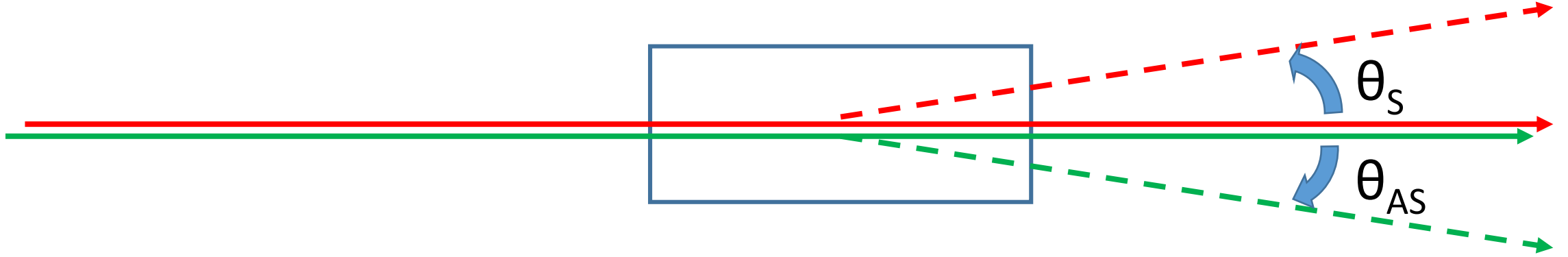
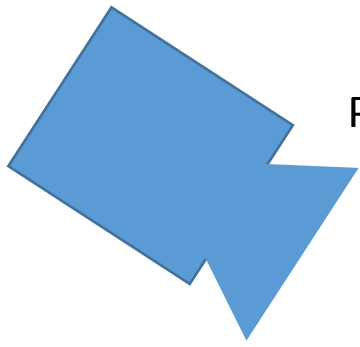


