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Title

Strong terahertz radiation by beating of spatial-triangular lasers in a plasma

Source

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Abstract

Resonant excitation of terahertz (THz) radiation by beating of two spatial-triangular laser beams having different frequencies and wave numbers but the same electric fields is proposed, where the ponderomotive force in the transverse direction is realized due to the beating and spatial variation of the lasers' fields. This gives rise to a stronger transient transverse current due to a sharp gradient in the laser field, and subsequently THz radiation is excited resonantly in the presence of a periodic density structure. The present scheme yields the THz field $\sim 10^5$ kV/cm and the efficiency $\sim 10^{-2}$ for the laser intensity $\sim 10^{14}$ W/cm². (26 References).