Abstract

Thinned phased array antenna is useful for Radar and satellite communications. Main drawback of phased array antenna is generation of side lobes and grating lobes when the beam is titled from broadside direction toward the end-fire direction. This paper reports the optimization of thinned phased array antenna using genetic algorithm (GA). By varying the tilt angle form broadside direction main beams of the phased are generated at different tilt angles and by GA optimization at different tilt angles side lobe levels (SLL) are reduced by thinning process. Variations of SLL and half-power beamwidth (HPBW), obtained using GA optimization, are compared with fully populated array.
References


Index Terms

Computer Science

Algorithms

Keywords
Reduction of Side Lobe Level of Thinned Phased Array Antenna using Genetic Algorithm

Phased array; thinning; genetic algorithm; side lobe level