Update on sensor tests

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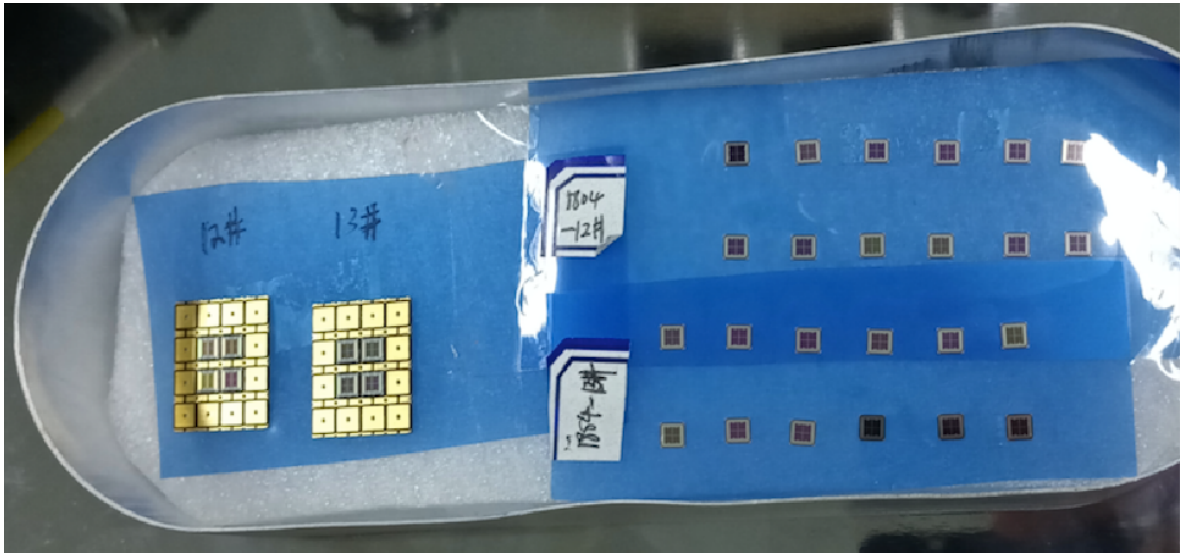
Mar. 14, 2019

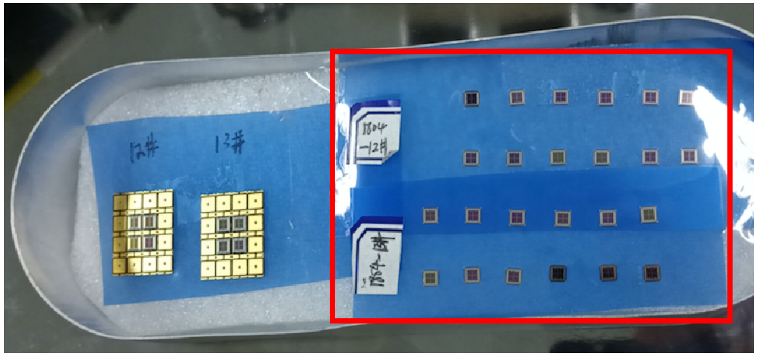
New LGAD sensors from Beijing Normal University

