CHAPTER 59

TECHNOLOGY
ELECTRONICS & COMMUNICATION ENGINEERING

Doctoral Theses

649.   DHIRENDER KUMAR
        Design of Planar Filters using Fractal Geometry and EBG Structures.
        Supervisor : Prof. Asok De
        Th 20133

                            Contents

        1. Introduction. 2. Low pass filter design. 3. The narrow band pass filter. 4. Wide band pass filter design. 5. The band stop filters. 6. Dual frequency response filters. 7. Conclusions and future scope. References.

650.   PANDEY (Rajeshwari)
        Signal Processing and Generating Circuits using Otra as a Building Block.
        Supervisors : Dr. Neeta Pandey and Prof. Sajal K. Paul
        Th 20134

                            Contents

        1. Introduction. 2. Operational Transresistance Amplifier (Otra). 3. Active inductance simulation. 4. Otra based filters. 5. Signal Generators using otra. 6. Instrumentation and control applications of otra. 7. Nonlinear applications of otra. 8. Conclusions and references.

651.   PANDEY (Rishikesh)
        Investigation into FGMOS Circuits for Signal Processing.
        Supervisor : Prof. Maneesha Gupta
        Th 19916

Contents

1. Introduction. 2. Low-voltage FGMOS based voltage-controlled resistors. 3. Low-voltage FGMOS based tunable reciprocal circuit and its applications. 4. Low-voltage FGMOS based pseudo-exponential function generator. 5. Current-mode divider and its application as variable transresistance amplifier using FGMOS. 6. Low- voltage FGMOS based squarer and its application voltage-to-current converter. 7. Conclusions and suggestions for further work. References and appendixes.

652.   RATHEE (Akash)
Modeling and Parameter Estimation of Nonlinear Electronic Circuits and Systems.
Supervisor : Prof. Harish Parthasarathy
Th 20117

Contents

1. Introduction. 2. Mathematical background. 3. Frequency-domain modeling of nonlenear circuits. 4. Frequency-domain-based transistor parameter estimation. 5. Parameter estimation of nonlinear circuits using second order fourier series model. 6. Stochastic modeling of nonlinear circuits. 7. Conclusions and scope of future work. Bibliography and appendixes.

653.   SINGH (Jyotsna)
Audio Watermarking and Steganography Techniques for Enhancing Digital Security.
Supervisors : Dr. Parul Garg and Dr. Alok nath De
Th 20116

Contents

1. Introduction. 2. Literature review. 3. Audio watermarking using spectral modifications. 4. Audio watermarking based on quantization index modulation using combined perceptual masking. 5. Data hiding in speech using random orthogonal transforms. 6. Conslusions and scope for future work. Bibliography.