202
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摘要: We have demonstrated frequency up-conversion in the terahertz (THz) region by flash ionization, which occurs due a terahertz wave interacting with a plasma created by an ultrashort laser pulse. The upshift frequency is controlled by the plasma density. We performed a proof-of-principle experiment with a plasma creation time scale much shorter than the period of the electromagnetic wave and a plasma length longer than its wavelength. We upshifted the frequency from 0.35 to 3.5 THz by irradiating a ZnSe crystal with a Ti:sapphire laser pulse. (C) 2012 American Institute of Physics. [http://dx.doi.org/10.1063/1.4755843]
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