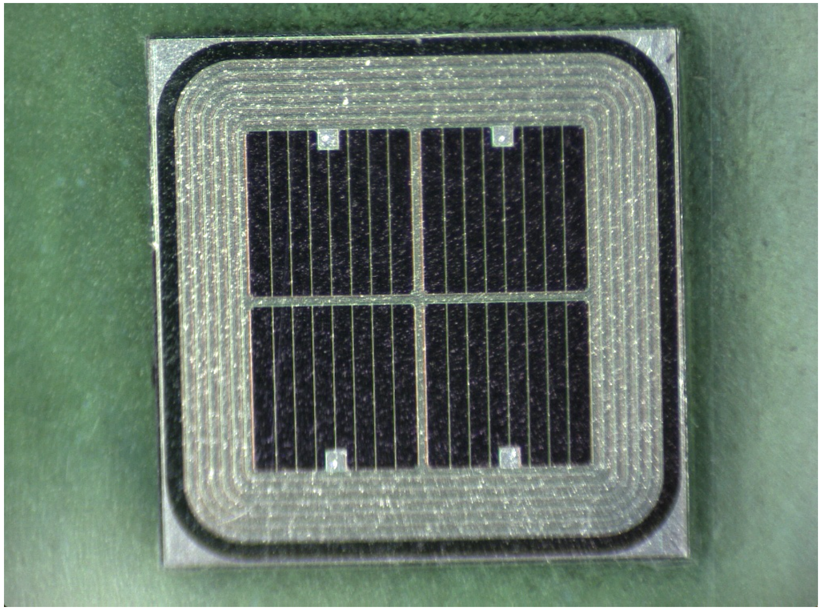
送 货 单

产品名称	数量	描述
BV60-50-S (12#)	16 只	（LGAD），击穿电压～60V
BV60-50-B (1804-12#)	48 只	（LGAD），击穿电压～60V
BV170-30-S (13#)	16 只	（LGAD），击穿电压～170V
BV170-30-B (1804-13#)	48 只	（LGAD），击穿电压～170V

