-based circuit analysis programs, particularly in educational institutions. Its success is based largely on the fact that it is very user-friendly and is quickly learned by computer-literate students. The text contains several dozen Multisim examples, located near the end of each chapter. Most of these Multisim examples are based on previous chapter examples that had been analyzed earlier by standard circuit analysis methods. Thus, the reader can compare results from the two drastically different approaches. Readers with no background in Multisim should carefully study Appendix D before considering the Multisim examples in the text. The text also contains a number of MATLAB examples. As in the case of Multisim, this coverage is optional and is not a prerequisite for other topics within the text. MATLAB examples are also located near the end of the appropriate chapters. MATLAB is one of the most popular software packages for performing mathematical operations. It has a wide variety of capabilities, including operations in algebra, calculus, differential equations, and matrix manipulations. Some of the most useful

operations that support circuit analysis will be illustrated. Appendix E, providing a brief introduction to MATLAB, has been added for the benefit of readers who are unfamiliar with the program. Most of the programming details, however, are provided in the MATLAB examples throughout the text. Acknowledgments I would like to thank the following reviewers for their invaluable feedback: Stephen T. Adams, University of Southern Mississippi, and Ronald H. Rockland, New Jersey Institute of Technology.