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An efficient X-band TE₁₀-TE₀₁ mode converter

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It is of particular importance to design a rectangular waveguide TE₁₀-circular waveguide TE₀₁ mode converter for a SLED pulse compressor. This paper presents the design of a new-type mode converter which consists of a rectangular waveguide TE₁₀-TE₂₀ mode converter and a rectangular waveguide TE₂₀-circular waveguide TE₀₁ mode converter. Through optimizations, it achieves a negligible reflection coefficient and a conversion efficiency of almost 100% at the operation frequency of 11.424 GHz. The bandwidth and surface fields are also optimized and presented in this paper.

Footnotes

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