

Challenges for Polarimetry at the ILC

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At the International Linear Collider (ILC), the beam polarization is planned to be measured with a yet unequaled systematic uncertainty of 0.25 % by two Compton polarimeters located 1.6 km upstream and 150m downstream of the e+e- interaction point (IP). The decisive quantity for the experiments, i.e. the luminosity-weighted average polarization, has to be determined from these measurements. A detailed understanding of the spin tracking and the depolarizing effects is mandatory in order to estimate how precise the polarization at the IP is known from these measurements performed 2 km apart.

The talk discusses the results of this study with focus on the collision effects and the spin transport after the collision.

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