

Abstract Submitted
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Intense terahertz generation by different frequency of super-Gaussian lasers in presence of transverse magnetic field ANIL KUMAR MALIK, Multanimal Modi College Modinagar, India — We propose a mechanism of high intensity terahertz (THz) radiation generation by photo-mixing of super-Gaussian lasers with frequencies ω_1, ω_2 and wave numbers k_1, k_2 (profile index $p > 2$) in a corrugated plasma under the effect of static magnetic field $B_0 \hat{z}$. The scheme is based on a strong nonlinear ponderomotive force offered by lasers fields to the plasma electrons at frequency $\omega' = \omega_1 - \omega_2$ and wave number $k' = k_1 - k_2$. The ponderomotive force offers nonlinear transverse plasma current. This controllable current produces the focused radiation of tunable frequency and power along with a remarkable efficiency of the scheme as ~ 0.02 .

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