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# Influence of the chirped electron beam on THz radiation.

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As is well known, coherent emission of radiation from ultrarelativistic electron bunches takes place when the duration of the bunches is shorter than the radiation wavelength. In this case, the contributions to the field from all electrons sum up in phase, and the output intensity scales as the square number of electrons in the bunch. In this work, we consider the particular case of coherent emission of radiation from an undulator in THz range. It is often the case that the electron bunch at the entrance of a THz undulator setup, for accelerator-based THz sources, has an energy chirp. We investigate the influence of the energy chirp of an electron bunch on coherent radiation.

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