

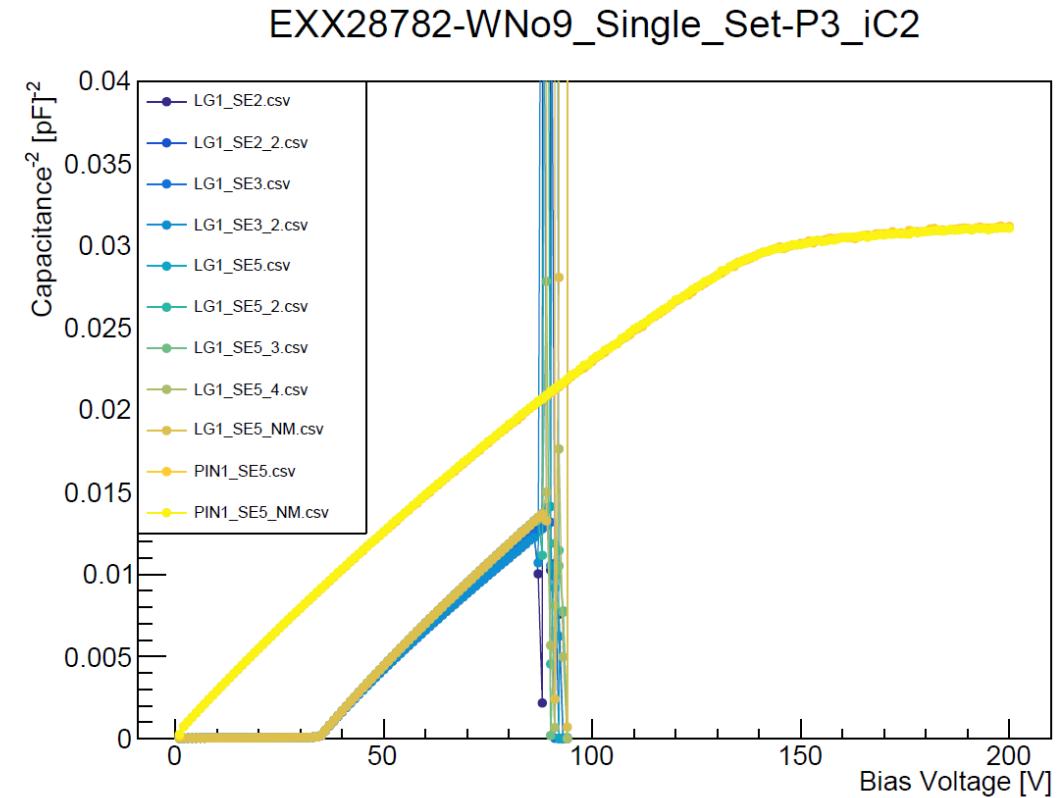
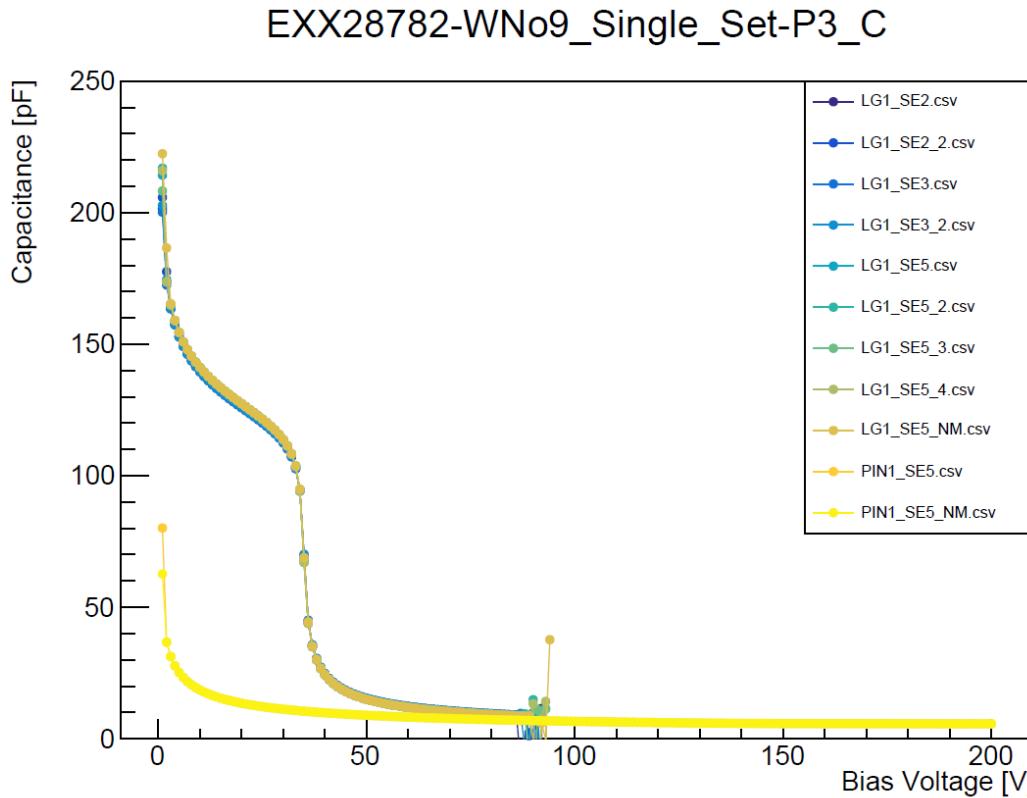
Continue of the C-V measurements

