TPAC update

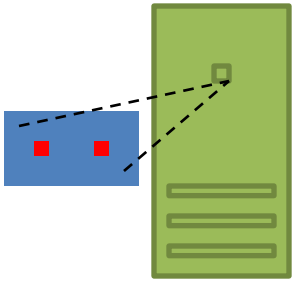
JC/31st march 2009

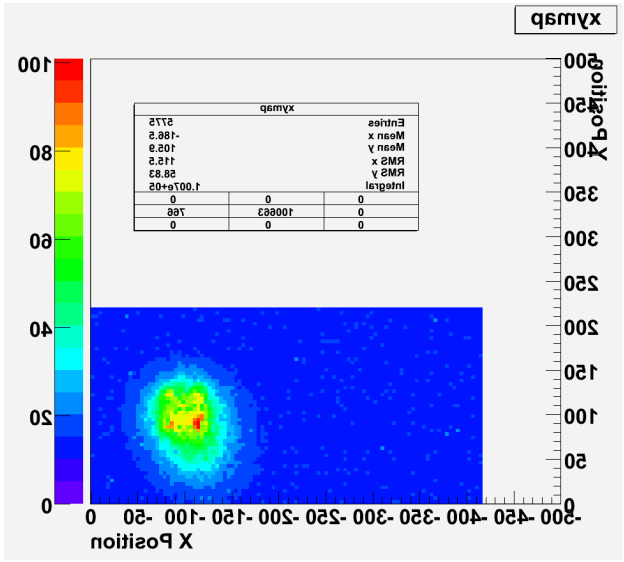
TPAC1.2

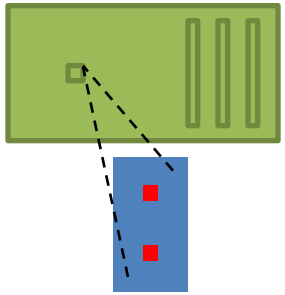
- Submitted
  - 2nd March 2009
- Lot started
  - 22nd March 2009
- Due date
  - 7th May 2009

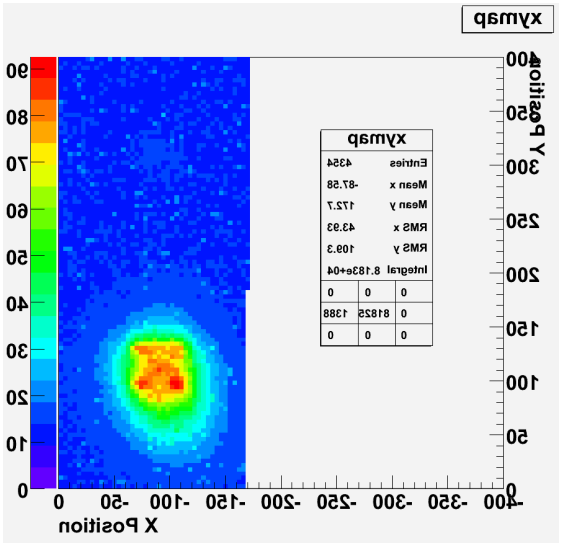
(previously shown)

