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标题: Improved Corrugation Cross-Sectional Shape in Terahertz Double Corrugated Waveguide
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摘要: The double corrugated waveguide, with square cross-sectional corrugations, was demonstrated as an effective slow-wave structure for terahertz vacuum electron devices. The moderate losses and the good interaction impedance, in both the forward-and backward-wave regimes, enable the design of tubes at terahertz frequencies. However, significant performance improvements would derive from a further reduction of losses and an increase of the interaction impedance. Different new cross-sectional shapes of the corrugations in the double corrugated waveguide are proposed to reduce the losses and improve the interaction impedance. A relevant improvement of the tube performance in both the forward-and backward-wave regimes is obtained by using the proposed new improved cross-sectional shapes.
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