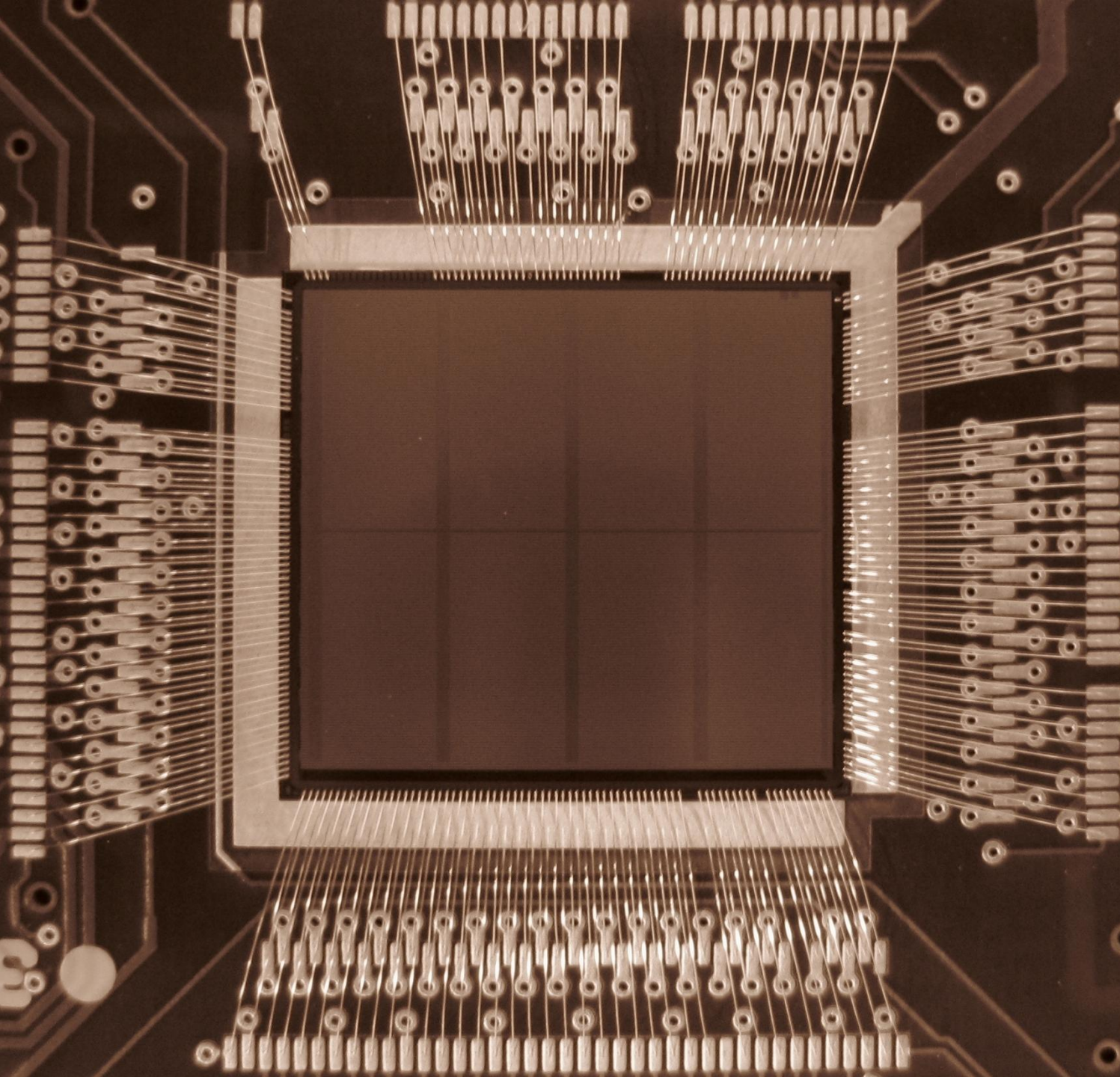


TPAC1.1


Jamie Crooks



TPAC1.1

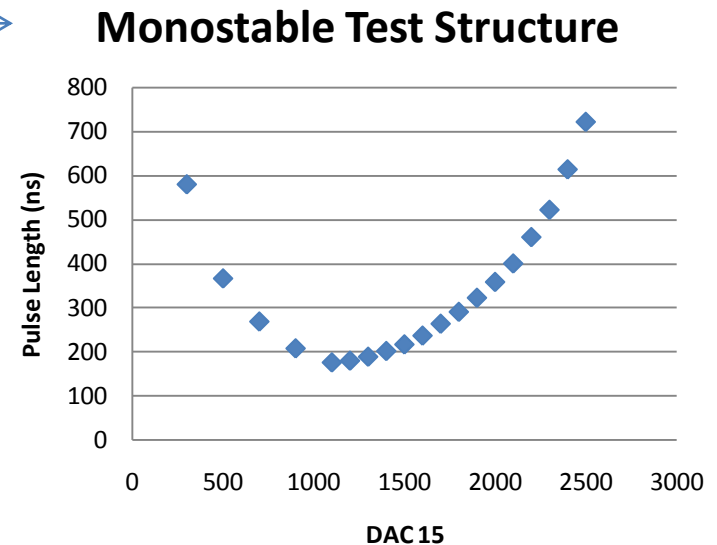
(honest)

First Batch

- Four boards
 - Received 10 at last meeting from Paul
 - Tested before bonding
 - 9 boards operated correctly, testing...
 - Operating current
 - Board ID
 - PCB temperature
 - Probed voltages at all power jumpers
 - DAC references initial value and read/write
 - 1 board showed no response from one of the DAC banks
 - Returned to IC for investigation
- Four chips (12u epi, with DPW)

- Three had a power-ground short!
- One had sensible power consumption
 - Most likely a bonding problem
 - New bond program in use for the larger bond pads
 - Inspection under microscope shows no obvious evidence as before, but some occasional material deposits on scribe lane
 - Bond program will be modified and a chip reworked to test

Very First Tests (#32)

- Power on
 - Sensible current
 - Including J1 fitted → promising for the VDD2V5dig bug
- SensorLoadV1.1
 - See bit errors in columns 24→71
 - Almost certainly marginal timing on clock edges through up-rated inverter
- Monostable test structure
 - Working correctly →
 - Shows that I12IOUTBIAS bug fixed




TPAC1.0

Jamie Crooks

On behalf of Barnaby Levin & Michael Lynch

Summer Students

- Bulk pixel scans
 - Perl scripts automate...
 - “runStart” commands
 - Movement of X/Y stage
 - Laser parameters
 - Root programs automate
 - Function fitting to threshold scans
 - Data plotting
- Analog test-pixel scans
 - Labview automates
 - Acquisition of measurements from LeCroy scope
 - Movement of X/Y stage
 - Laser parameters
 - Root programs automate
 - Data plotting
- Laser reliability
- Fully documented on “Spider Wiki” 
 - Results
 - Flow charts
 - Software documentation
 - Source code



The screenshot shows the SPIDER Wiki page for Laser Testing. The page title is "SPIDER Wiki" and the main heading is "Laser Testing". Below the heading is the sub-heading "RAL LASER TESTING". A "Table Of Contents" is listed on the right side, including links to "Co-ordinate System", "Restarting The Laser", "Temperature Effects", "Laser Intensity Testing", "Mask Scanning Overview", "Alignment Scanning Overview", "Laser Focus", "Automating Cut Off Calculation", "Running the test pixels", "Analog Scans", and "Software Documentation". A search box is located in the top left, and a "Recently viewed pages" section is visible below it. The page footer includes a Creative Commons Attribution-Share Alike 3.0 License logo and some test text.