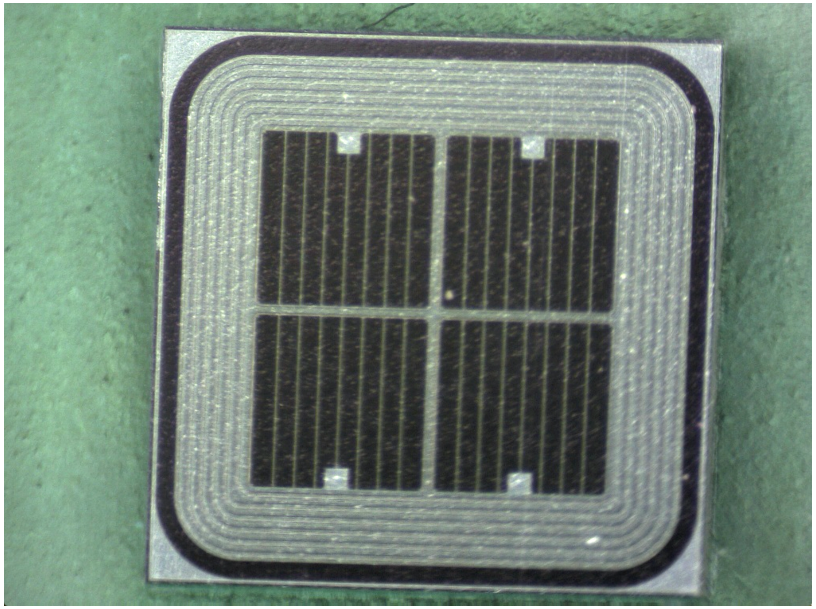


New LGAD sensors from Beijing Normal University



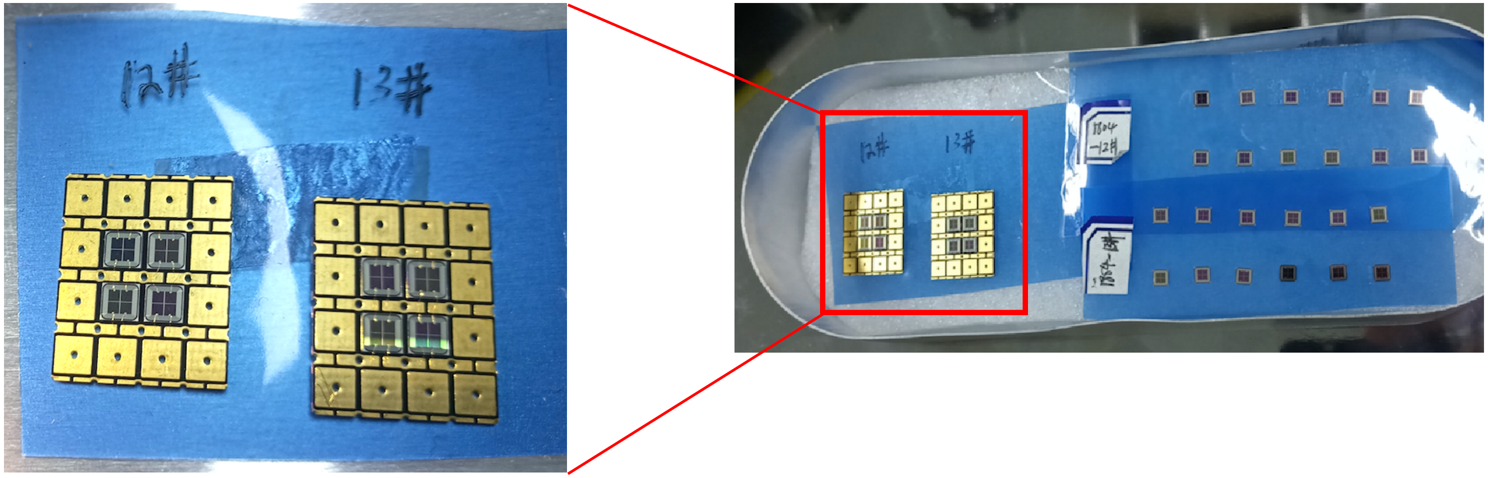


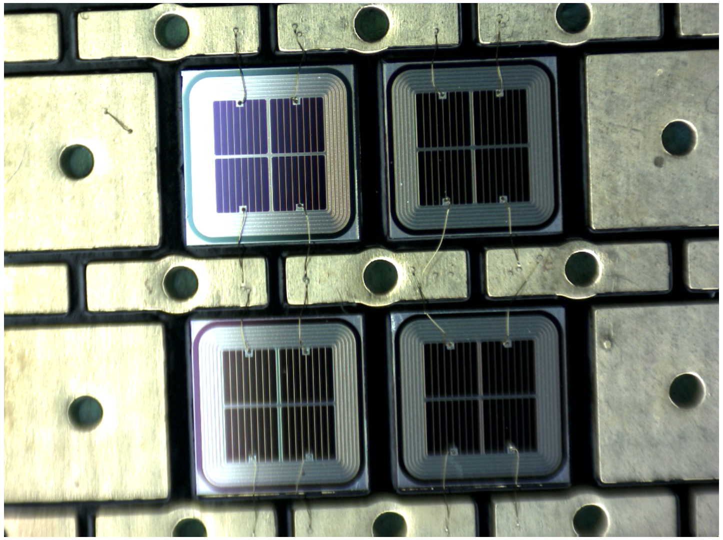
BV60-50-B