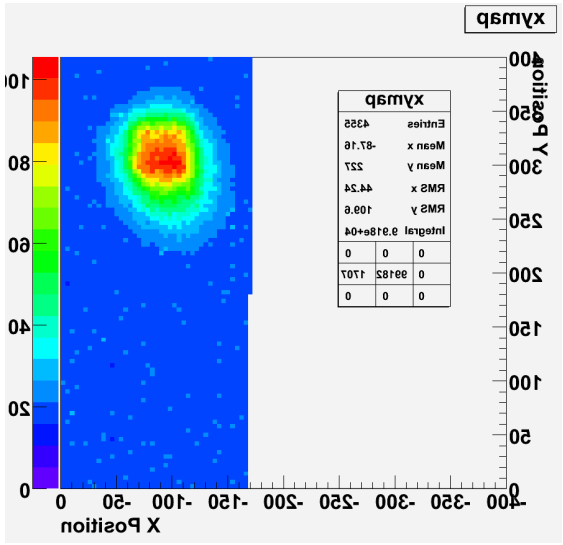
Pixel scans with rotation







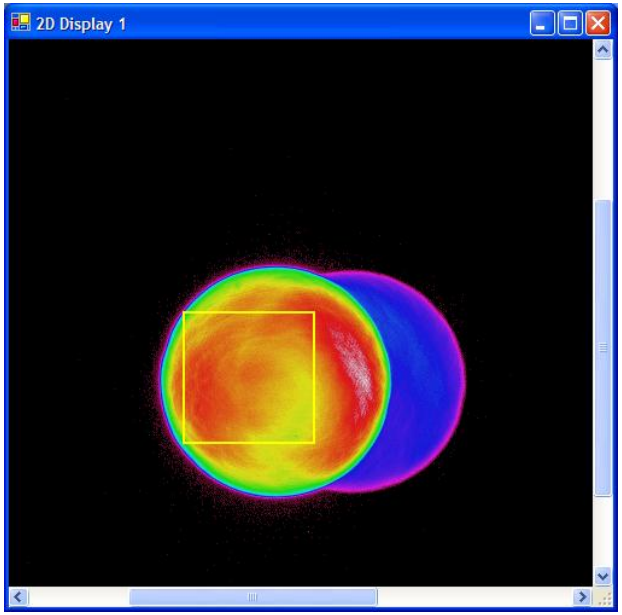




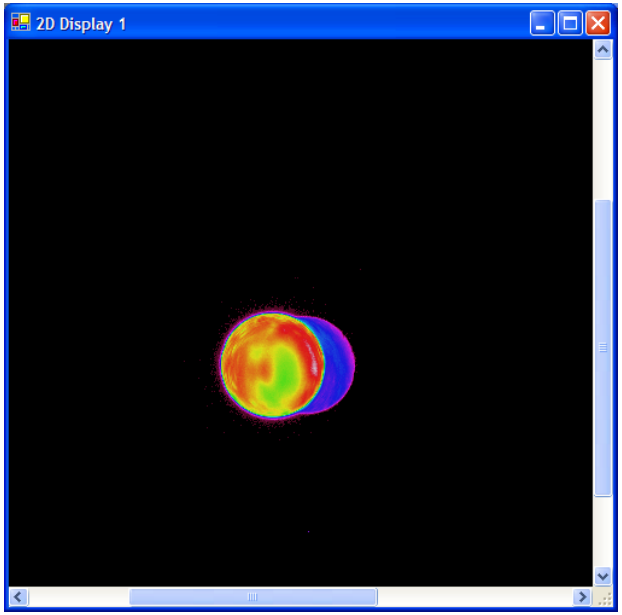
Shorter run; lower statistics; hence more "noise" due to resets

Laser Optics Profile: Full (Backlight)

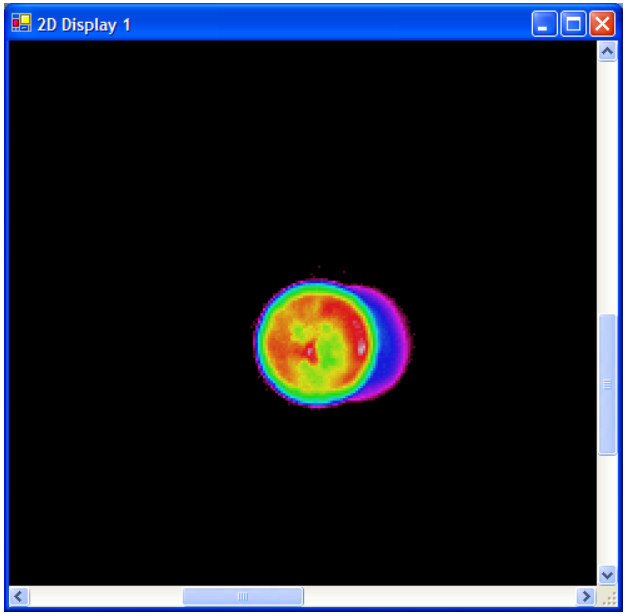
Evidence of some misalignment in the laser optics



20X LENS (view 100%)



50X LENS (view 100%)



100X LENS (view 200%)

