

A MODIFIED DIFFERENTIAL EVOLUTION ALGORITHM IN SPARSE LINEAR ANTENNA ARRAY SYNTHESIS

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ABSTRACT

A modification on the classical Differential Evolution (DE) algorithm, based on randomization of the mutation scale factor, is proposed in the linear antenna array synthesis. An example of position-phase synthesis of unequally spaced linear antenna array with the minimum peak sidelobe level is presented and compared with some published results. The comparison clearly indicates that the proposed modification outperforms the existing results in the recent literature obtained by variants of DE algorithm.

Keywords: Differential Evolution, Antenna Array, Sidelobe Suppression.