Abstracts

Design and characterization of a 120-GHz millimeter-wave antenna for integrated photonic transmitters

A. Hirata, H. Ishii and T. Nagatsuma. "Design and characterization of a 120-GHz millimeter-wave antenna for integrated photonic transmitters." 2001 Transactions on Microwave Theory and Techniques 49.11 (Nov. 2001 [T-MTT] (Special Issue on the 2000 Asia-Pacific Microwave Conference)): 2157-2162.

We developed a planar slot antenna on an Si substrate for a photonic >100-GHz millimeter-wave (MMW) transmitter. We designed the antenna by using three-dimensional electromagnetic-field simulators and characterized its performance by using an optoelectronic network analyzer. The transmitter uses a very fast photodiode with high output power. Using these photonic techniques, we succeeded in building this compact photonic transmitter that emits MMWs with a power of >0.2 mW at a frequency of 120 GHz.

❑ Return to main document.