# Abstracts

## Direct Fiber Optic Transmission of a Wideband Multi-Carrier Microwave Signal Spectrum to and from Satellite Earth Station Antennas

*J.W. Carlin, J.E. Bowers, A.C. Chipaloski and S. Boodaghians. "Direct Fiber Optic Transmission of a Wideband Multi-Carrier Microwave Signal Spectrum to and from Satellite Earth Station Antennas." 1987 MTT-S International Microwave Symposium Digest 87.2 (1987 Vol. II [MWSYM]): 885-887.*

High speed semiconductor lasers and detectors are used to transmit the 500 MHz bandwidth C-band microwave signal spectrum to and from a satellite earth station antenna over a low loss optical fiber. The optical system introduces /spl ap/1 dB or less of degradation for both low spectral density QPSK signals and high spectral density FM video signals present in typical satellite transmission systems. For FM video signals, the signal to noise after AM conversion and transmission over 20 km of fiber was 55 dB. The 20 km fiber system degraded the signal to noise ratio by 1 dB. Similar results were obtained for digital signals where 20 km of fiber caused a 1 dB reduction in the available E/sub b//N/sub o/ for the digital system.

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