# Abstracts

## Dual-polarization external-cavity diode laser transmitter for fiber-optic antenna remote feeding

*S. Pajarola, G. Guekos, P. Nizzola and H. Kawaguchi. "Dual-polarization external-cavity diode laser transmitter for fiber-optic antenna remote feeding." 1999 Transactions on Microwave Theory and Techniques 47.7 (Jul. 1999, Part II [T-MTT] (Special Issue on Microwave and Millimeter-Wave Photonics)): 1234-1240.*

A novel approach to optical millimeter-wave (MM-wave) transmission based on laser heterodyning is presented. The use of a dual-polarization emitting external-cavity diode laser (DP-ECDL) combined with the intrinsic polarization sensitivity of standard lithium-niobate Mach-Zehnder interferometer modulator offers a simple and flexible transmitter configuration. The MM-wave signal generated by photomixing of the two wavelength-tunable laser modes of the DP-ECDL has been stabilized by employing a servo loop scheme and sideband injection locking. Penalty-free transmission of 200-Mb/s binary-amplitude shift keying and 50-Mb/s binary phase-shift keying over 25 km of standard single-mode fiber at MM-wave carrier frequency is demonstrated.

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