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Title:Efficient terahertz emission by mid-infrared laser pulses from gas targets
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Abstract:It is shown by simulations that terahertz (THz) radiation can be produced more efficiently by a mid-infrared laser pulse from a gas target. The THz amplitude is enhanced by 35 times as the laser wavelength increases from 1 μm to 4 μm; a 4 μm laser at 1015 Wcm?2 produces 5MV=cm THz radiation. The THz amplitude changes oscillatingly with increasing laser intensity for a given laser wavelength. In addition, the laser intensity threshold for the THz emission is lower for a longer laser wavelength.
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