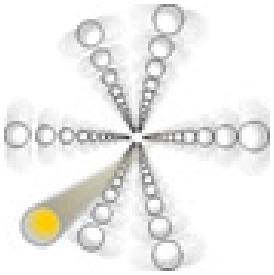

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Radiation from Channeling Electrons, Stimulated by Laser Beam

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Ultra relativistic electrons, moving in a channel along electron plane, may occupy only certain discrete energy quantum levels. Transition between levels is accompanied with emitting electromagnetic radiation. Due to high energy of electrons and due to Lorenz effect, energy of this radiated emission can be very high
This radiation can be additionally stimulated by certain interference with an electromagnetic wave, having the same frequency as the electron, moving in a channel in its own accompanying system.
Accurate calculations show, that due to Lorenz effect optical frequency range stimulating radiation can provoke intensive gamma-ray radiation from channeling electrons.
It means: we may convert the energy of the accelerated electron beam into the energy of emitted gamma-quants with much higher energies.
The effect can be realized on the electron beams with energies of several GeV or more and high intensity optical lasers, sending their beams nearly opposite the electron beam.

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