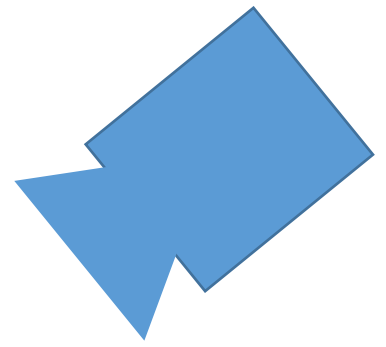
# Alignment

17 May '17

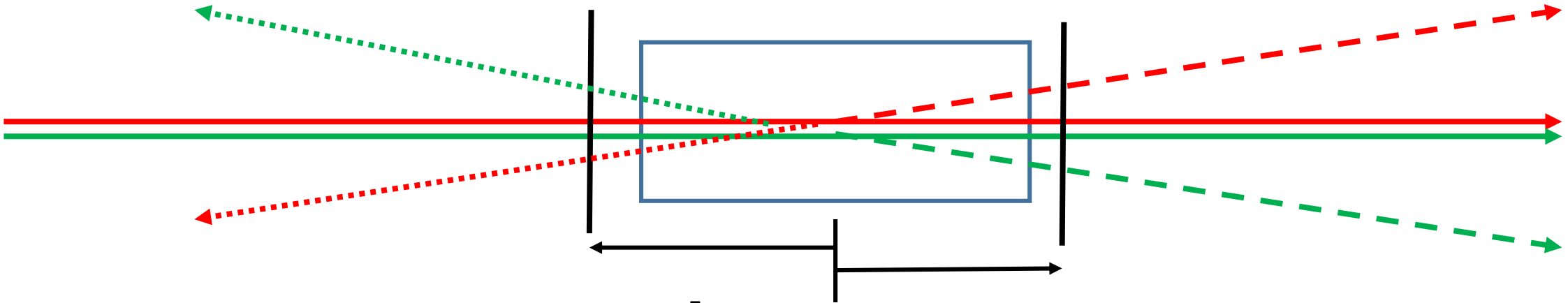




Point Grey

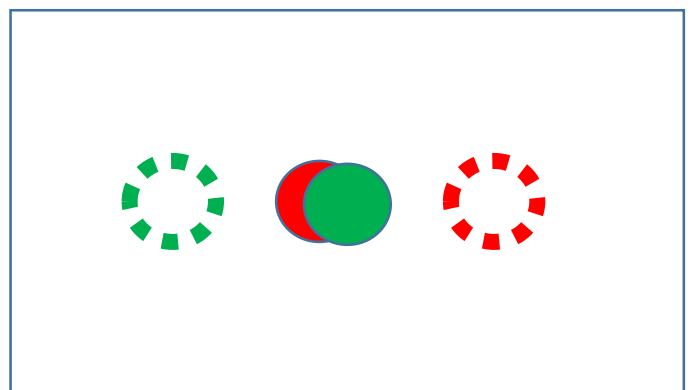
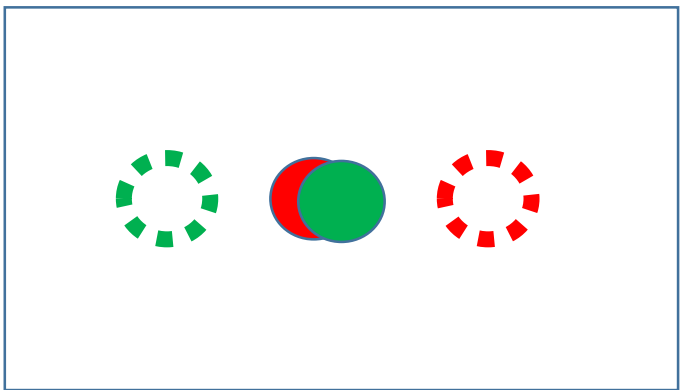


