



Generation of Sequences with Good Correlation Properties Using Particle Swarm Optimization

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ABSTRACT

Radar applications require sequences with individually peaky auto correlation. Obtaining such sequences is a combinatorial problem. Thus the problem of signal design referred to above is a challenging problem for which many global optimization algorithms like genetic algorithm, particle swarm optimization algorithm, simulated annealing, tunneling algorithm were reported in the literature.

The paper aims at implementation of an efficient VLSI System Development for the design of optimal set of Binary sequences that are useful for various applications. The main advantage of implementation using Hardware based Particle Swarm Optimization Algorithm is its inherent speed over Software based methods. The speed advantage makes the hardware based Particle Swarm Optimization Algorithm (PSO) a prime candidate for real time applications.

The Proposed architecture is a novel and efficient architecture as it identifies the optimal set of binary sequences.

Key Words: Auto Correlation, Optimization, Particle Swarm Optimization.