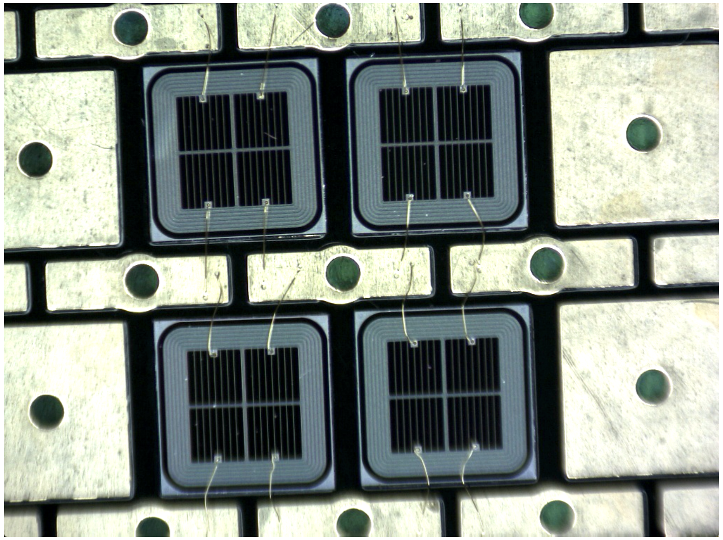
BV170-30-B

New LGAD sensors from Beijing Normal University





BV60-50-S

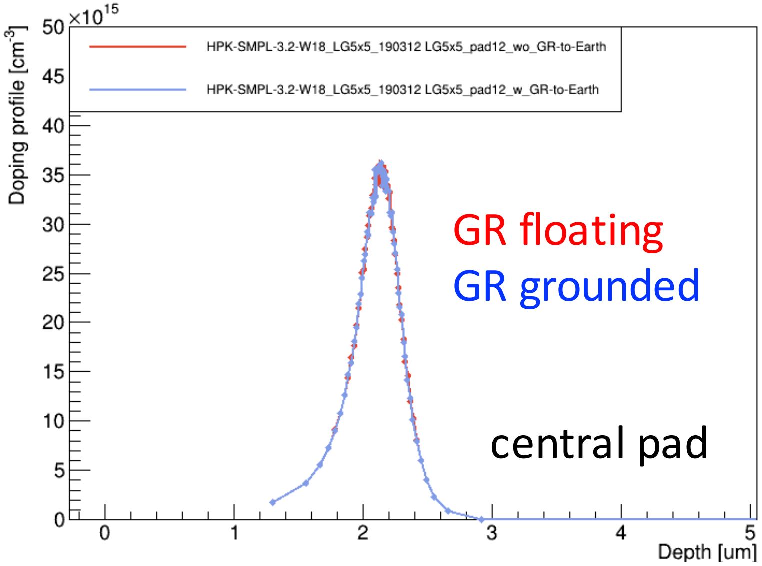


BV170-30-S

Updates on CV tests:
W18 (VBD 120V)