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Mask Scanning Overview
Analog Scans
Restarting The Laser
SpiderCollaboration
LaserTesting

LaserTesting (last edited 2008-10-03 08:43:15 by BarnabyLevin)

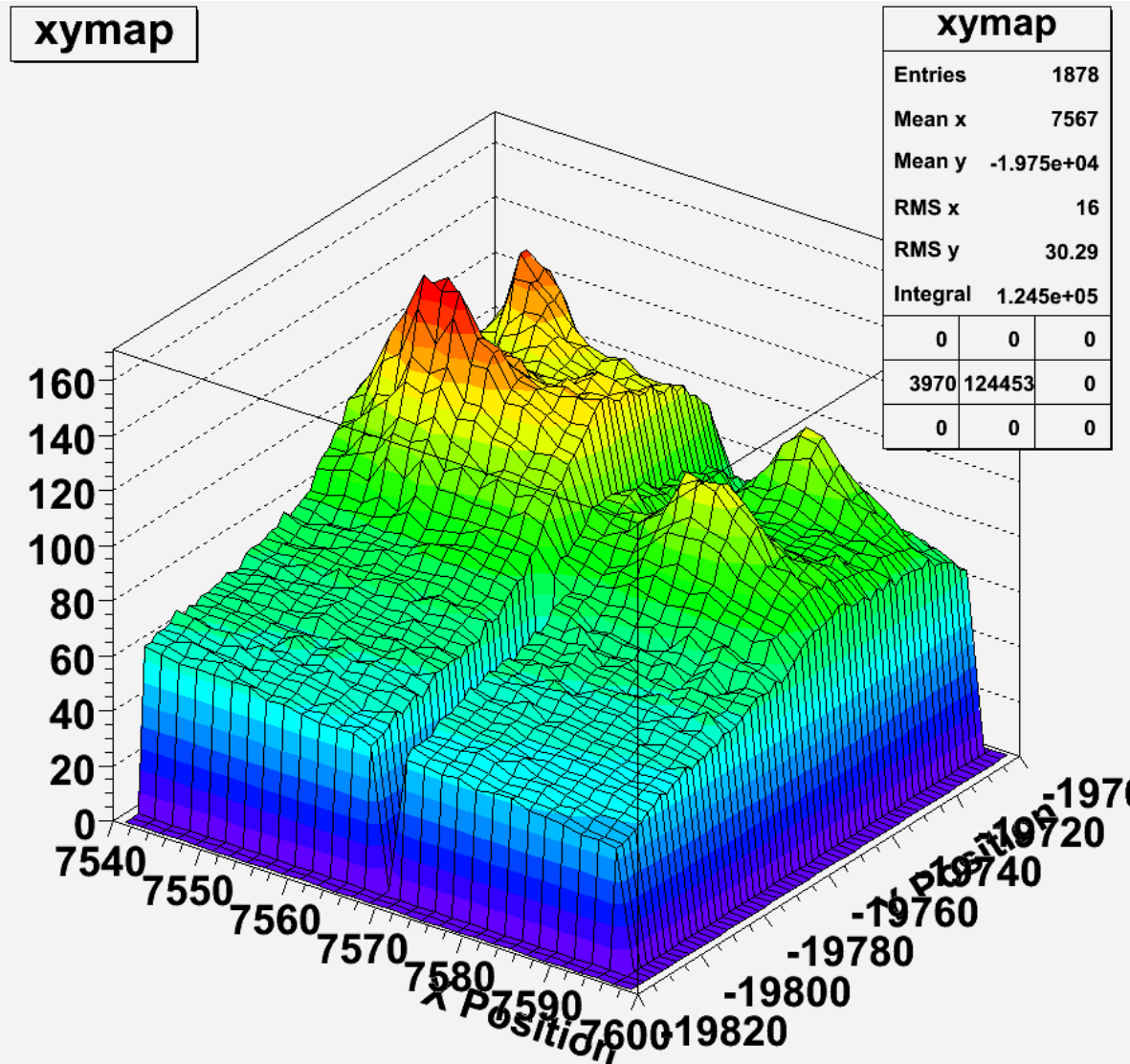
Edit Show Latest Changes History / Page Properties Attachments
Add Link Render As Raw Render As Pdf Render As Slideshow Visual Site Map

