# Abstracts

## A 500 GHz Transmitter/Receiver System for Phase/Magnitude Measurements

*N.R. Erickson. "A 500 GHz Transmitter/Receiver System for Phase/Magnitude Measurements." 1992 MTT-S International Microwave Symposium Digest 92.2 (1992 Vol. II [MWSYM]): 1149-1152.*

A complete synthesized transmitter and tracking receiver have been built for a frequency of 500 GHz, with a swept bandwidth of >5 GHz. The system uses direct multiplication of a microwave synthesizer, with no intermediate oscillator. Both the transmitter and receiver use the same synthesizer reference, but the transmitter frequency is offset by an upconverter to produce a 3 GHz receiver IF. The receiver reference is derived without the use of a separate receiver channel. With the inclusion of a backend processor, the system is used to make vector reflectivity measurements with high phase and amplitude stability. The transmitter output power is >100 µW and the receiver noise figure is 15 dB.

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