SVD video meeting,
Oct. 18, 2001

VA1, VA1TA testing for single event effects - update

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New since last meeting

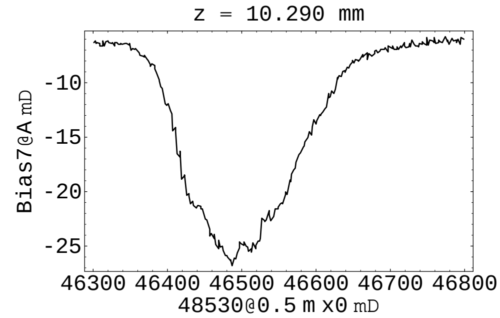
- VA1 + VADAQ set-up and running
- Communication with the cover program structure (scan mechanics drive etc) established
- Focus was found →
- First scans have been performed →

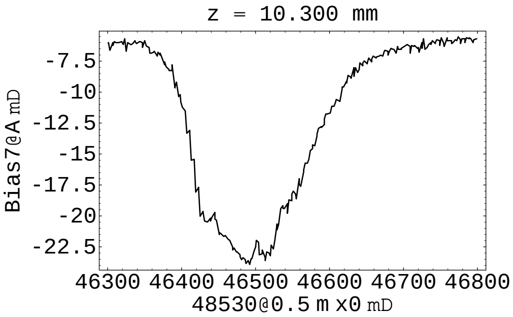
Next: more scans over the chip surface, repeat scans with VA1TA, move to the high power laser

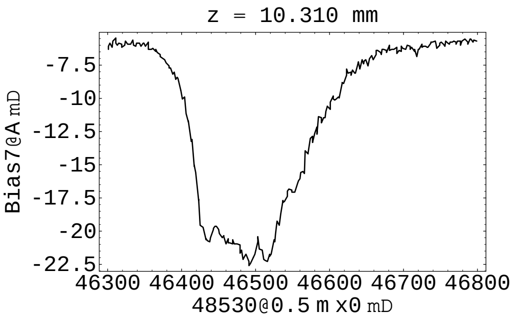
Search for the focus

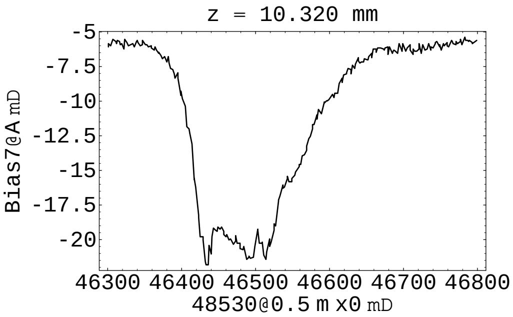
Same method as for the test sample (diode) presented last time: Scan over a small part of the chip, find a bias current which shows a response, look for details, change optical system-to-chip distance z.

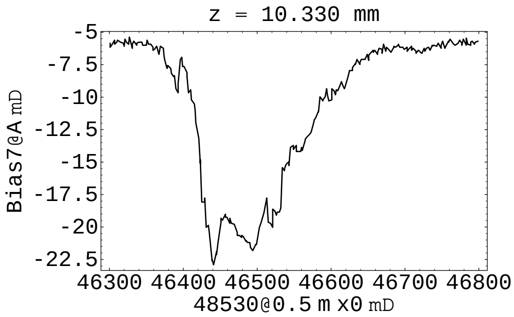
From $z = 10.290$ mm to $z = 10.360$ mm in 10 μm steps

