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Title:Milliwatt-level output power in the sub-terahertz range generated by photomixing in a GaAs photoconductor

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Abstract:It is shown from accurate on-wafer measurement that continuous wave output powers of 1.2 mW at 50 GHz and 0.35 mW at 305 GHz can be generated by photomixing in a low temperature grown GaAs photoconductor using a metallic mirror Fabry-Pérot;rot cavity. The output power is improved by a factor of about 100 as compared to the previous works on GaAs photomixers. A satisfactory agreement between the theory and the experiment is obtained in considering both the contribution of the holes and the electrons to the total photocurrent.

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