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Measurement of the radiation damping time via optical methods

Sunday 1 June 2025 14:00 (2 hours)

The radiation damping time is a crucial parameter that depends on the overall magnetic structure of the accelerator. Accurate measurement of this damping time can provide insights into the fidelity of the accelerator model by allowing for a comparison with calculated damping time values. In this study, we present a series of measurements of radiation damping times at the VEPP-4M and VEPP-2000 collider at BINP. In order to determine the damping time, we recorded the transverse beam profile using a digital camera. The results includes study of the damping times at revolution frequencies and different energies of the beams.

Footnotes

Paper preparation format

Word

Region represented

Asia

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Author: MAIOR, Veronika (Budker Institute of Nuclear Physics SB RAS & Novosibirsk State University)

Co-authors: TIMOSHENKO, Maksim (Russian Academy of Sciences); MESHKOV, Oleg (Budker Institute of Nuclear Physics); DOROKHOV, Victor (Russian Academy of Sciences)

Presenter: MAIOR, Veronika (Budker Institute of Nuclear Physics SB RAS & Novosibirsk State University)

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