Update : 02/06/2019

- Change the color of histograms
- Correct the unit of capacitance , “ μF ” --> “ pF ”
- Change the position/size of histograms (not important)

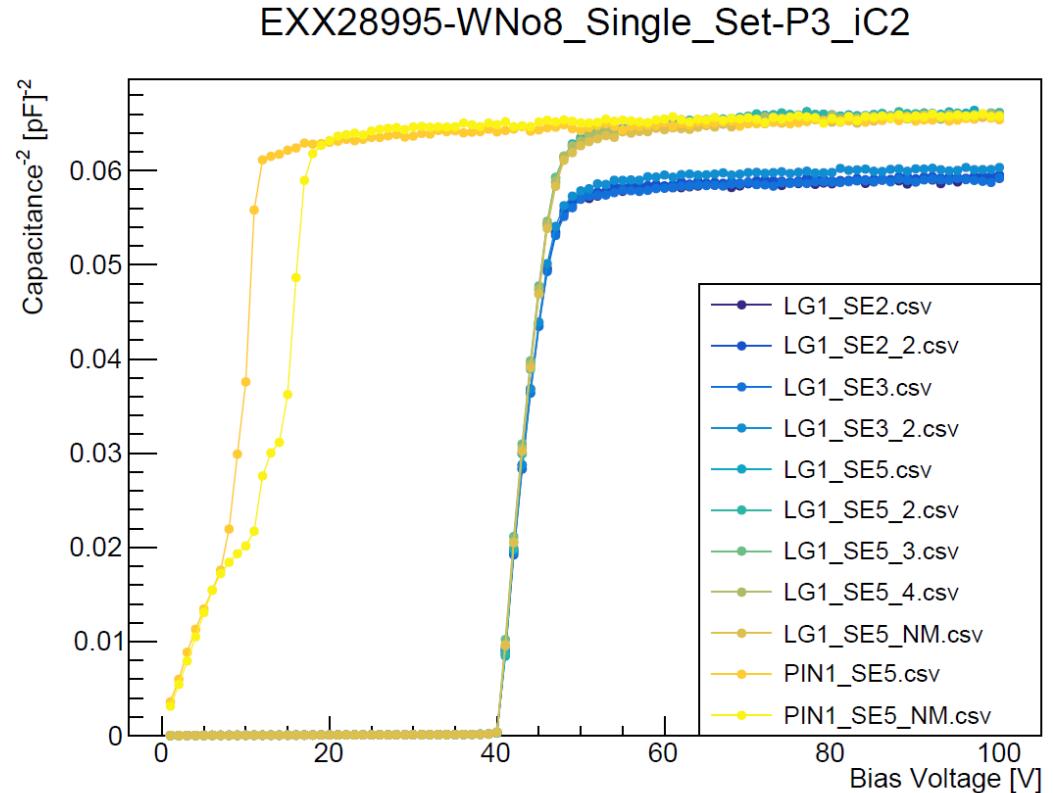
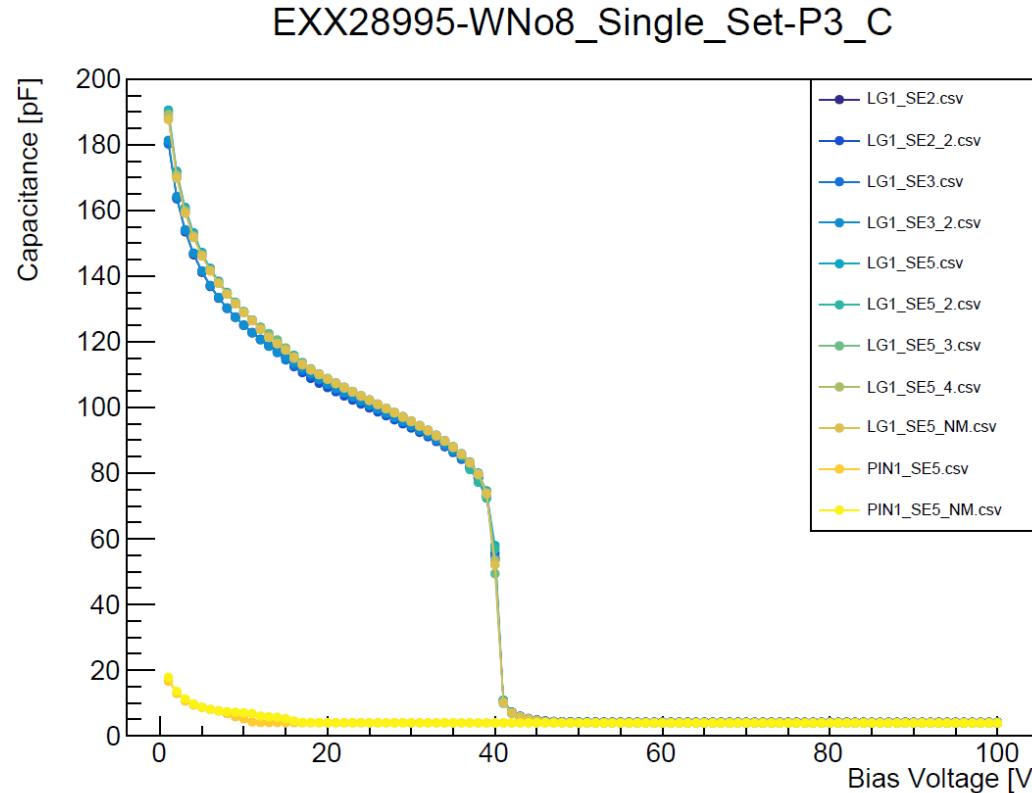
01/31/2019

