

CHAPTER 53
TECHNOLOGY
ELECTRONICS AND COMMUNICATION
ENGINEERING

Doctoral Theses

453. PRAGATI KUMAR
FTFNs and their Applications in Circuit Synthesis and Design.
Supervisor : Prof. Raj Senani
Th 15701

Abstract

Investigates systematically the applications of four terminal floating nullors in the area of current mode universal filter design and single FTEN -based sinusoidal oscillator synthesis, including the application of FTFNs in fully-differential current-mode circuit design, alongwith the application of four-terminal floating-nullors in the realisation of an ideal grounded inductance.

Contents

1. Introduction. 2. Multiple-output floating-nullor-based current-mode universal filters. 3. A systematic approach for realisation of single FTFN-based oscillators. 4. Unified methodology for the realisation fully differential current-mode filters using nullors. 5. A new simulated inductor using a single PETFN and its use in the design of an oscillator and higher order filters. 6. Conclusions. Appendixes.

454. VATS (Vipin Bihari)
Analysis and Parameter Estimation of a Class of Nonlinear Electronic Circuits.
Supervisor : Dr. Harish Parthasarathy
Th 15836

Abstract

Investigates nonlinear circuits from the parameter estimation point of view and proposed the method to find the analytical solution of the nonlinear system using perturbation and thus using its results to estimate the variation in the parameters.

Contents

1. Introduction. 2. Perturbation theory. 3. Least mean square technique in non-linear problems. 4. Analysis of rectifier circuit. 5. Parameter estimation of transistor based circuits. 6. Analysis and evaluation of lyapunov exponents of chaotic circuits. 7. Conclusion and future scope of work. 8. References.