# Abstracts

## Experimental demonstration of a balanced electroabsorption modulated microwave photonic link

*S. Mathai, F. Cappelluti, T. Jung, D. Novak, R.B. Waterhouse, D. Sivco, A.Y. Cho, G. Ghione and M.C. Wu. "Experimental demonstration of a balanced electroabsorption modulated microwave photonic link." 2001 Transactions on Microwave Theory and Techniques 49.10 (Oct. 2001, Part II [T-MTT] (Special Issue on Microwave and Millimeter-Wave Photonics)): 1956-1961.*

A novel balanced electroabsorption modulated photonic link for simultaneous suppression of even-order distortions, third-order distortions, laser relative intensity noise (RIN), and common amplified spontaneous emission noise at the same modulator bias point was experimentally demonstrated for the first time. By biasing the balanced electroabsorption modulator at the third-order null, the third-order distortions were suppressed, while the balanced link architecture suppressed all even-order distortions and common mode noises. The fabricated balanced electroabsorption modulator (B-EAM) showed well-matched dc characteristics in terms of I-V and transfer curve. System experiments were performed to compare single-EAM and B-EAM links. In the B-EAM link, 2-dB suppression of laser RIN and 20-dB improvement in spurious free dynamic range over the single-EAM link were observed.

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