C-V results: HPK-SMPL-1-W9-Single-Set-P3



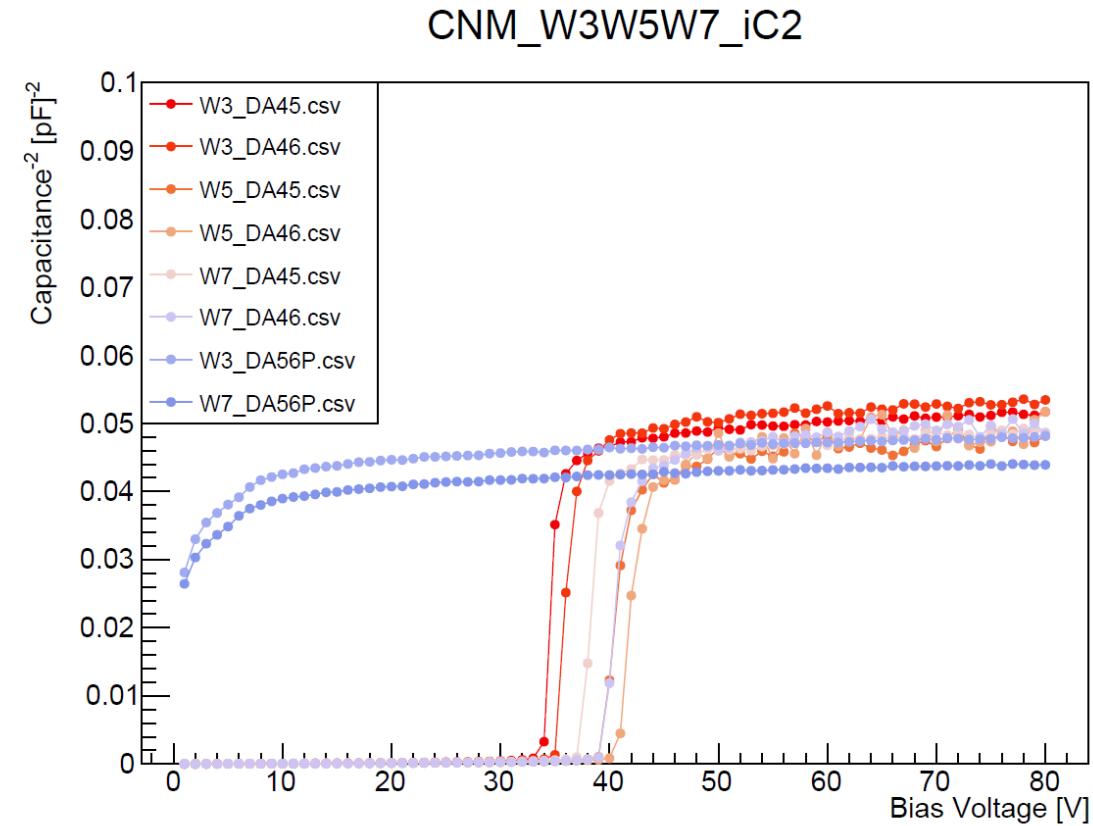
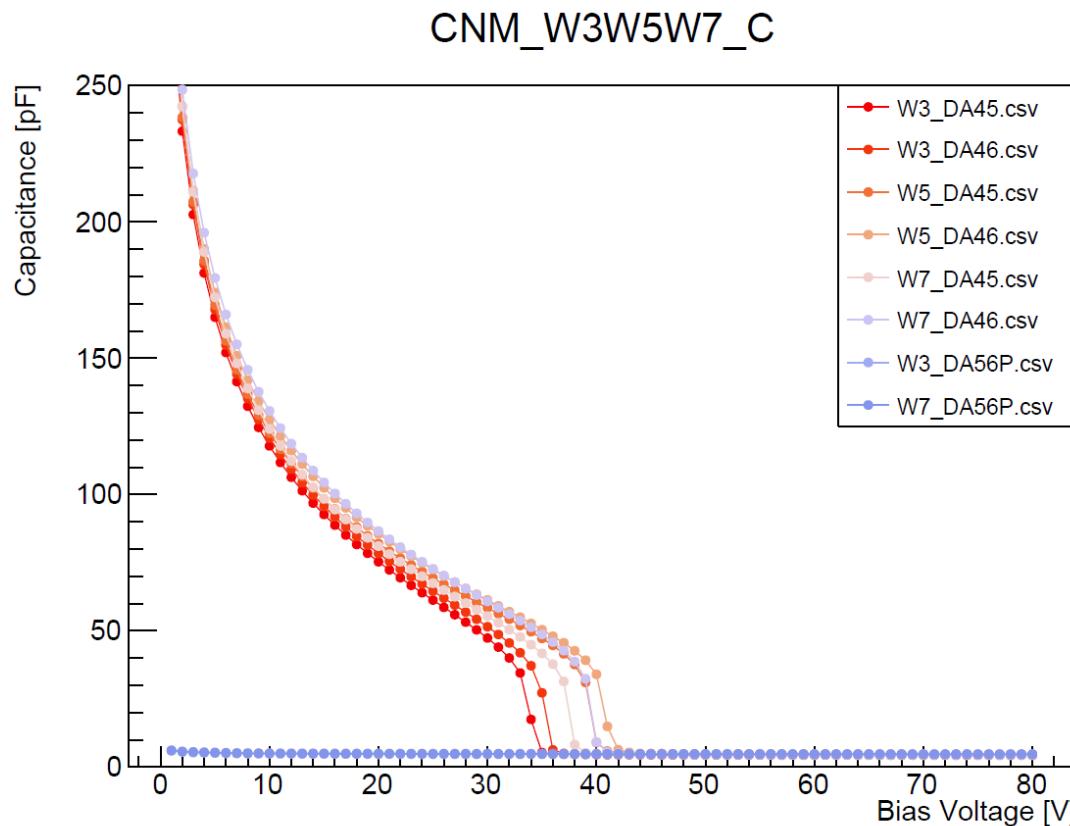
- LGADs breakdown (~80V) before full depletion.
- PINs depleted at ~150V.

