

Effect of Negative Momentum Compaction Operation on the Current-Dependent Bunch Length

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New operation modes are often considered during the development of new synchrotron light sources. An understanding of the effects involved is inevitable for a successful operation of these schemes. At the KIT storage ring KARA (Karlsruhe Research Accelerator), new mode can be implemented and tested at various energies, employing a variety of performant beam diagnostics devices. Negative momentum compaction optics at various energies have been established. Also, the influence of a negative momentum compaction factor on different effects has been investigated. This contribution comprises a short report on the status of the implementation of a negative momentum compaction optics at KARA. Additionally, first measurements of the changes to the current-dependent bunch length will be presented.

Summary

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