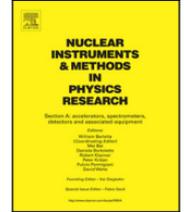




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Quasi-monoenergetic ultrashort microbunch electron source



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ABSTRACT

By combining static electric and laser fields for generation of field-emitted electrons, it is possible to generate a quasi-monoenergetic train of electron microbunches by controlling the anode–cathode spacing such that the time of flight of the electrons becomes independent of the laser field. Such quasi-monoenergetic microbunches with pulse durations that are a fraction of the laser wavelength would be ideal for radiation sources as well as compact accelerators.

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