C-V results: HPK-SMPL-3.1-W8-Single-Set-P3



- Full depletion (~40V) for LGADs. PINs depleted before LGADs.
- Capacitance at full depletion: ~4pF

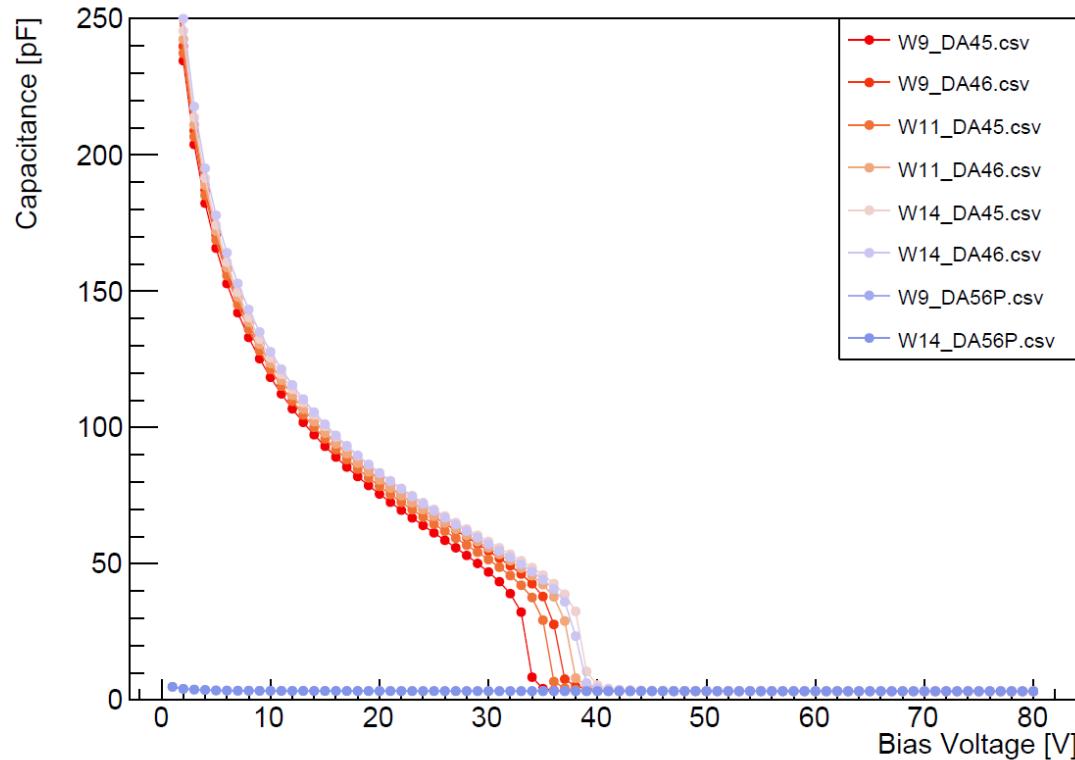
C-V results: CNM-Single, W3/W5/W7/W3_{PIN}/W7_{PIN}