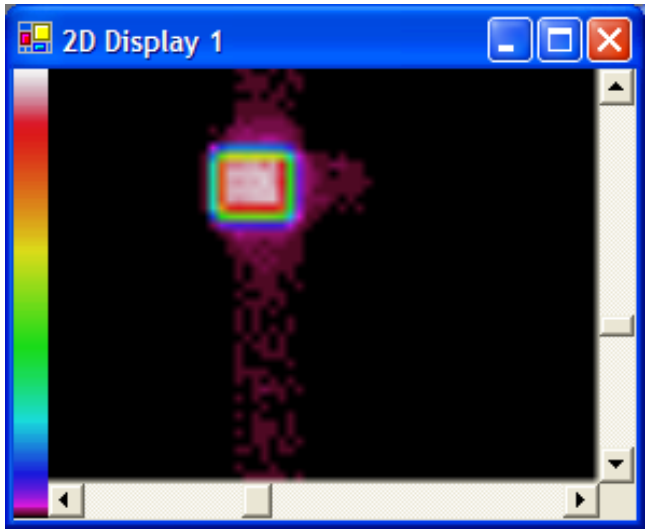
Analysis software estimates beam width (4 sigma)

580um

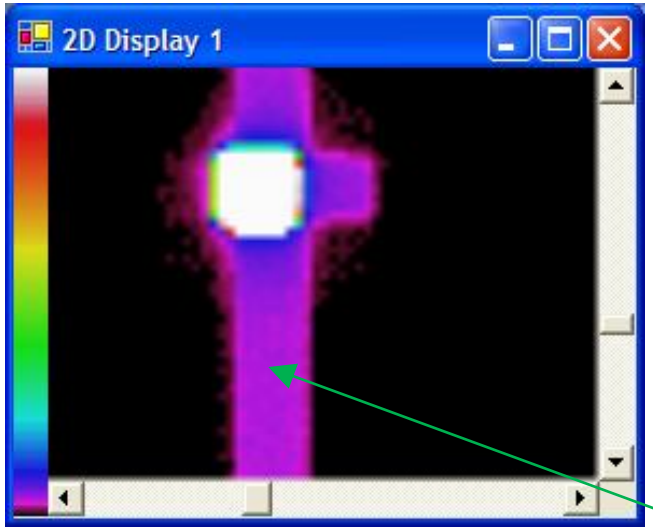
440um

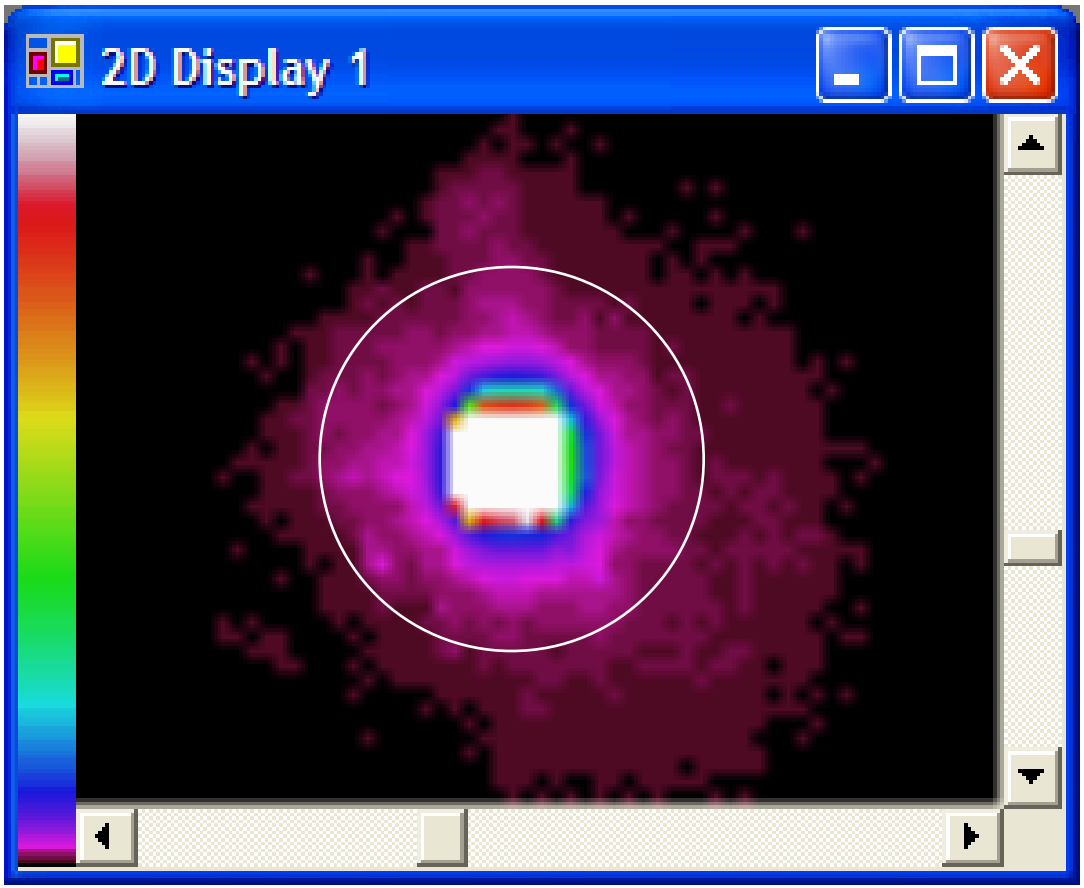
240um

Laser Optics Profile: Shuttered Light source



20X LENS 30x30 shutter





CCD smear in saturated columns

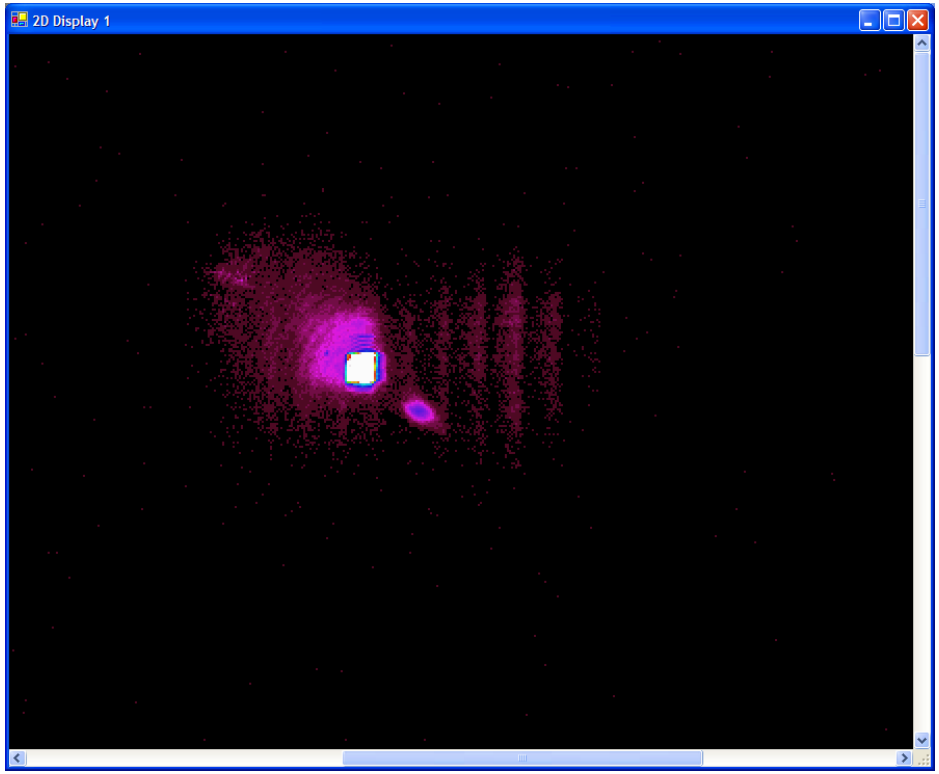
Laser Optics Profiles

- Beam profilers shows evidence of some misalignment
- Full profile has large spot sizes
  - Probably won't be useful technique to get um alignment of optics
- 100X shuttered profile is small
  - Should add optical magnifier to beam profiler to give 2um resolution
  - Requires laser head to be raised (dismantle)
- Propose to raise laser head
  - Fortis scans will also require laser head to be raised
  - Optics must be realigned after raising anyway
  - Gives flexibility for future testing
  - Will raise by ~54mm
  - May now need spacers when mounting some sensors (TPAC)
    - Simple to implement, compared with raising & lowering the laser head regularly!

