ON ELECTRON BEAM DIAGNOCTICS AND CONTROL AT STORAGE RING WITH POLARIZED INTERNAL TARGET

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The method for measurement and control of electron beam axis positionand angular beam spread is developed for a storage ring with internal target. The method is based on the usage of elastic scattering of high energy electrons (positrons) circulating in a storage ring on atomic electrons of the target.If the beam has a finite angular spread and the azimuth is taken from the beam axis the distribution of the azimuth angel between Bhabha scattering positron and electron has a width proportional to the beam angularspread and a mean value depending on the magnitude of the displacement of the real storage ring close orbit position from ideal one. Monte Carlo simulation was made for the positron beam with a real angular dispersion for energy range typical for the electron-proton collider HERA.