In this paper, an aperture distribution for the synthesis of a specified radiation pattern is designed and it is applied to a linear array of discrete sources. The cosecant pattern is achieved by an optical antenna system with Luneburg lens. These patterns are produced using Fourier transform method. Computed cosecant patterns for different beamwidths are presented. These patterns are used in ground-mapping airborne radars and ground-based search radars applications.
Optimized Cosecant Patterns from Arrays of Discrete Sources


Index Terms

Computer Science

Information Sciences

Keywords

Luneburg lens antenna cosecant beam ripples sidelobes Fourier Transform method.