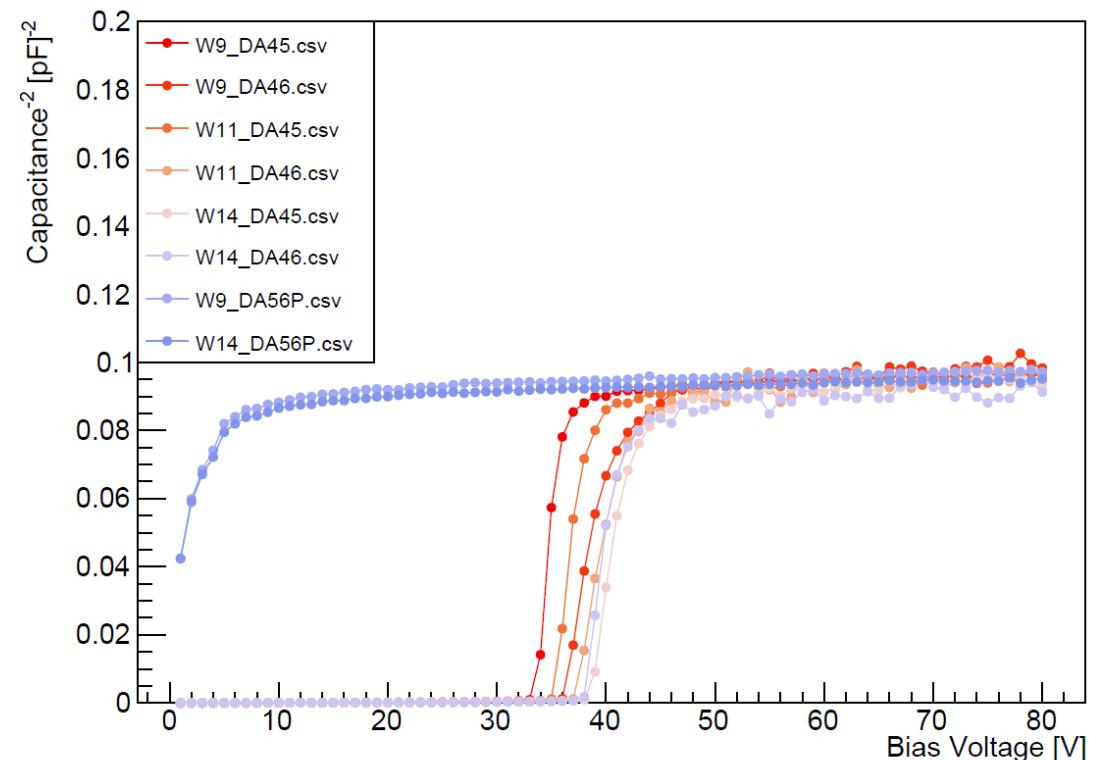
- Full depletion (~40V) for LGADs. PINs depleted before LGADs.
- Capacitance at full depletion: ~4.5pF