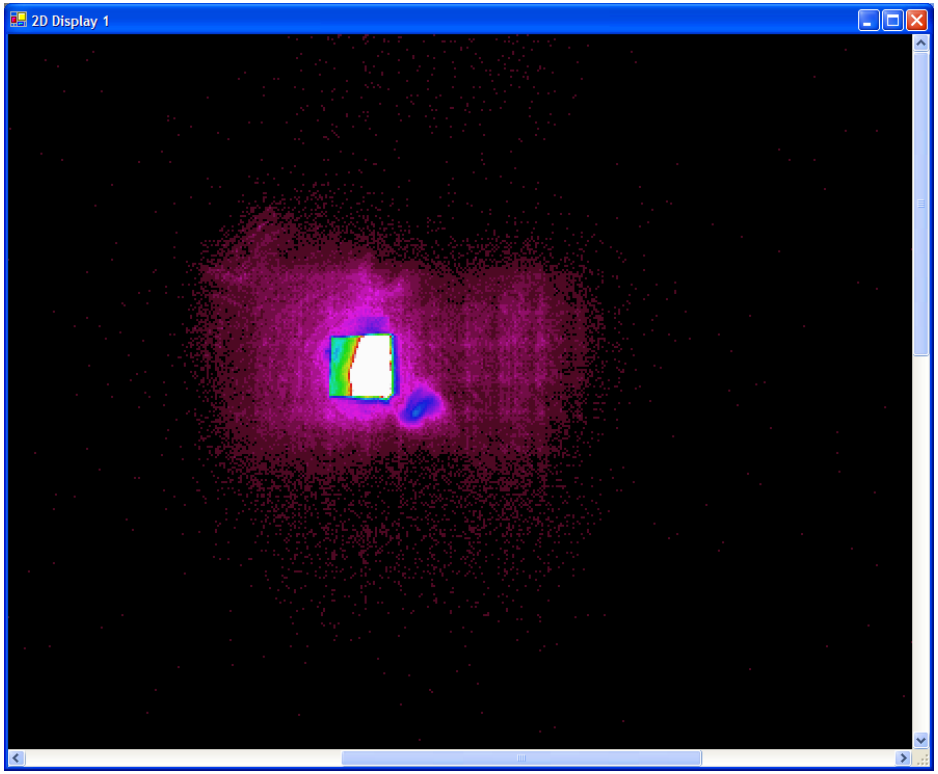
Current status

- Laser was raised on Friday
- Now needs aligning!

