Abstracts

A design of novel grooved circular waveguide polarizers (Dec. 2000 [T-MTT])

N. Yoneda, R. Miyazaki, I. Matsumura and M. Yamato. "A design of novel grooved circular waveguide polarizers (Dec. 2000 [T-MTT])." 2000 Transactions on Microwave Theory and Techniques 48.12 (Dec. 2000 [T-MTT] (Special Issue on 2000 International Microwave Symposium)): 2446-2452.

This paper presents novel types of polarizers that are composed of grooved circular waveguides. The presented polarizers are suitable for realizing high-performance and low-fabrication cost in the Ka-band and above because of simple structure. Accurate analysis and design of the polarizers are performed using full-wave mode-matching techniques applied to the circular-to-rectangular waveguide T-junctions and cross-junctions. Ka-band grooved circular waveguide polarizers fabricated with the aid of the analysis and design techniques have realized excellent performance without tuning elements.

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