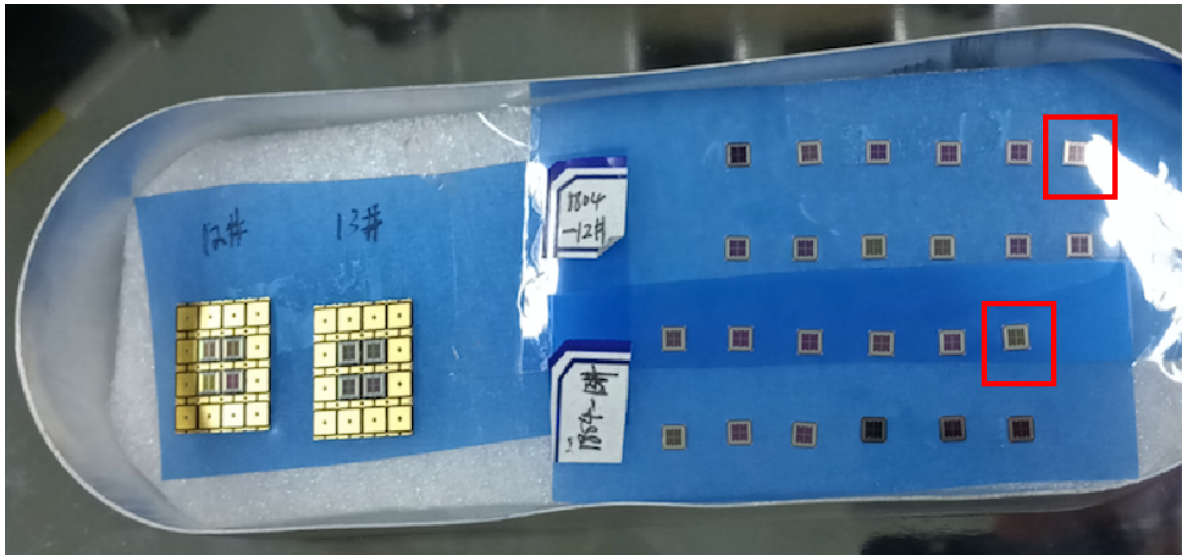
Update on sensor tests

Liaoshan Shi
(Measurement done with Baohua Qi)
Mar. 21, 2019

Measured two sensors from BNU

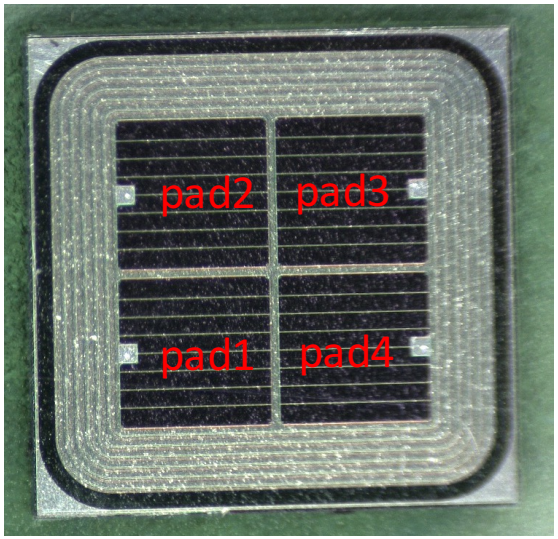


BV60-50-B
(expected VBD: 60V)

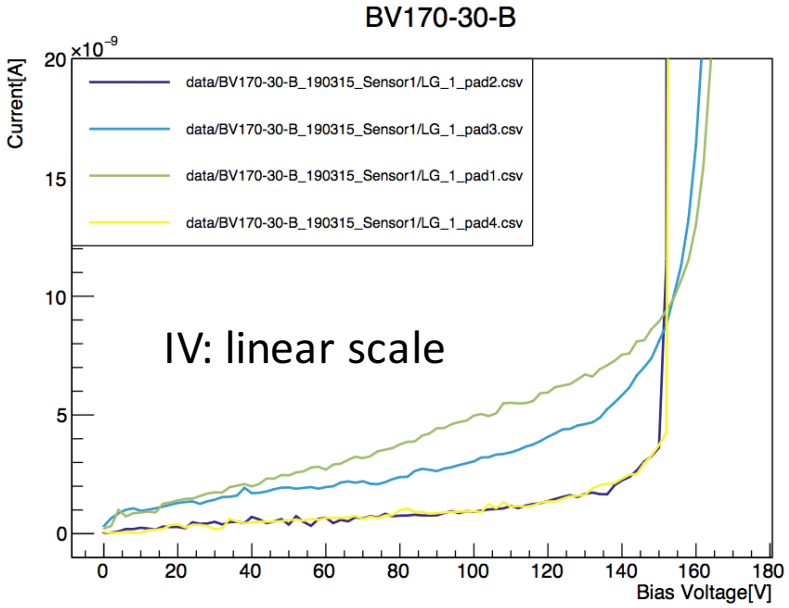
BV170-30-B
(expected VBD: 170V)