PCO



$z_{PG}$

$z_{PCO}$



# Entrance: Point Grey Calibration

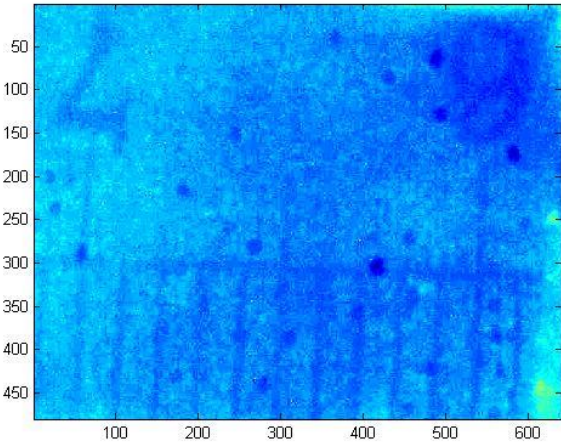


Image rotated 180 degrees

$$1\text{cm} = \sqrt{(541.0 - 57.3)^2 + (317.0 - 297.3)^2} = 484.1$$

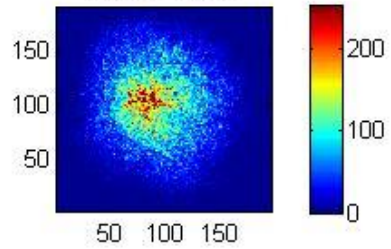
1pixel = 21 microm

$z_{\text{PG}} = 15\text{cm}$

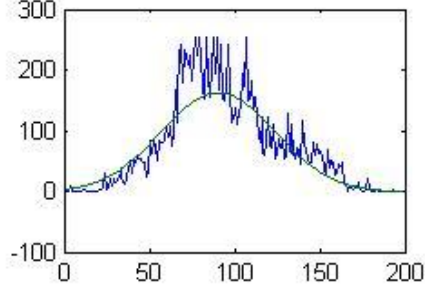
1pixel = 0.14 mrad

## Write & Stokes position

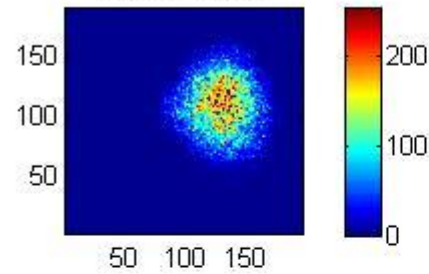
Write PG  
Original image



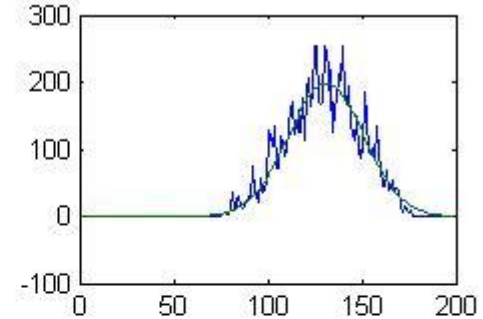
cross section



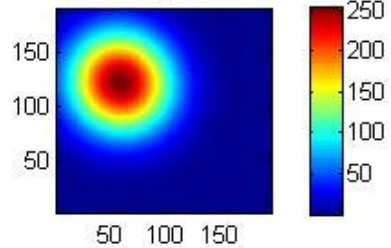
Stokes PG  
Original image



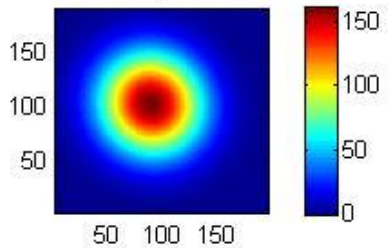
cross section



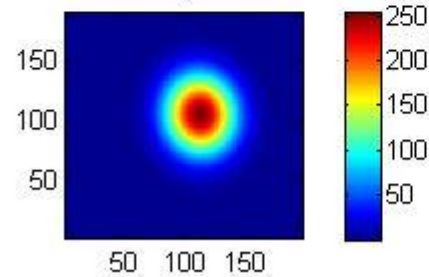
start guess



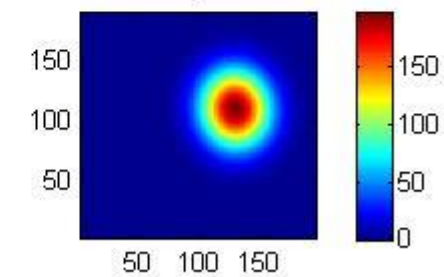
Fitted image  
thetaX= 0, thetaX= 0



start guess

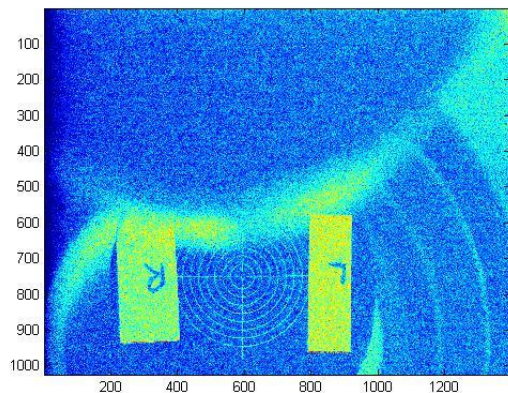


Fitted image  
thetaX= 5.69, thetaX= 1.02



# Exit: PCO Calibration

Image rotated 180 degrees



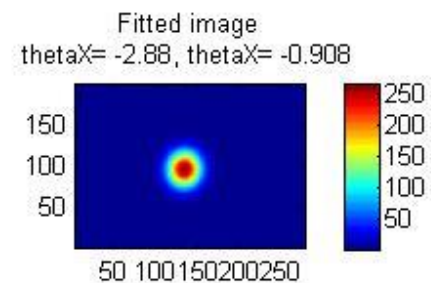
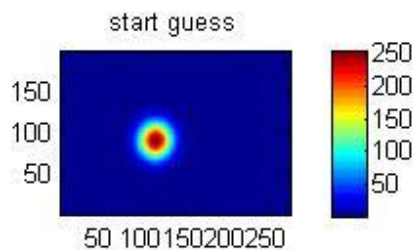
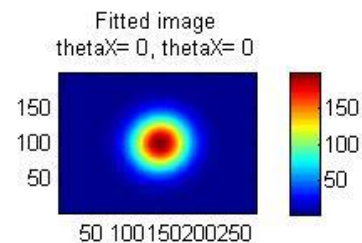
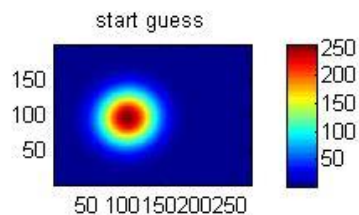
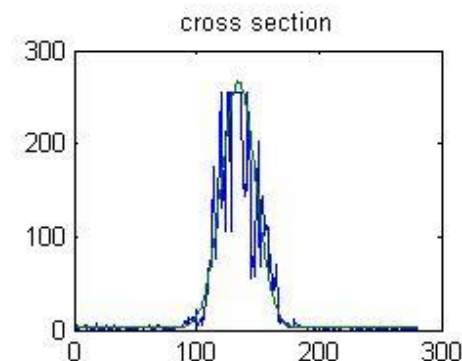
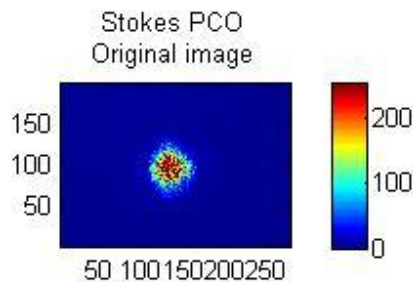
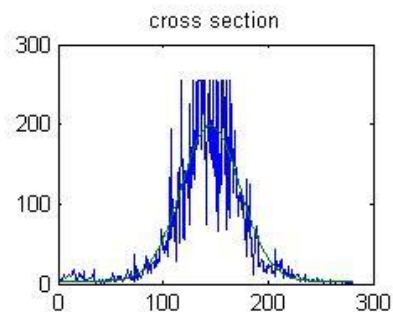
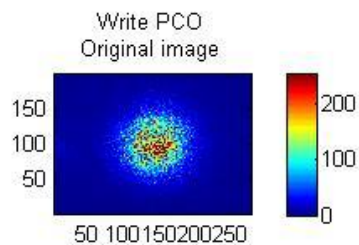
$$1.5\text{cm} = \sqrt{(751.0 - 416.7)^2 + (748.6 - 773.3)^2} = 335.3$$

