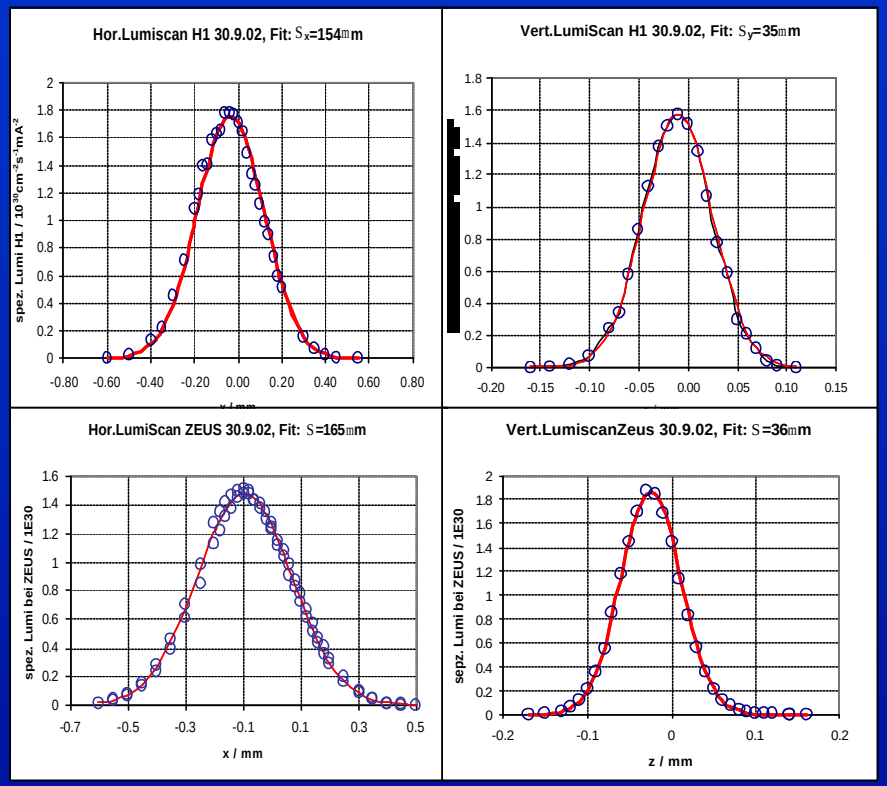
Low Intensity Luminosity Scans

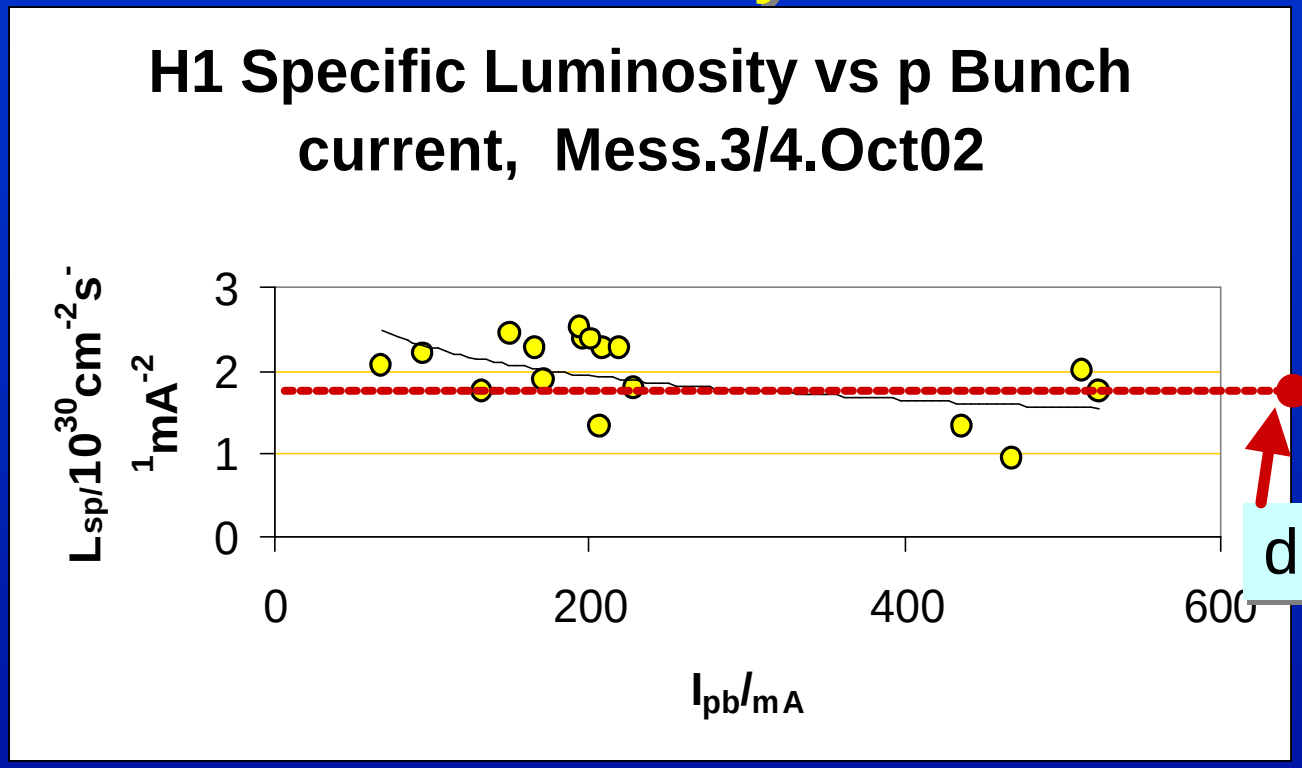


using measured beam parameters
Specific Luminosity/10^{30}cm^{-2}sec^{-1}mA^{-2}

calculated from beam parameters	**2.40**
H1 max 30.9.	**2.00**
H1 during hor Scan	**1.8**
