Abstracts

A novel fiber-optic link with remote heterodyning for phase stabilized transmission of microwave and millimeter wave signals

A.N. Bratchikov, D.I. Voskresenskii and T.A. Sadekov. "A novel fiber-optic link with remote heterodyning for phase stabilized transmission of microwave and millimeter wave signals." 2000 MTT-S International Microwave Symposium Digest 00.3 (2000 Vol. III [MWSYM]): 1833-1836.

A new method has been proposed and developed for phase-stabilized transmission of microwave and millimeter wave antenna signals using a fiber-optic link with a novel configuration and operating in the remote heterodyning mode. Fiber-optic link configuration proposed is based on extended transversal or/and recurrence fiber filters and takes advantage of pseudo-flat input-output phase transfer characteristics of the aforementioned filters and their combinations. Spectral-noise characteristics of proposed fiber link are theoretically analyzed for remote heterodyning mode of operation. Phase stabilized properties are experimentally verified for intensity modulation mode of fiber link operation.

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