1pixel = 45 micron

$z_{\text{PG}} = 17\text{cm}$

1pixel = 0.265 mrad

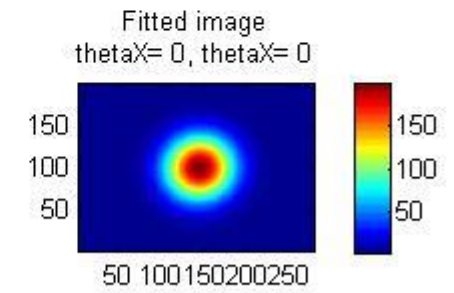
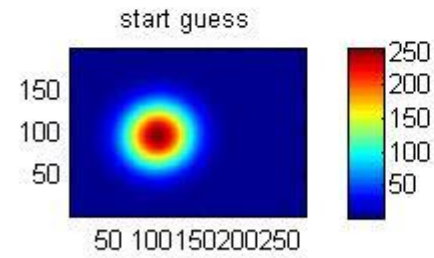
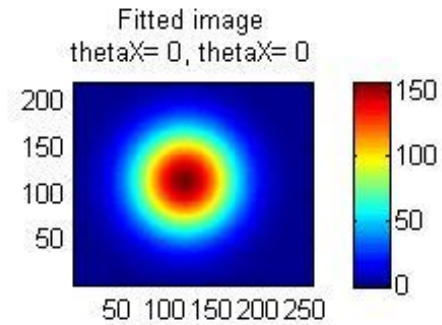
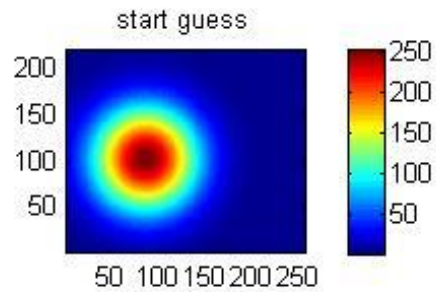
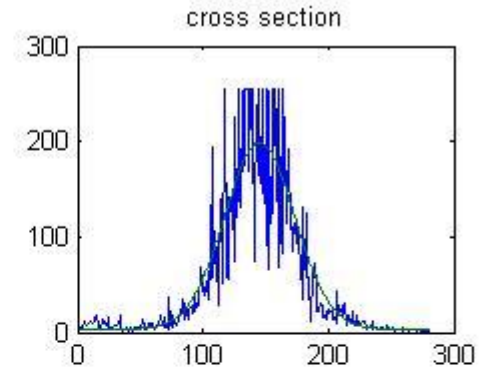
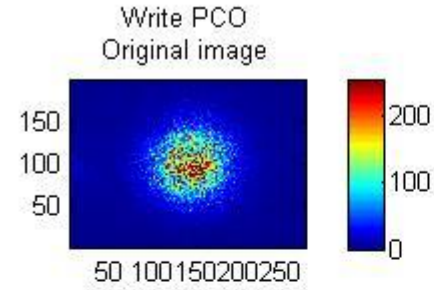
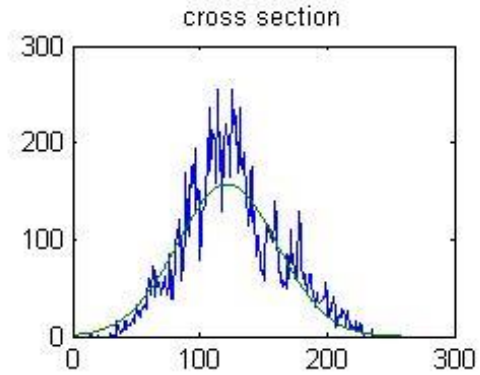
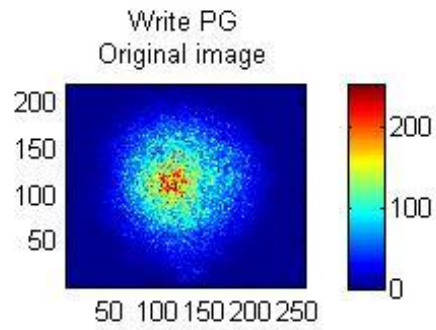
## Write & Stokes position



