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Application of the Nanogate-38 camera for beam diagnostics in the VEPP-2000 collider

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The Nanogate-38 gated camera with a temporal resolution of 60 nanoseconds was used to measure the transverse beam dimensions in the BEP booster and the VEPP-2000 electron-positron collider. The camera was used in combination with a double-slit interferometer to measure the vertical beam size and with projection optics to construct a transverse beam profile in single-turn mode. Some beam characteristics were measured, such as decoherence time, radiation damping time and fast attenuation time. The purpose of these experiments was to investigate the possibility of using this camera to measure the transverse dimensions of the beam and its emittance, as well as to conduct experiments on accelerator physics at the SKIF synchrotron radiation source.

Footnotes

Funding Agency

I have read and accept the Privacy Policy Statement

Yes

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