C-V results: CNM-Single, W9/W11/W14/W9_{PIN}/W14_{PIN}

CNM_W9W11W14_C



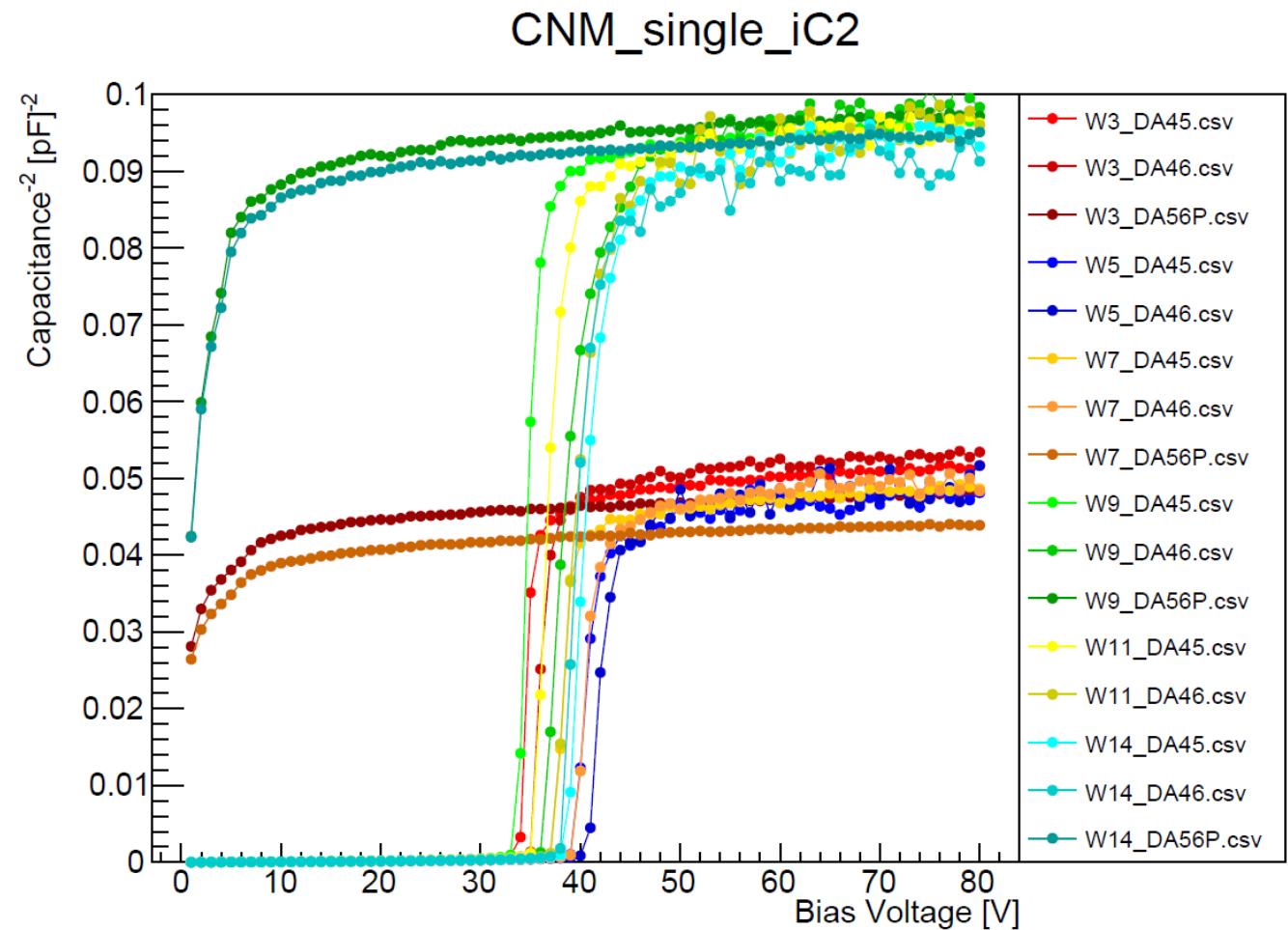
CNM_W9W11W14_iC2



- Full depletion (~40V) for LGADs. PINs depleted before LGADs.
- Capacitance at full depletion: ~3.2pF

