

Design And Simulation Of Superdirective Adaptive Antenna Arrays

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Antennas and Propagation Society International Symposium, 1990. AP-S. Merging Technologies for the 90's. Digest.;Publication Date: 7-11 May 1990

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Summary

A novel technique for the design and implementation of an adaptive superdirective antenna array is presented. With this technique, the characteristics of the adaptive superdirective array can be held almost constant over a wide scan-angle range. These characteristics were made possible by means of both amplitude and phase variations, based on predetermined optimized array polynomials. The commonly used adaptive algorithms were compared and the LMS (least mean square) algorithm was selected for the simulation of the adaptive array system. The system performance was determined for different scan angles. The mean square error between the desired patterns and the simulated patterns after being multiplied by the adaptive weights is shown for a scan-angle of 92

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