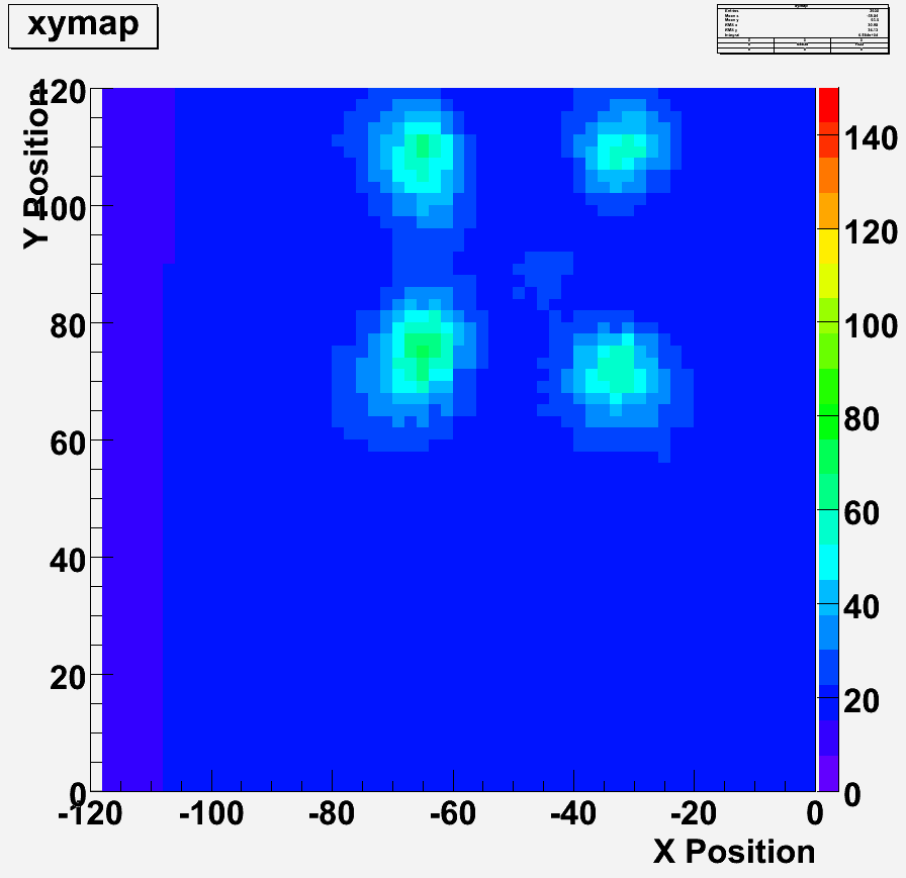
Laser pulse (triggered) – 50x50 aperture

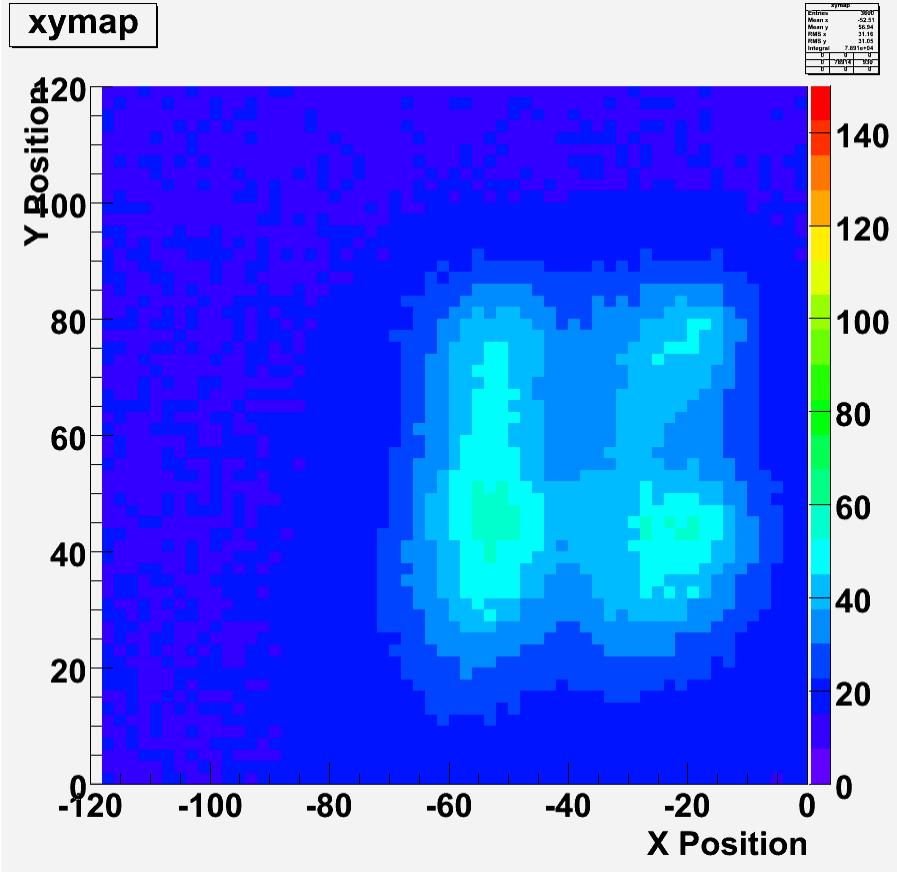


- 100x100 aperture



Some laser scans (before raise)





- 5um EPI, no DPW
- 5um EPI, with DPW