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标题: Radiation characteristics of large-area photomixer used for generation of continuous-wave terahertz radiation

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摘要: Generation of 2  $\mu$ W continuous-wave (CW)-terahertz (THz) radiation at 1.2 THz using a large-area photomixer with interdigitated electrodes is reported. The structure of the utilized photomixer allows for unidirectional carrier acceleration over the illuminated areas. We determine the characteristics of the generated CW-THz beam and show that the divergence of this beam is dependent on the spot size of the pump beams focused on the large-area photomixer. An illuminated area with dimensions much larger than the THz wavelength helps to eliminate the focusing optics for the THz beam. Additionally, we demonstrate that the THz beam radiated from the large-area photomixer is steerable by changing the incidence angles of the CW laser beams, as a result of which the phase distribution of the photocurrent along the contact stripes varies. In our experimental setup, the generated THz beam is steerable in the range of  $-30$  to  $+30$  degrees. (C)

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