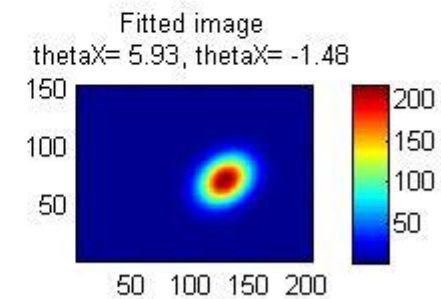
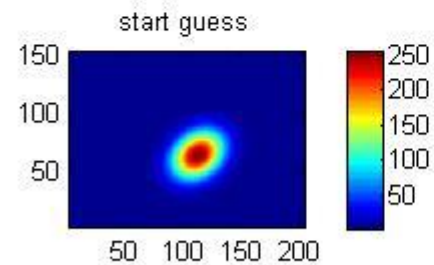
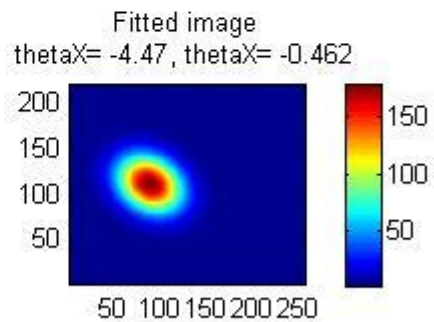
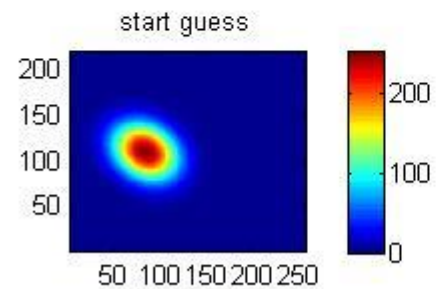
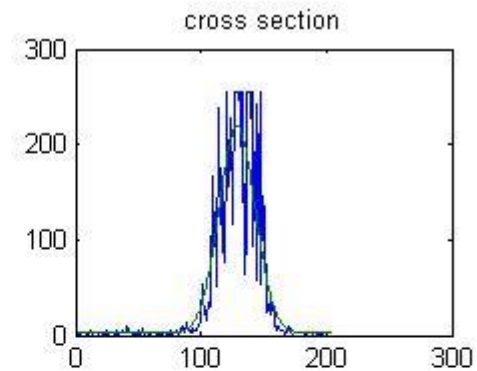
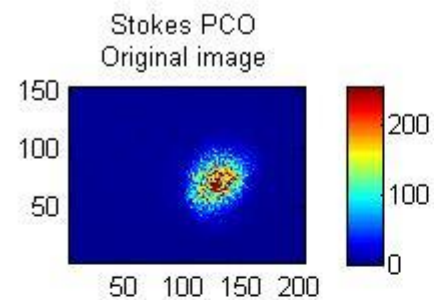
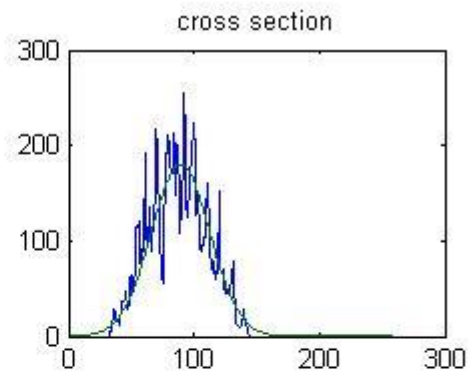
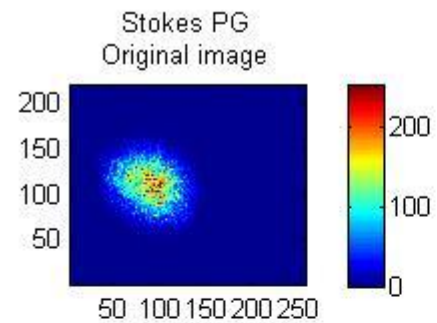
Entrance	
PG_calib	Calibration image
PG_0001	Write laser
PG_0002	Stokes path injection
PG_0003	Write laser - aligned
PG_0004	Stokes PI - aligned

Exit	
PCO_calib	Calibration image
PCO_0001	Write laser
PCO_0002	Stokes path injection
PCO_0003	Write laser - aligned
PCO_0004	Stokes path injection - aligned

# After alignment – (readjusting rotation of final mirror)







What is mode size?

**PAF-X-7-B**