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Synthesis of Linear Antenna Array Using Cuckoo Search and Accelerated Particle Swarm Algorithms

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Abstract

Array pattern synthesis has a lot of importance in most of the communication and radar systems. It increases in defining the appropriate configuration of the array, which produces desired radiation pattern. Low sidelobe narrow beams are very useful for point-to-point communication and high-resolution radars. In this chapter, two evolutionary computing techniques like cuckoo search algorithm and accelerated particle swarm optimization are used. The desired amplitude levels are achieved by the algorithm with element spacing $d = 0.40$ and 0.45 . The main objective is to generate patterns with fixed