This is some test text with links to the ContactInformation, PrivacyPolicy and GeneralDisclaimer.
Spider Wiki is licensed under a Creative Commons Attribution-Share Alike 3.0 License

cc-wiki
SOME RIGHTS
RESERVED

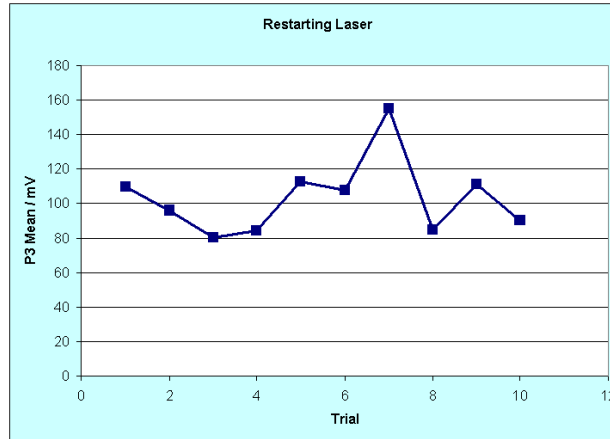
Test pixel scans

- 2x2um laser
- 2um steps
- Two runs
 - Something crashed
 - Laser intensity different after restart
 - Hence the different peaks!
 - Will repeat
 - This sensor
 - Non-DPW sensor
 - 5um EPI sensor



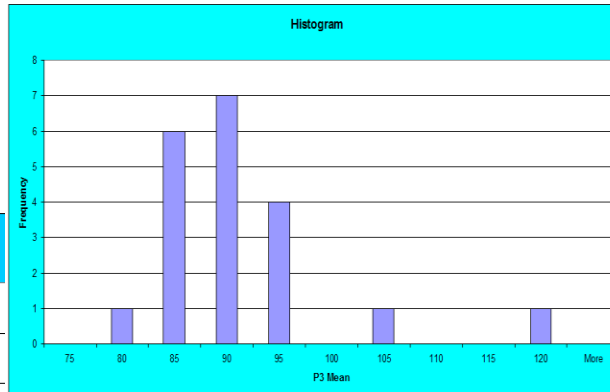
Laser uniformity

- If laser is turned off/on... →
- If connection between labview and laser is broken/remade...
- Over long periods (weekend)...



- 1: Stop Any Software Running The Laser
- 2: Turn Laser Off At Key
- 3: Wait For Short Period
- 4: Turn Laser On At Key
- 5: Wait For Short Period
- 6: Fire Laser From Control Box With Desired Settings For Short Period
- 7: Stop Firing
- 8: Start Labview, (Will not connect first time)
- 9: Restart Labview (Software should now be working)
- 10: Fire Laser From Computer
- 11: Wait For a Short Period
- 12: Take Measurements

- Some improvement made by manually firing the laser before re-connecting with labview



- 1: Stop Any Software Running The Laser
- 2: Turn Laser Off At Key
- 3: Wait For Short Period
- 4: Turn Laser On At Key
- 5: Wait For Short Period
- 6: Fire Laser From Control Box With Desired Settings For Short Period
- 7: Stop Firing
- 8: Start Labview, (Will not connect first time)
- 9: Fire Laser From Control Box With Desired Settings For Short Period
- 10: Stop Firing
- 11: Restart Labview (Software should now be working)
- 12: Fire Laser From Computer
- 13: Wait For a Short Period
- 14: Take Measurements

- Needs more understanding (/fixing?)
- Any absolute calibration method must eliminate non-uniformity of this kind