The dark strips are possibly opening windows without passivation.
The sensors are very sensitive to light, showing large current when light is on.

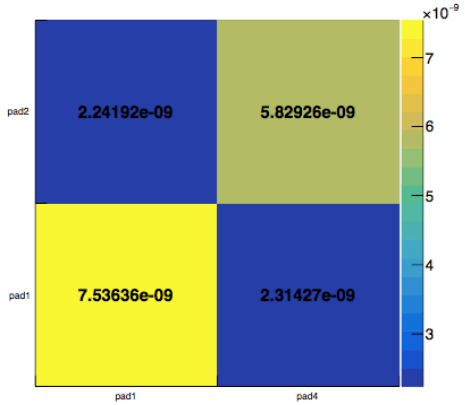
Label the pads as shown in this plot →
The 2x2 sensor is symmetric under 180 degree rotation. Not possible to distinguish between pad2 and pad4.



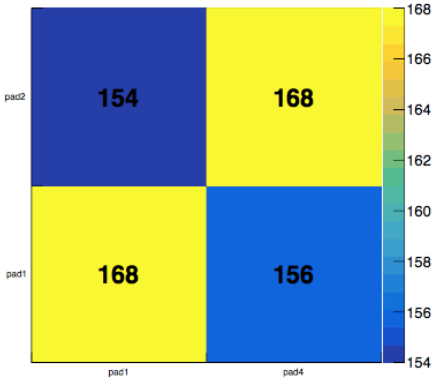
BV170-30-B: IV measurement

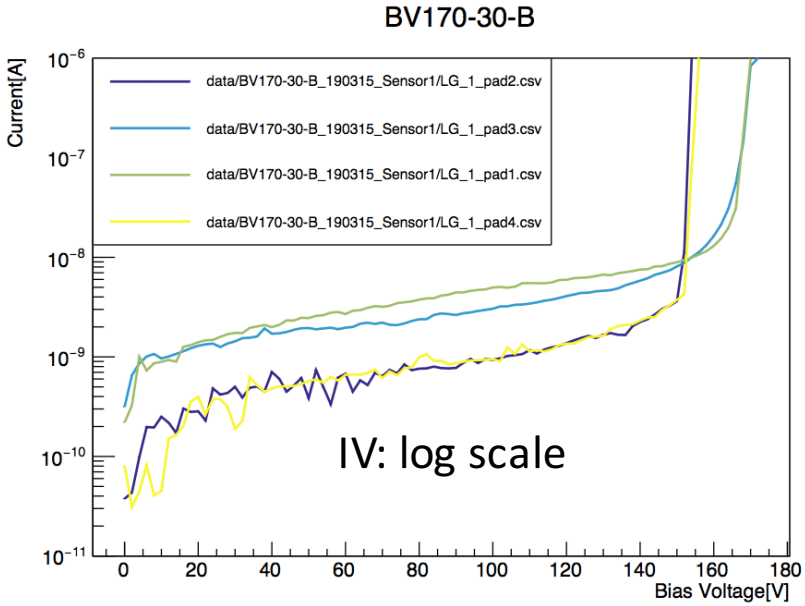


Dark current at 140V



Breakdown voltage

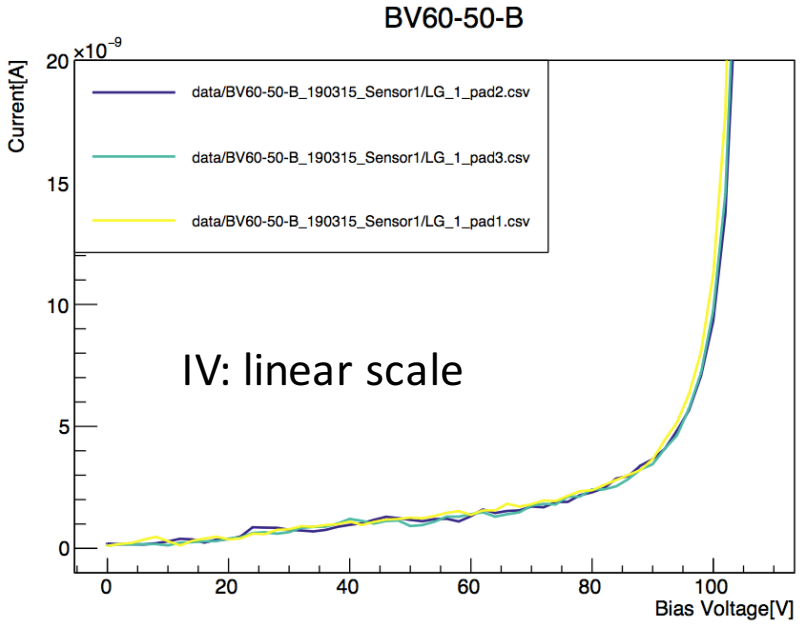