C-V results : All of CNM single sensors

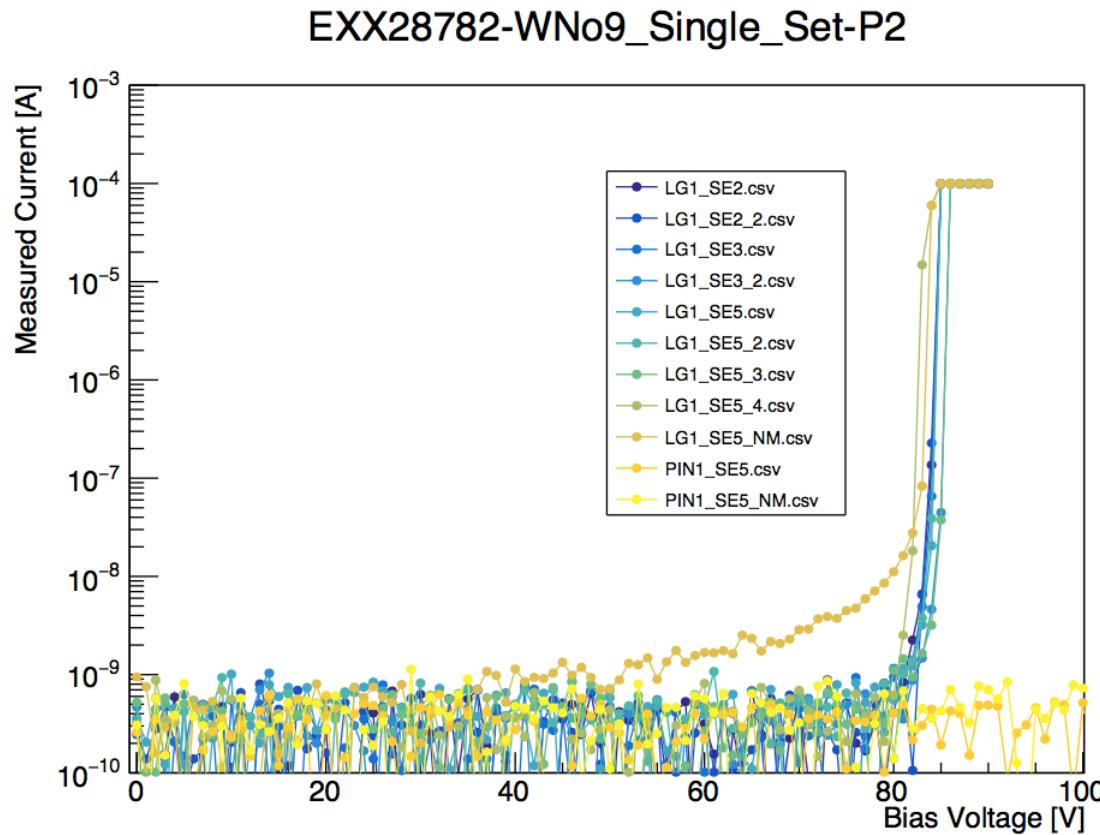
Label	Wafer	Wafer Thickness	Does
W3DA45	3	35 μm	1. 75E-13 (Low)
W3DA46	3	35 μm	1. 75E-13 (Low)
W5DA45	5	35 μm	1. 8E-13 (Mid)
W5DA46	5	35 μm	1. 8E-13 (Mid)
W7DA45	7	35 μm	1. 9E-13 (High)
W7DA46	7	35 μm	1. 9E-13 (High)
W9DA45	9	50 μm	1. 75E-13 (Low)
W9DA46	9	50 μm	1. 75E-13 (Low)
W11DA45	11	50 μm	1. 8E-13 (Mid)
W11DA46	11	50 μm	1. 8E-13 (Mid)
W14DA45	14	50 μm	1. 9E-13 (High)
W14DA46	14	50 μm	1. 9E-13 (High)



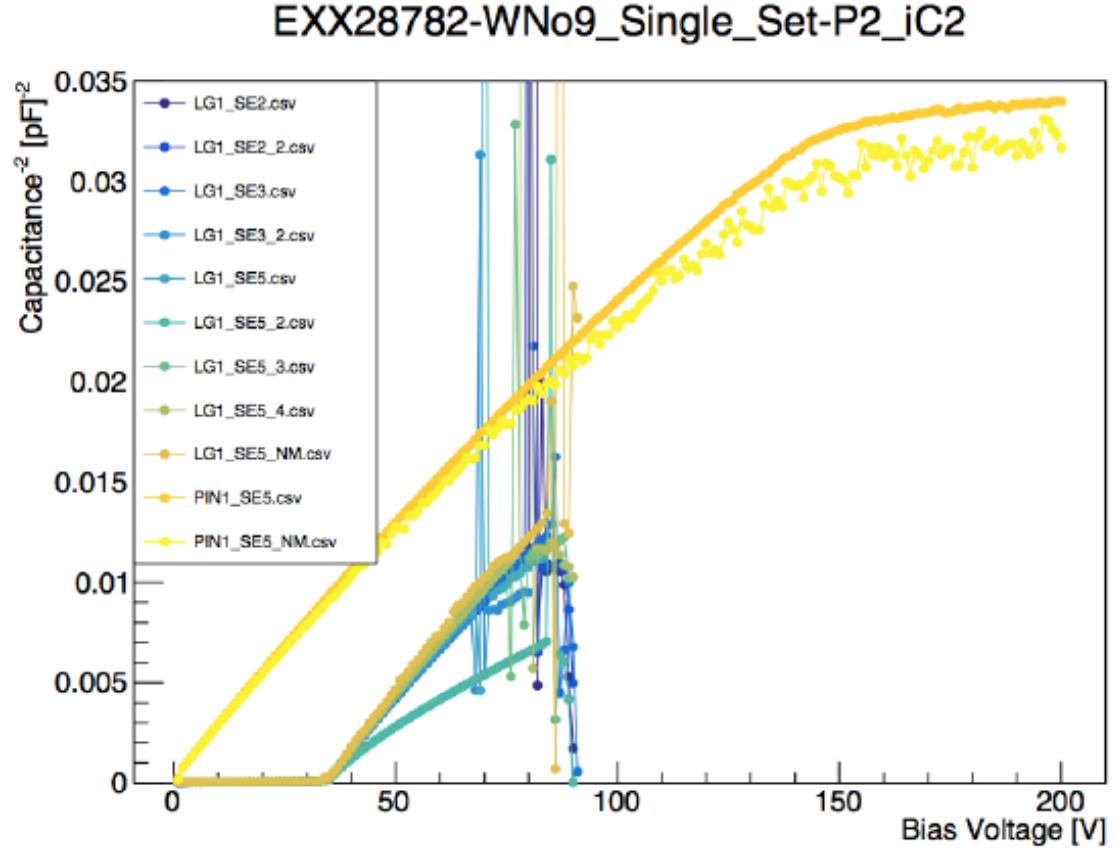
Reference :
Comparison of I-V & C-V on HPK single sensors

