Abstracts

Coherent Fiber-Optic Microcellular Radio Communication System Using a Novel RF-to-Optic Conversion Scheme

Y. Ishii, K. Tsukamoto, S. Komaki and N. Morinaga. "Coherent Fiber-Optic Microcellular Radio Communication System Using a Novel RF-to-Optic Conversion Scheme." 1995 Transactions on Microwave Theory and Techniques 43.9 (Sep. 1995, Part II [T-MTT] (Special Issue on Microwave and Millimeter Wave Photonics)): 2241-2248.

This paper proposes a new coherent fiber-optic microcellular radio communication system using a novel RF-to-Optic conversion scheme. In this system a radio signal is converted into an optical signal with the same modulation format coherently transmitted through a wide-band optical fiber without any baseband demodulation and modulation. The theoretical analysis and computer simulation of transmission performances of radio QPSK and QAM signals clarify that the proposed system is superior to the fiber-optic radio commnmication system using conventional coherent analog optical links.

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