Paper ID: 9676
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SPACE COMMUNICATIONS AND NAVIGATION SYMPOSIUM (B2)
Fixed and Broadcast Communications (3)

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THE TINY ADJUST METHOD OF CONTOUR GAIN OF SHAPED REFLECTOR ANTENNA EXPRESSED BY ZERNIKE POLYNOMIALS

Abstract

abstract: Shaped reflector antenna is widely used in satellite communications. Currently, the fashionable design method is to express the shape of shaped reflector by a set of orthogonal expansion functions, such as Zernike polynomials, and gain the shaped reflector by optimizing the expansion coefficients of orthogonal expansion functions. Using the influence of Zernike polynomials' coefficient on the far field of shaped reflector antenna, the tiny adjust method of contour gain is brought forward to quicken the optimize rate and get better result. The validity and practicability of tiny adjust method is proved by an example. key words: shaped reflector antenna; Zernike polynomials; tiny adjust method