H1 during vertical scan	**1.58**
H1 Lumi scan result	**2.44**
ZEUS max 30.9.	**2.11**
ZEUS during hor Scan	**1.50**
ZEUS during vertical scan	**1.87**
ZEUS Lumi scan Result	**2.22**

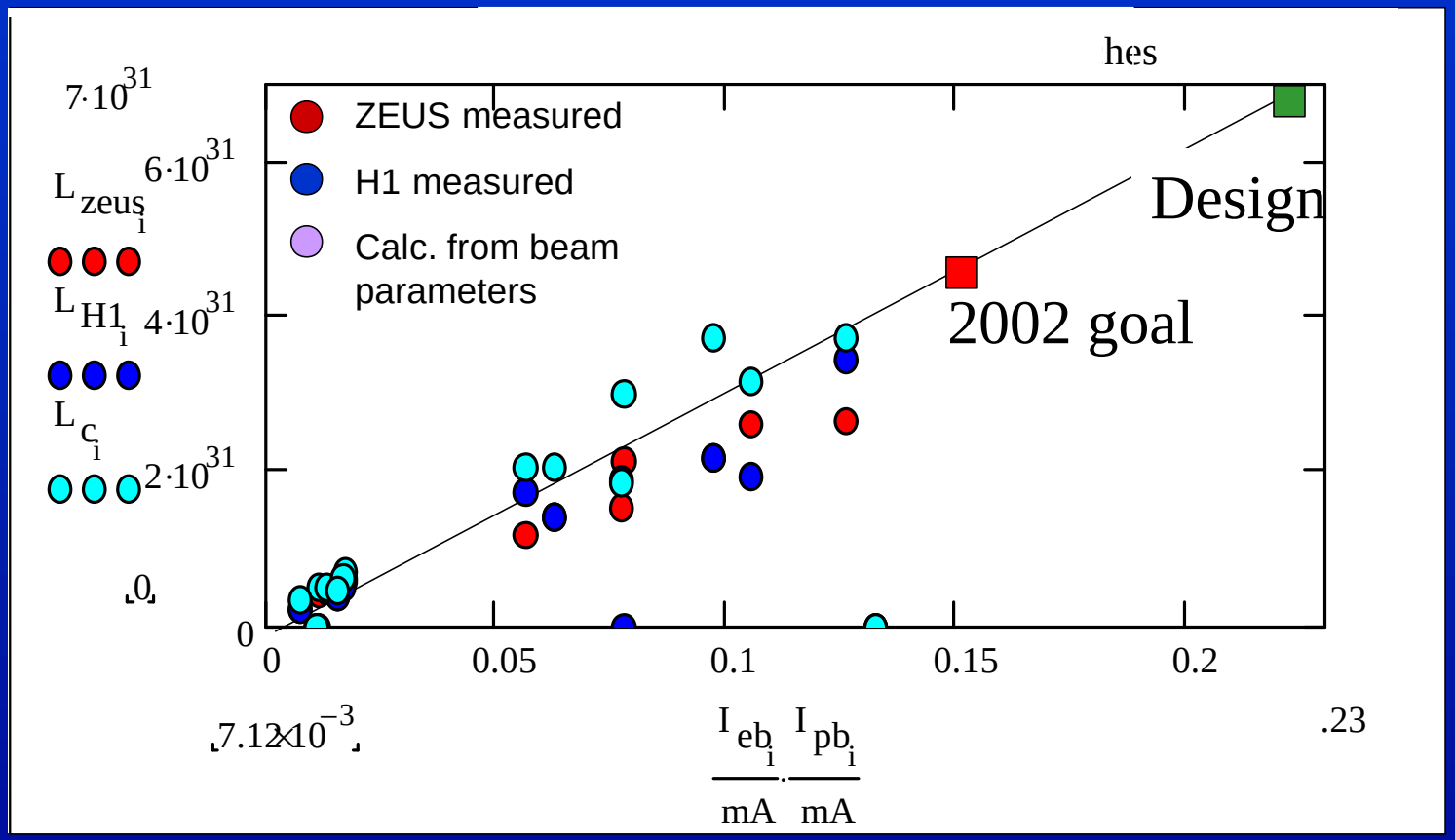
➔Luminosity measurements and lumi scans and calculations in reasonable agreement