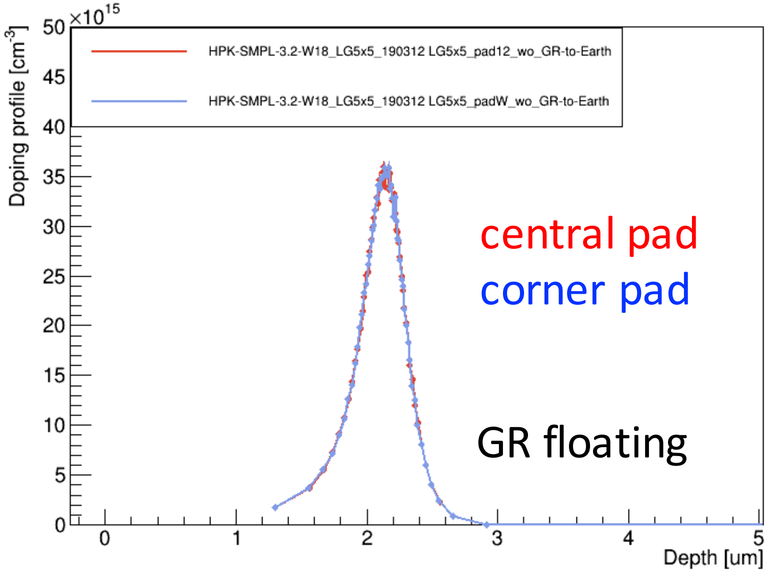
Doping from 5x5 array

- Assume A=0.13x0.13 cm^2



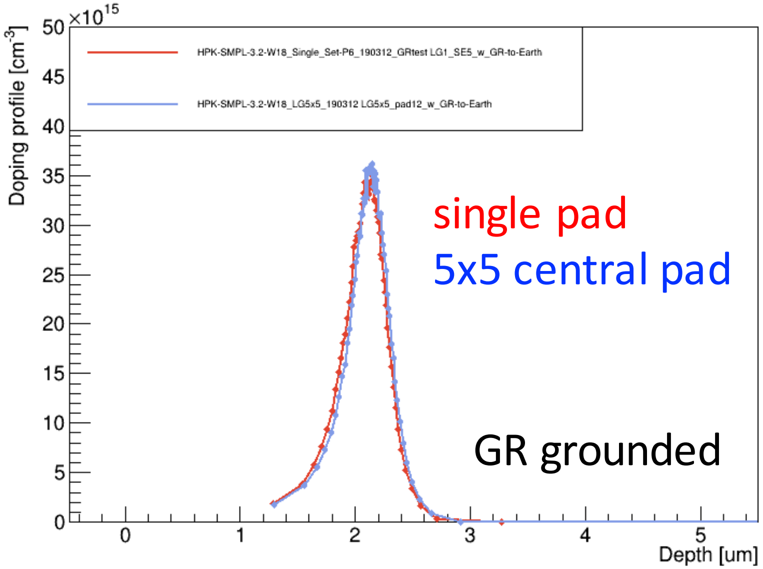
GR floating
GR grounded

central pad



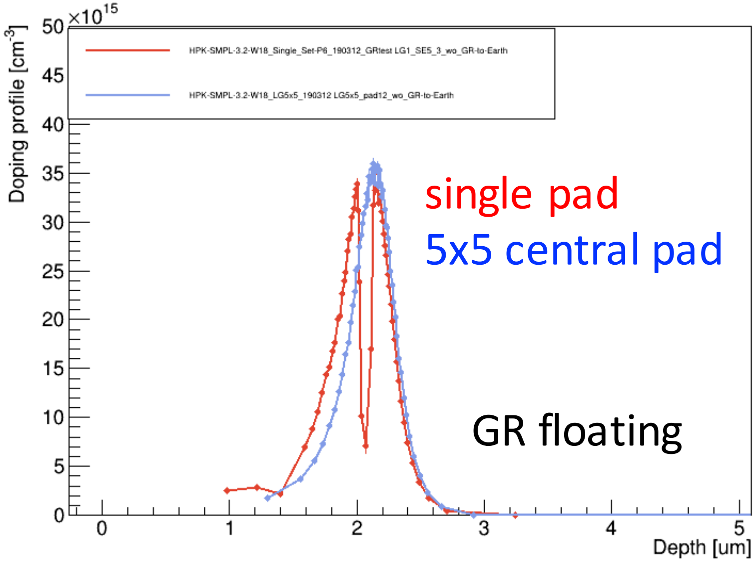
central pad
corner pad

GR floating



single pad
5x5 central pad

GR grounded



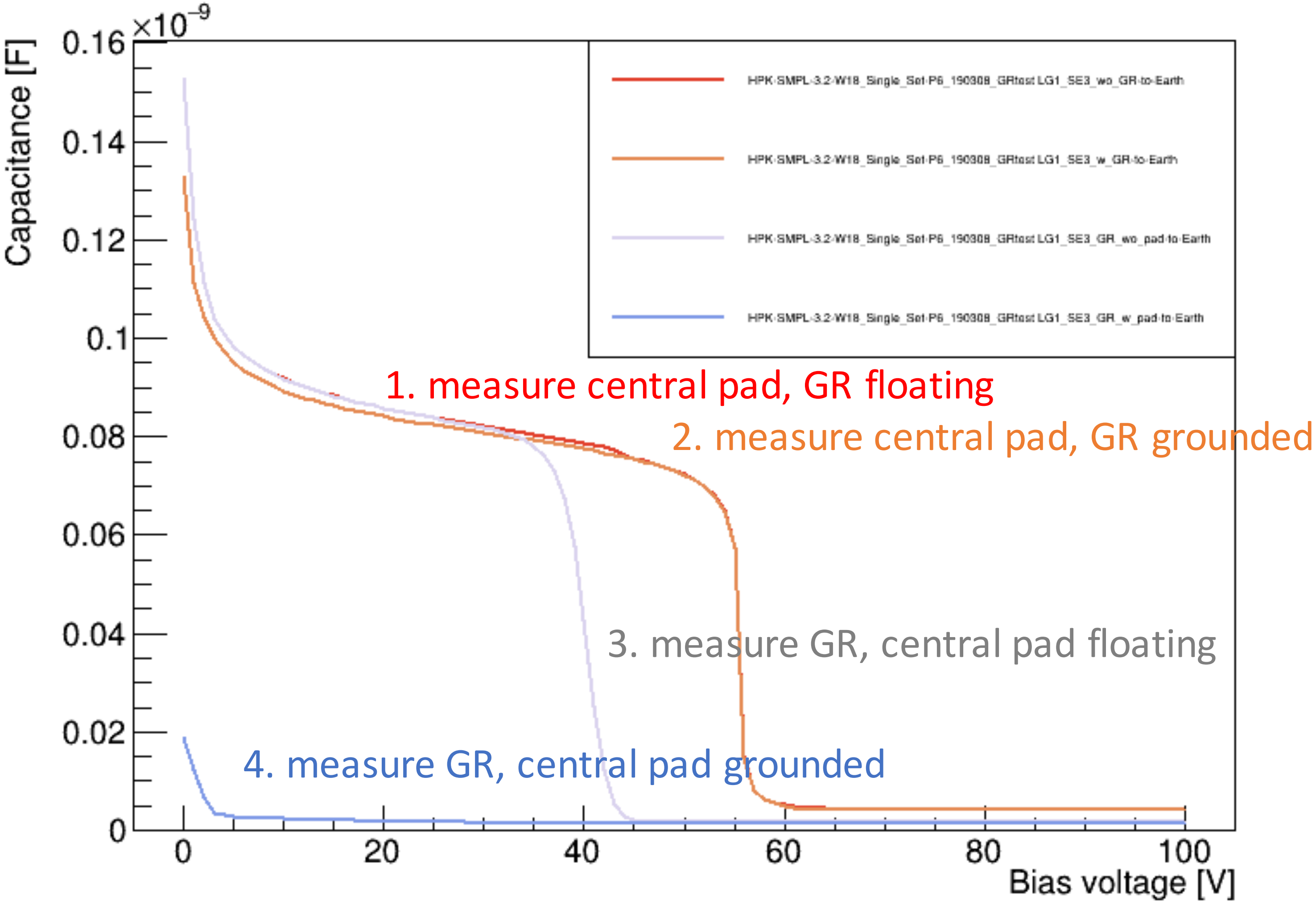
single pad
5x5 central pad

GR floating

CV tests with different configurations

