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Time-resolved measurements of transverse beam excitation in an electron storage ring

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In the Karlsruhe Research Accelerator (KARA), electron beams of up to 200 mA are stored with an energy of 2.5 GeV, while injection is performed at 500 MeV. At the injection energy, the beam life time and the injection efficiency depend largely on Touschek scattering. As a counter-measure, the beam size can be enlarged transversally by an exciting modulation, e.g. applied via a strip-line.

Here, we examine different excitation strategies and their effects on beam size and the beam orbit. The u

Summary

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