Abstracts

Generation of optical millimeter-wave with a widely tunable carrier using Fabry-Perot grating-lens external cavity laser

Ka-Suen Lee and C. Shu. "Generation of optical millimeter-wave with a widely tunable carrier using Fabry-Perot grating-lens external cavity laser." 1999 Microwave and Guided Wave Letters 9.5 (May 1999 [MGWL]): 192-194.

A novel scheme to generate a 119 GHz optical millimeter-waves using a 1.5 /spl mu/m Fabry-Perot (FP) grating-lens external cavity laser has been experimentally demonstrated. The millimeter-wave has been produced by optical heterodyne of two wavelengths in the collinear and linearly polarized output of the laser. The signal frequency is precisely controlled by a FP filter. The optical carrier of the wave can be tuned over a 61 nm wavelength range. The millimeter-wave has been successfully transmitted over a 25 km fiber link. This source can he used in millimeter-wave wavelength-division-multiple-access networks.

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