Abstracts

High-T/sub c/ Superconductor Waveguides: Theory and Applications

J.H. Winters and C. Rose. "High-T/sub c/ Superconductor Waveguides: Theory and Applications." 1991 Transactions on Microwave Theory and Techniques 39.4 (Apr. 1991 [T-MTT]): 617-623.

In this paper, we study the expected properties of high-T/sub c/ superconductor waveguides, postulating the existence of such devices in the future. These devices offer the potential of 100 GHz of bandwidth for transmission over long distances with low attenuation, with the advantage over optical systems of wider dynamic range (providing a virtually unlimited number of taps). We first study the theoretical performance of superconductor waveguides including attenuation, carrier frequency and bandwidth, maximum transmitted power, and dispersion. We then discuss potential applications in local area networks.

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