# TPOL Silicon measures Polarisation

What we expect – silicon analyzing power

Extracting polarisation from silicon data

TPOL absolute scale calibration by silicon

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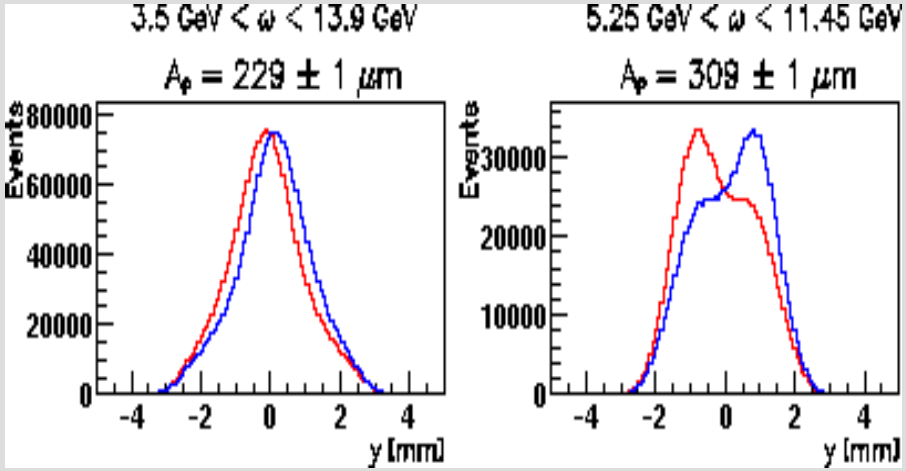
# MC simulations

Analyzing Method = Light helicity flip induced shift of the mean position

All energies above discr. threshold

TPOL Energy bin II

*Analyzing Power 0.229mm*



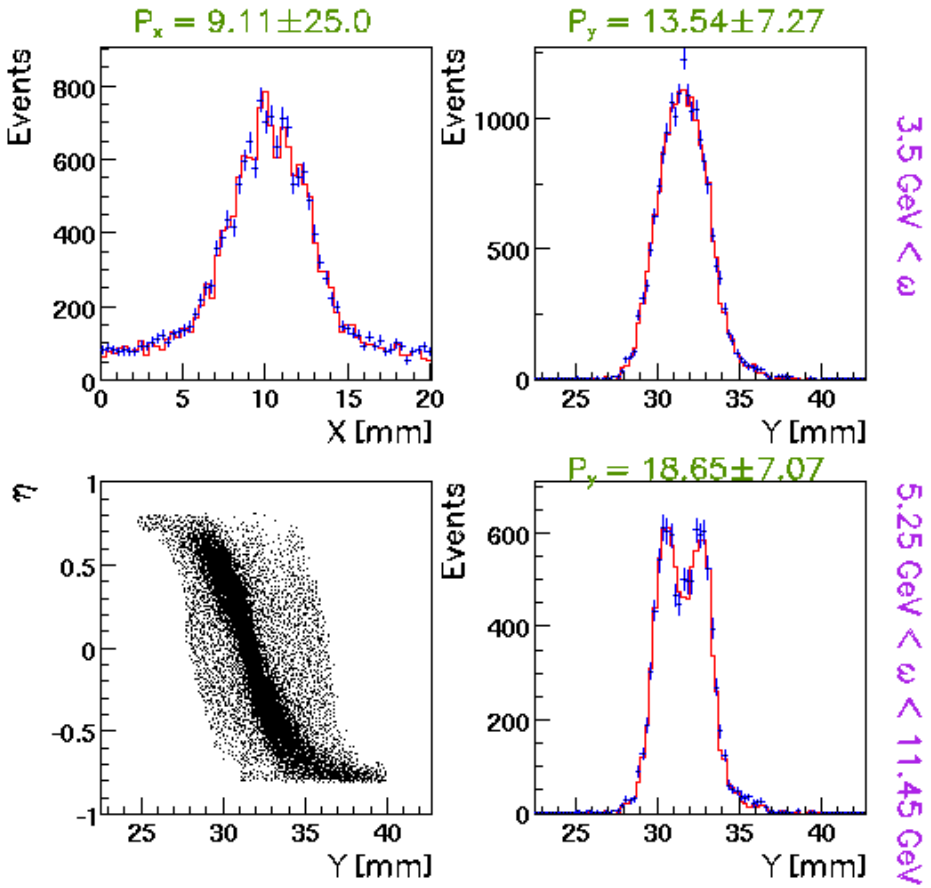

*Analyzing Power 0.309mm*

Polarisation measured by silicon is free from the main TPOL systematics: eta-y, energy calibrations, beam spot centering and focus on the calorimeter face.

Affected only by linear light and IP to silicon distance.

# Silicon Data Handling

blue, red – different helicities:  TPOL hardware adapted for Silicon Pol. Measurement



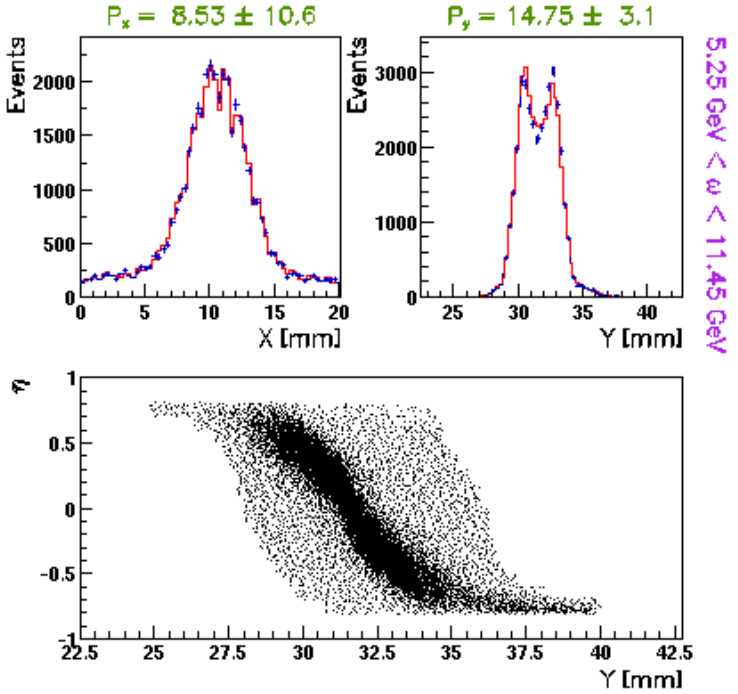

½ hour of data 1150k events

TPOL <P> = 10.49 +/- 0.25

Background subtraction and applied selection by claster  charge, radius, multiplicity etc are reducing databy a factor of about 50.

Scatter plot shows selected data.

# Comparing to Calorimeter Measurement




2 hours of data 4250k events

TPOL <P> = 18.71 +/- 0.14
SI <P> = 14.75 +/- 3.1

Calibration constant (a la rise-time)
k = SI / TPOL = 0.79 +/- 0.17

For 1% accuracy (dk=0.01) will need few hundred of hours Silicon data