

Optimization of Axially-Corrugated Horns for Symmetrical or Offset Parabolic Reflectors

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Abstract

A new technique to optimize axially-corrugated horns for symmetrical or offset parabolic reflectors is described. The technique is fast, accurate and permits optimizing a horn to suit a given reflector geometry. Multi-frequency and multi-band optimizations are possible to cater for transmit/receive applications. The technique is illustrated by the design of a Ku-band transmit/receive horn for a reflector with a F/D of 0.575.