Abstract

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.

References

- Tse-Tong Chia and Wai-Yean Lim, "Design of low profile cylindrical Luneburg lens"
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.