Abstract

In this paper constant modulus algorithm (CMA) and least mean square (LMS), kind of blind and nonblind algorithms used for adaptive beamforming are presented. These algorithms are embedded in smart antenna which calculates optimum weight vector that minimizes the total received power except the power coming from desired direction. The efficiency of CMA and LMS algorithms is compared on the basis of gain versus angle and mean square error (MSE) for mobile communication. Simulation results reveal that both algorithms have high resolution for beam formation. However CMA has good performance to minimize MSE as compared to LMS. Therefore, CMA is found more efficient algorithm to implement in the mobile communication environment to enhance service quality and capacity.

Index Terms

Computer Science Communication Systems

Key words

Constant Modulus Algorithm (CMA)
Least Mean Square (LMS) Algorithm