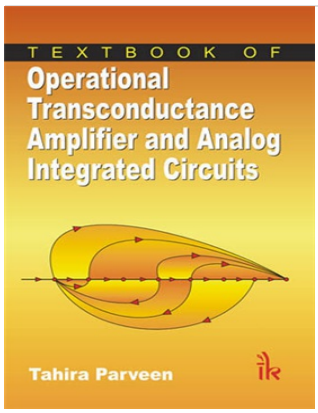
Book Information Sheet



Textbook of Operational Transconductance Amplifier and Analog Integrated Circuits, 1/e

Tahira Parveen

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About the Book

This book covers a detailed study of Operational Transconductance Amplifier (OTA) based circuits, their realizations and applications. The book is primarily concerned with the building blocks and their applications in linear and nonlinear circuit design, presented in a simplified and methodical way. The book comprises nine chapters, covers important building blocks, ideal and non-ideal component simulators, different types of filters and oscillators, using OTA as the active device

Salient Features

- Introduction and Application of an OTA for the realization of the basic building blocks.
- Nonlinear applications of OTAs in comparator, zero crossing detector and schmitt trigger circuits.
- Realization of ideal grounded as well as floating inductors, resistors, FDNRs and FDNCs.
- Realization of non-ideal grounded and floating inductors, FDNRs.
- Realization of component multipliers used in instrumentation system and IC fabrication of large valued resistors and capacitors.
- OTA-based realizations of the biquadratic functions.
- Current mode and voltage mode ladder filter.
- Realization and study of electronically tunable sinusoidal oscillators.

Table of Contents

- Introduction to operational Transconductance Amplifier
- Amplifiers and Feedback
- Simulation of Ideal Components
- Non Ideal Immittance Simulators
- Multipliers and Dividers
- OTA-Based Tunable Filters
- Architecture and Design of Electronically Tunable Filters
- OTA-Based Filters Based on LC Ladders
- Electronically Tunable Oscillators
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About the Author

Tahira Parveen :- Tahira Parveen received the B.Sc. Engineering and M.Sc. Engineering degrees from AMU Aligarh, (India) in 1984 and 1987 respectively. She is currently Associate Professor in the Department of Electronics Engineering, ZH College of Engineering and Technology, AMU, Aligarh, India. She has over 20 years of teaching and research experience. Her research interests are electronic circuits and system design, analog signal processing. Her current research is in the design of low voltage analog circuits for signal processing applications. She has published over 19 research papers in national and international journals. She is a fellow member of IETE (India). She received Vijay Rattan Award for outstanding services, achievements and contributions. Her biography is published in Marquis Who's Who in the World (USA) 2007. She is also a reviewer for *International Journal of Circuit Theory and Applications*.