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Systematic investigations of the electron energy measurement based on resonant spin depolarization at BESSY II

Monday 2 June 2025 16:00 (2 hours)

A permanently running energy measurement based on resonant spin depolarization of the electron beam has been implemented at BESSY II for several years.
In order to move towards long-term energy stability and to be able to use the method for different applications, for example the determination of the momentum compaction factor, the present measurement time of almost four hours should be significantly shortened. Therefore, the method has been systematically investigated with the aim of optimising it for faster measurement. This involved studying the beam parameters as well as the parameters of the excitation system. According to the studies, reliably measuring the beam energy every (15-30) minutes seems to be realistic.

Footnotes

Paper preparation format

LaTeX

Region represented

Europe

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