

EVALUATION OF THE ACCELERATION OF ELECTRONS BY SPATIALLY MODULATED LASER WAVE

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Abstract: *The acceleration of electrons in a system of bands of a linearly polarized laser wave propagating at small angles to the direction of motion of the electrons is evaluated theoretically. The parameters of the electron bunch and the laser wave are chosen so that during driving electrons in a band of a wave, the electric field of a wave does not change its direction. We derive the requirements for the maximum rate of acceleration, and consider the influence of light diffraction on the process of acceleration. It is shown that the discussed scheme of acceleration allows the possibility for high acceleration rates.*

Key words: *acceleration of electrons, wave laser.*

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