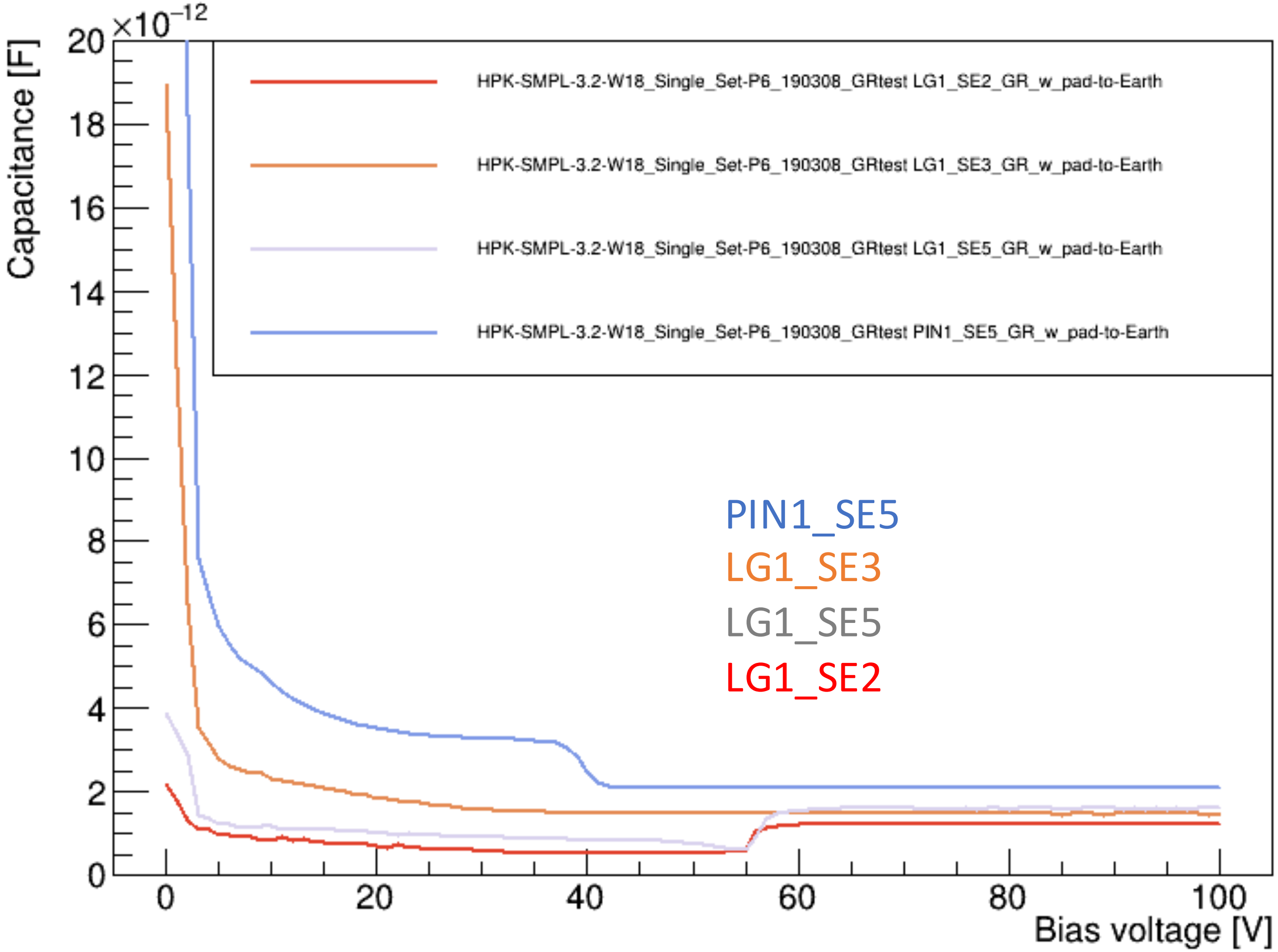
- Five connection schemes:
  - Measurement on sensor active area:
  1. Central pad to LCR, Guard ring floating
  2. Central pad to LCR, Guard ring to ground
  - Measurement on guard ring:
  3. Guard ring to LCR, central pad floating
  4. Guard ring to LCR, central pad to ground
  - Measurement between sensor active area and GR:
  5. Guard ring to LCR Hi, central pad to LCR Lo. The back of the sensor is floating.

CV tests with different configurations



1. measure central pad, GR floating
2. measure central pad, GR grounded
3. measure GR, central pad floating
4. measure GR, central pad grounded

4. measure GR, central pad grounded



PIN1_SE5
LG1_SE3
LG1_SE5
LG1_SE2

5. GR to LCR Hi, central pad to LCR Lo

Bias voltage [V]	Current [uA]
-0.10	-5.2
-0.05	-2.8
0.00	-0.6
+0.05	2.0

- Capacitance below 1pF.
- Similar to a resistor of 20kΩ