Abstracts

Impact of interferometric noise on the remote delivery of optically generated millimeter-wave signals

L. Moura, M. Darby, P.M. Lane and J.J. O'Reilly. "Impact of interferometric noise on the remote delivery of optically generated millimeter-wave signals." 1997 Transactions on Microwave Theory and Techniques 45.8 (Aug. 1997, Part II [T-MTT]): 1398-1402.

In this paper, we report for the first time results relating to reflections/multipath induced interferometric noise in millimeter-wave fiber-radio systems for the broadcast of very narrow linewidth wave signals. We use a rigorous formulation based on the modified Chernoff bound which provides an accurate upper bound on the bit-error rate (BER) and power penalty (PP). Simulated results show good agreement with the analytical findings. We conclude that interferometric noise (IN) can be a significant impairment in systems of this type.

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