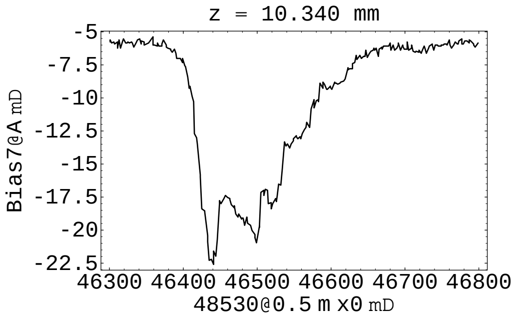


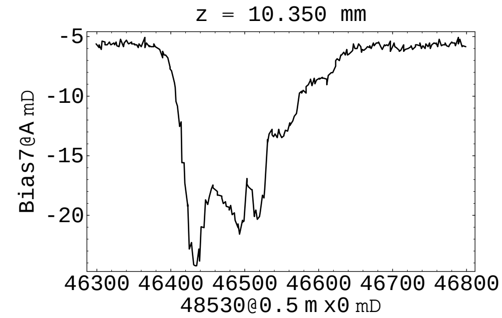


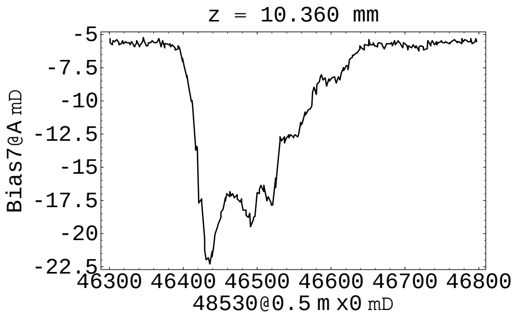










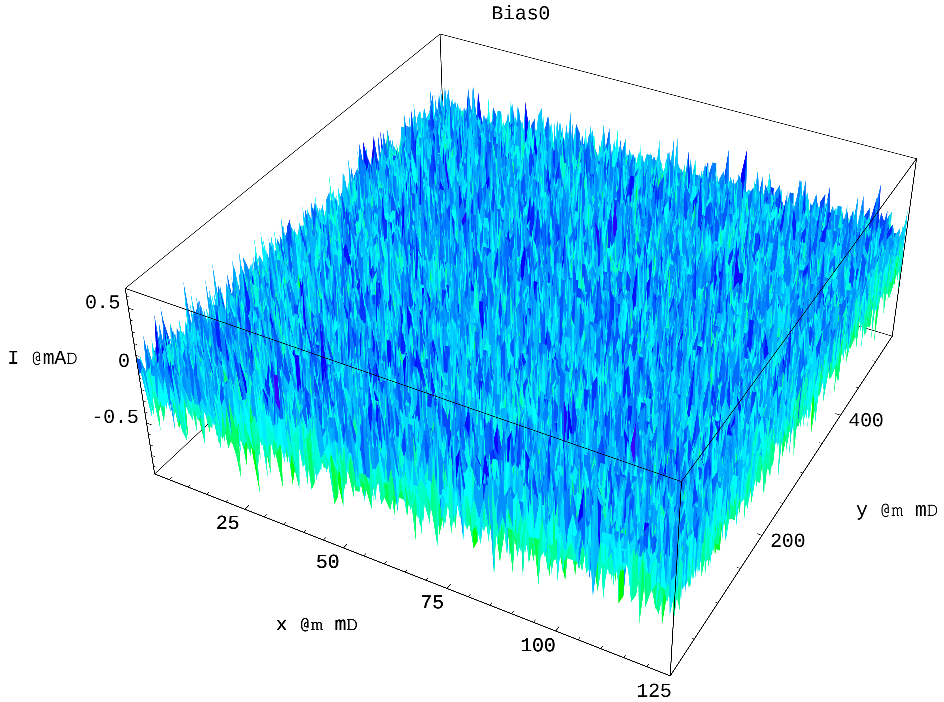


Scanning the VA1 chip

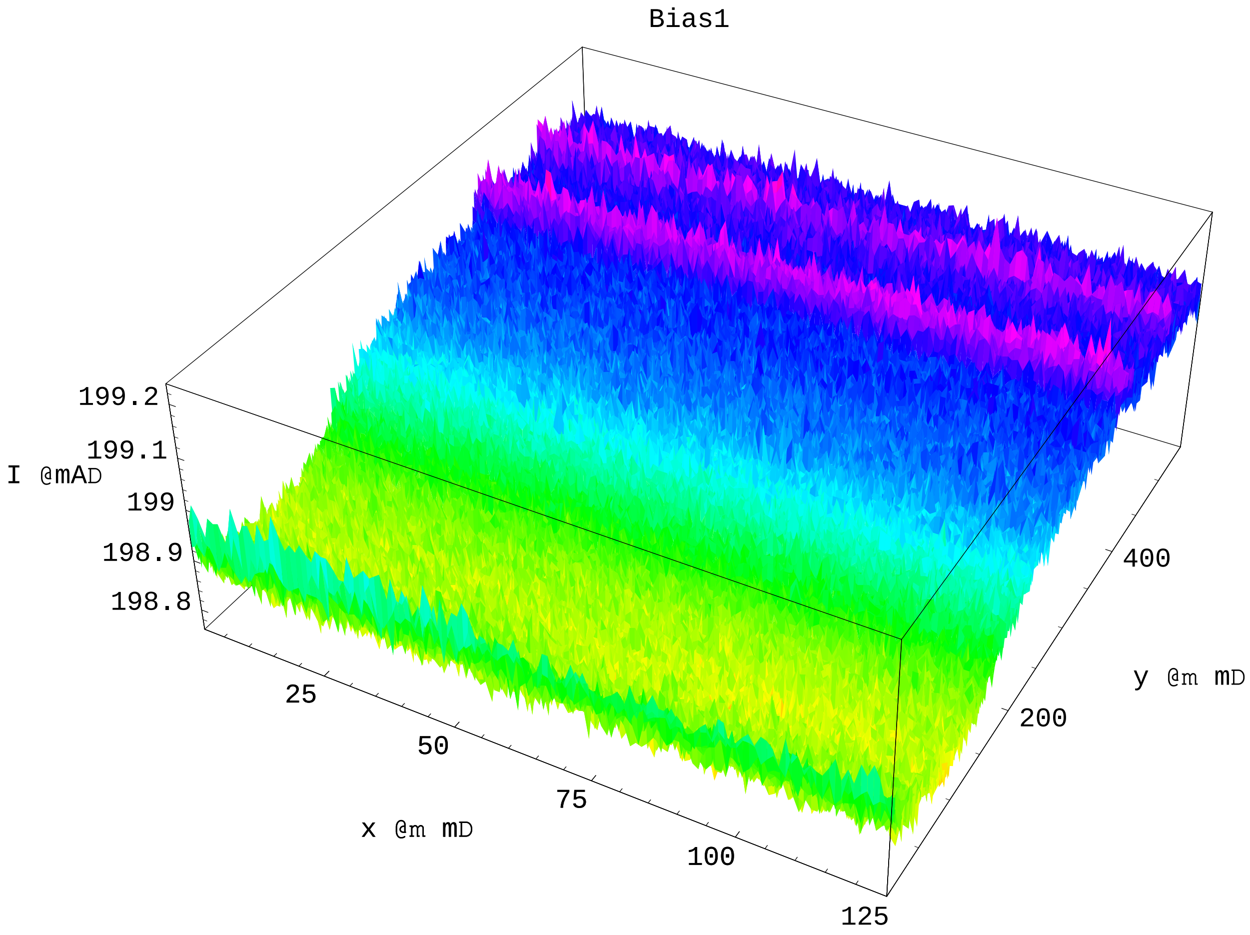
Single event latch-ups (SELU): expect a dramatic increase in bias currents.

Scan over a part of the chip surface (125 μm x 400 μm) at the lower chip edge, measure through VADAQ all bias currents and the supply currents as a function of the laser spot coordinate.

Example of no response - bias nr. 0



Bias nr. 1: chip edge is visible (at around $y = 200\ \mu$m), as well as two lines



$\rightarrow$ scanning is being continued

$\rightarrow$ also: we are trying to understand the data