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Bunch Shaping in Electron Linear Accelerators

Monday, 7 November 2022 17:00 (2h 30m)

Electron beam generated by an injector is often characterized by a set of parameters such as rms normalized emittance, bunch length, peak current, energy etc.. For different applications, the requirement for the beam parameters can be very different. In addition, some beam applications require finer control of the electron distribution such as specific shapes for its projection along a particular coordinate. The control of the beam distribution at the single-particle level could enable new opportunities in accelerator science. This tutorial review is based on our recent review paper [1] on electron bunch shaping for different applications. Experimental and theoretical developments of electron-bunch shaping will be discussed.

[1] G. Ha, K-J. Kim. P. Piot, J. G. Power and Y. Sun, "Bunch Shaping in Electron Linac Accelerators," REVIEWS OF MODERN PHYSICS, VOLUME 94, APRIL–JUNE 2022.

Acknowledgments

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Session Classification: Student Tutorials

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