Luminosity as a Function of p-Beam Intensity



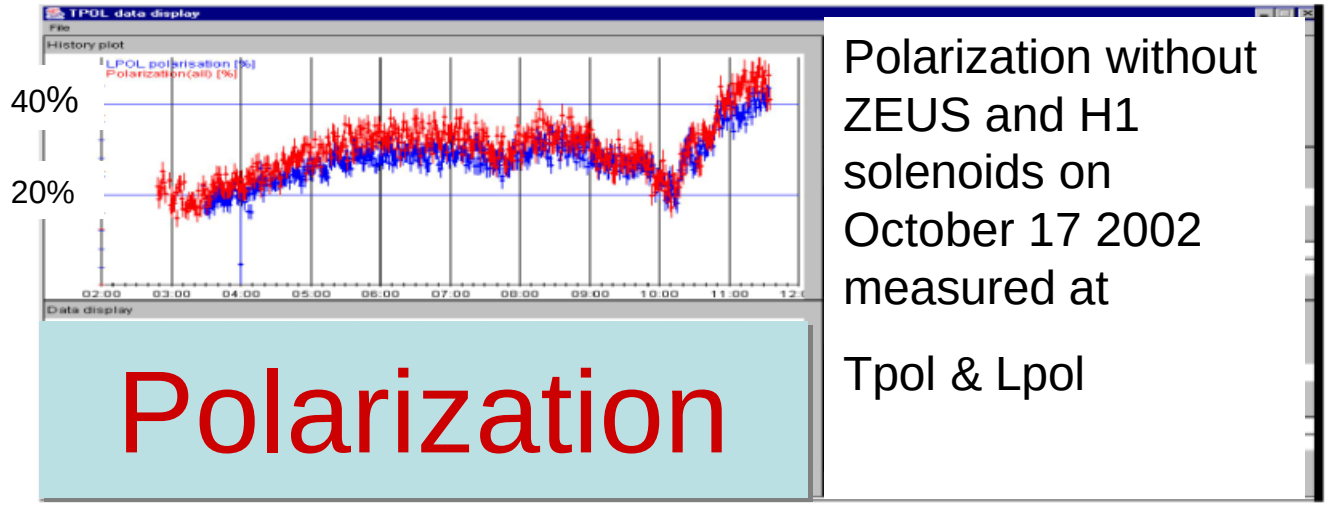
There are intensity dependent effects which come from intensity dependent proton emittances

Luminosity scaled to full number of bunches and beam currents



Luminosity ($cm^2\ s^{-1}$)

product of single bunch beam currents (mA^2)



Polarization without ZEUS and H1 solenoids on October 17 2002 measured at

Tpol & Lpol

Six tuning steps

1) North &South Rotators flat, Solenoids off	week41/42
2) North & East Rotator on	week 44
3)North&South&East Rotator on	week44
4) All Rotators+Solenoids on	week45
5) All Rotators+Solenoids, large vertical emittance (3.5nm)	November
6) Polarization during Luminosity operation	November/Dec