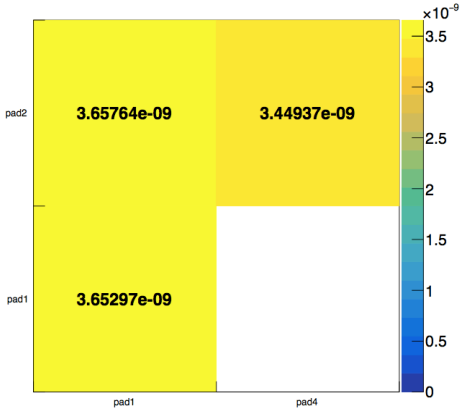
Pad1 and pad3 show a breakdown voltage at 168V, very close to the expected 170V.

Pad2 and pad4 show lower breakdown voltage and lower dark current.

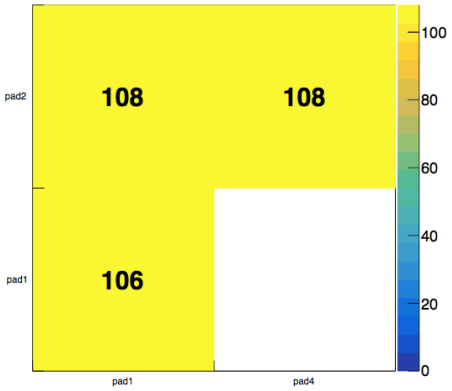
BV60-50-B: IV measurement

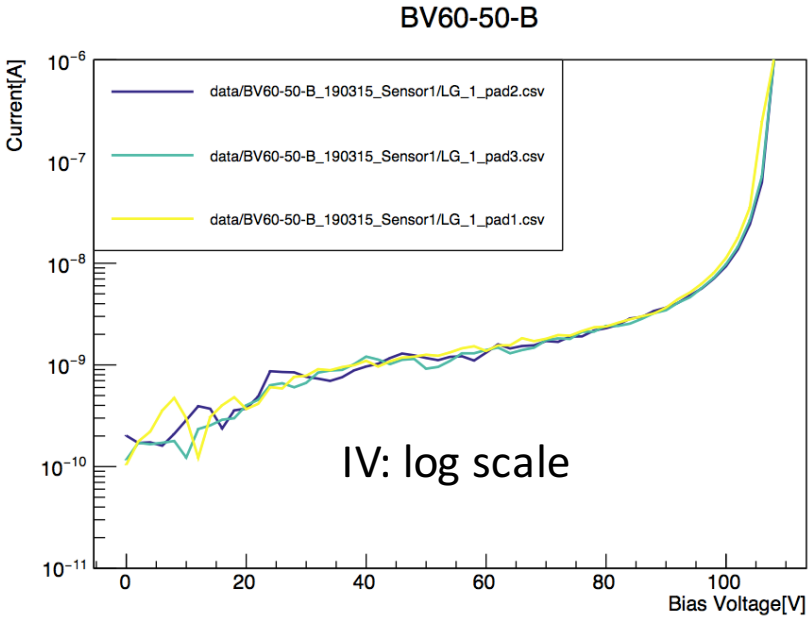


Dark current at 90V



Breakdown voltage





We measured all the four pads, but data from pad4 were lost due to a mistake.

Very uniform performance for all pads.

But the breakdown voltage (~108V) is much higher than the expectation (60V).

BV60-50-B: CV measurement of pad1