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Testing electron polarization at SuperKEKB using Touschek lifetimes

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The Chiral Belle project is a proposed project which aims to expand the capabilities of SuperKEKB and the physics goals of Belle II by injection polarized electrons into the High Energy Ring. Before the full implementation of spin rotator magnets near the interaction point, we propose to demonstrate the injection and transport of polarized electrons in the SuperKEKB Main Ring. By measuring the effect of differing polarization states on the Touschek lifetime, we aim to show the preservation of polarized spin vectors around the main ring without the need for the full apparatus of Compton polarimetry and spin rotator magnets which will be required for the full Chiral Belle project.

Footnotes

Funding Agency

Paper preparation format

LaTeX

Region represented

Asia

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