CHAPTER 56

TECHNOLOGY
ELECTRONICS & COMMUNICATION
ENGINEERING

Doctoral Theses

558. MANISH KUMAR
      Nonlinear Pattern Analysis With Specific Applications to Evaluation of Powe Quality.
      Supervisor : Dr. Rajiv Kapoor
      Th 18973

Abstract

Analyses the patterns and statistically matched filter, 2D compression algorithm and 2D enhancement algorithm have been designed and implemented. The design of matched filter has been porposed in the statistical sense. The designed matched filter has been utilized for the speaker recognition. Optimization based vector quantization has been proposed which performs better than the techniques available in the literature. Optimization based enhancement of 2D pattern has also been porposed in the spacial domain.

Contents

1. Overview of power quality. 2. Nonlinear analysis of PQ events. 3. Detection and tracking of PQ disturbances using modified potential function. 4. Multiwavelet based classification of PQ events. 5. Demodulation concepts and harmonic analyzer for PQ analysis. 6. BI-wavelants based detection and classification technique for PQ disturbances. 7. Power system fault disturbances recognition. 8. Design of fractionally delayed wavelet for PQ analysis. 9. Quadratic approximations based mitigation technique for PQ distrubance implemented on TMS320C52. 10. Analysis of other patterns. 11. Conclusions and references.

559.   YADUVANSHI (Rajveer Singh)
Some Investigations into Design and Implementation of MHD and Advanced Triple Modular Redundancy Controller.
Supervisor : Prof. Harish Parthasarathy
Th 19020

Abstract

Studies simulation and applications of a variety of transport phenomenon in electromagnatic and conducting fluids with prototype implementations of an novel MHD antenna. The onset of turbulence in the fluid is observed by controlling the electromanganetic field in three dimensional study. The work also involves Kronecker Tensor application for permittivity solution in anisotropic medium and finally it involves the implementation of a novel idea which is based on work of two and three dimensional MHD analysis and simulation of particle distribution function in a fluid of ions.

Contents

1. Introduction with literature review. 2. 2D magneto hydrodynamics. 3. 3D magneto hydrodynamics. 4. Solution of electromagnetic and velocity fields for an electro hydrodynamics fluid dynamic system. 5. Magneto hydrodynamics antenna design and development. 6. EM wave transport 2D and 3D investigations. 7. Conclusion and future scope of work. References and Appendix.