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标 题： Losses from long-living photoelectrons in terahertz-generating continuous-wave photomixers
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摘要: The extraction of continuous-wave terahertz (THz) power from photonic mixers is known to be hampered by input power limitations, low conversion efficiencies, and saturation effects. Using vertically illuminated low-temperature-grown GaAs travelling-wave mixers with a coplanar stripline geometry, a mechanism of illumination-dependent reabsorption of the THz-power generated by the mixer was isolated. We find evidence that it is related to a substantial density of long-living photoelectrons (several nanoseconds). The proposed mechanism is expected to impact the performance of photonic terahertz mixers at high input powers, also of those based on transit-time-dominated semiconductor structures. (C) 2012 American Institute of Physics. [http://dx.doi.org/10.1063/1.4711777]
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