Polarimeter - laser and electron beam

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An overview of the HERA polarimeter

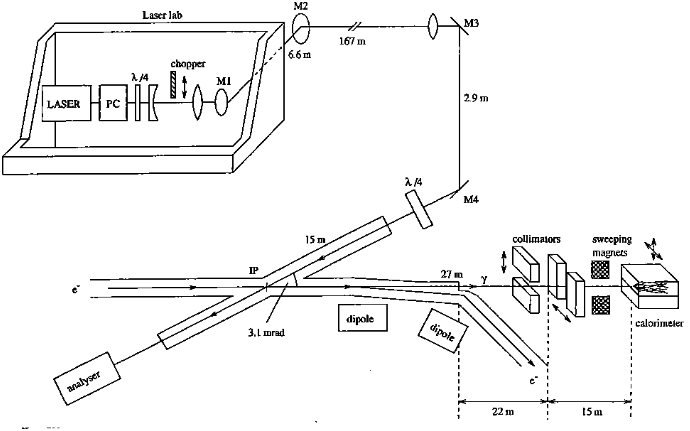
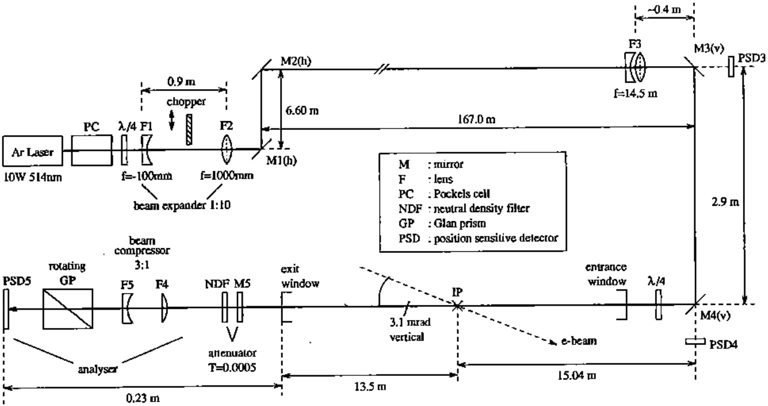


Figure 9: *An overview of the HERA polarimeter.*

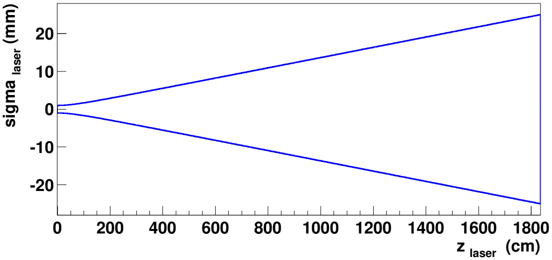
Last Status

- Description of the electron beam
  - behaviour of the twist parameters (17 optics)
  - the widths of the electron beam

An overview of the HERA polarimeter



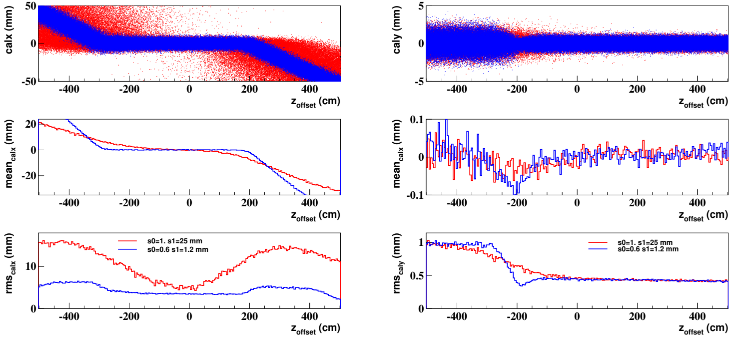
Sigma of the laser beam



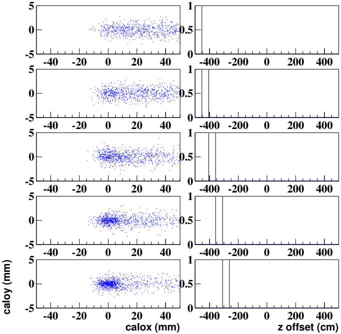
Parameters of the laser:

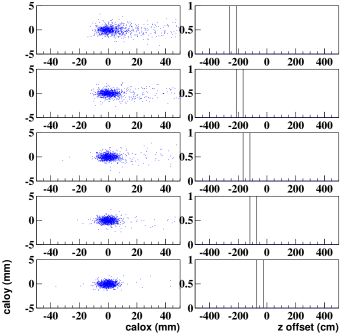
- sigma_0 = 1 mm
- sigma_1 = 25 mm
- $\theta = 3.1 mrad$
- $\phi = 0 mrad$
- $z_{offset} = 0 cm$

