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Energy Scale Calibration of KEDR Detector Tagging System

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Content

Tagging system of KEDR detector is a symmetrical focussing magnetic spectrometer for scattered at small angles electrons and positrons, which is embedded into the lattice of VEPP-4M collider. It is intended for two-photon processes study and measures scattered electron/positron energy with resolution $\Delta E/E_0 = 0.03\% \dots 0.6\%$ (E_0 is the beam energy). For precise energy scale calibration two methods are used: tagging of bremsstrahlung electron/positron by the photon energy measured by BGO calorimeter, and direct calibration using Compton backscattering spectrum edges. Also the energy scale is defined using the model of TS magnetic system with accuracy comparable to energy resolution. This report covers the design and current status of the calibration system.

Summary

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