Abstracts

Simultaneous baseband and RF optical modulation scheme for feeding wireless and wireline heterogeneous access networks

A. Martinez, V. Polo and J. Marti. "Simultaneous baseband and RF optical modulation scheme for feeding wireless and wireline heterogeneous access networks." 2001 Transactions on Microwave Theory and Techniques 49.10 (Oct. 2001, Part II [T-MTT] (Special Issue on Microwave and Millimeter-Wave Photonics)): 2018-2024.

In this paper, a novel modulation scheme that allows broad-band optical data transmission at both baseband and millimeter-wave RF carriers at twice the local-oscillator frequency is investigated. The dispersion-induced carrier suppression may be overcome by properly setting the optical transmitter parameters. Three different configurations for the modulation scheme are modeled and simulation and experimental results are provided. The key parameters of these configurations are optimized in order to achieve the best performance in broad-band heterogeneous millimeter-wave wireless and wireline access networks.

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