

Novel zoning rule for designing square fresnel zone plate

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Abstract

An improved zoning rule is presented for designing a square Fresnel zone plate lens (FZPL). This new rule results in a higher gain when the FZPL is used as an antenna element or can enhance the focusing properties of the square FZPL when used to collimate an incident plane wave. The derivation of this improved zoning rule is presented along with simulated results for some typical cases.

Keywords: Square Fresnel Zone Plate, plane wave, zoning rule, plate lens.

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