Abstracts

Rapidly tunable millimeter-wave optical transmitter for lidar-radar

Yifei Li, A.J.C. Vieira, S.M. Goldwasser and P.R. Herczfeld. "Rapidly tunable millimeter-wave optical transmitter for lidar-radar." 2001 Transactions on Microwave Theory and Techniques 49.10 (Oct. 2001, Part II [T-MTT] (Special Issue on Microwave and Millimeter-Wave Photonics)): 2048-2054.

This paper reports on the optical generation of a rapidly tunable millimeter-wave subcarrier for lidar-radar. The millimeter-wave signal is generated by beating the output from two Nd:YVO/sub 4//MgO:LiNbO/sub 3/ electrooptical monomode microchip laser sections realized monolithically in a single composite crystal. The device has a continuous tuning range up to 45 GHz. The measured chirp rate is 3816 THz/s, the voltage sensitivity is 10.6 MHz/V, and the measured residual phase noise is -106 dBc/Hz at 10-kHz offset.

❑ Return to main document.