Calo x & Calo y

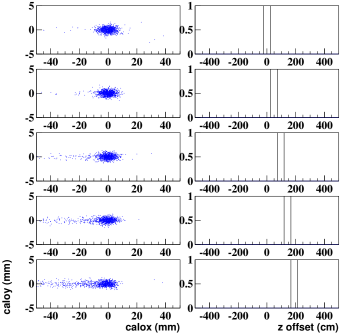

calx (mm)
z_{offset} (cm)
caly (mm)
$mean_{calx}$ (mm)
rms_{calx} (mm)
rms_{caly} (mm)
s0=1. s1=25 mm
s0=0.6 s1=1.2 mm

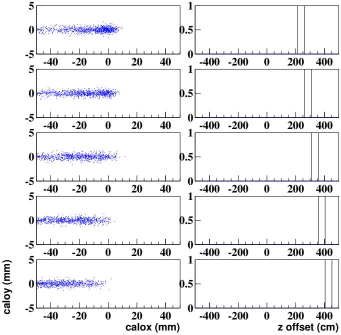
Calx vrs Caly as a function of z offset



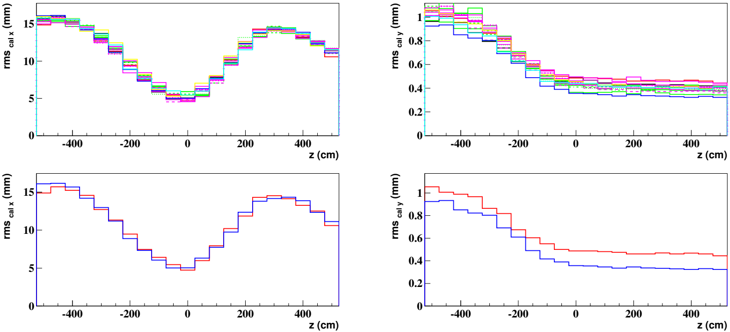


Calx vrs Caly as a function of z offset



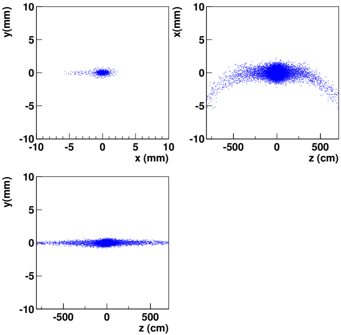


RMS - diferent optics

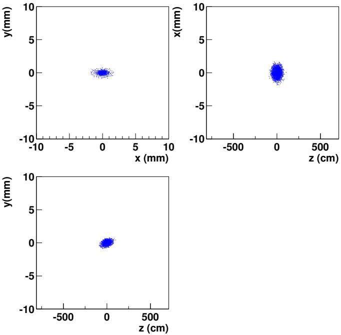


Vertex

sigma_0 = 1 mm, sigma_1 = 25 mm

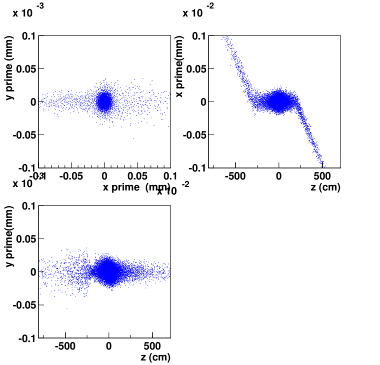


sigma_0 = 0.6 mm, sigma_1 = 1.2 mm

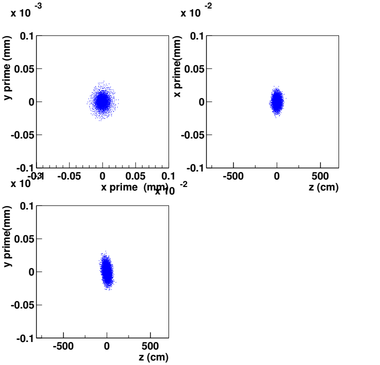


x', y'

sigma_0 = 1 mm, sigma_1 = 25 mm

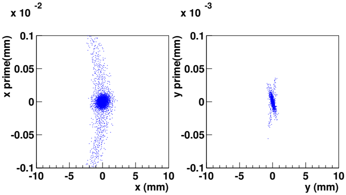


sigma_0 = 0.6 mm, sigma_1 = 1.2 mm

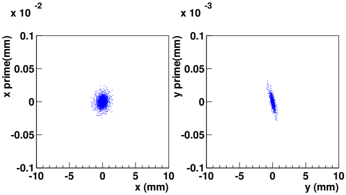


Vertex

sigma_0 = 1 mm, sigma_1 = 25 mm



sigma_0 = 0.6 mm, sigma_1 = 1.2 mm



Summary

- The probability of the laser was presented
- The Cal x and Cal y distributions look correct
- Vertex distributions are deependent of laser size