HPK-SMPL-1-W9-Single-Set-P2 : IV & CV

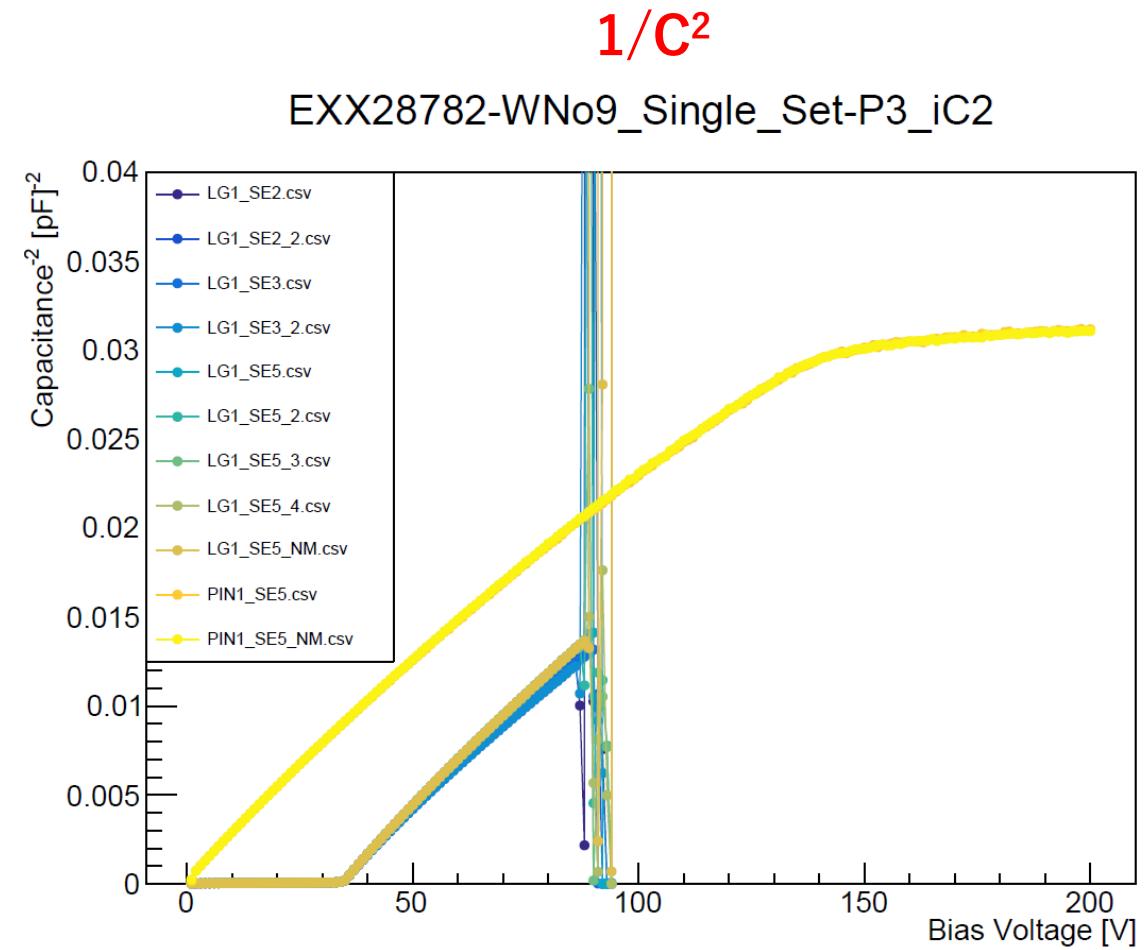
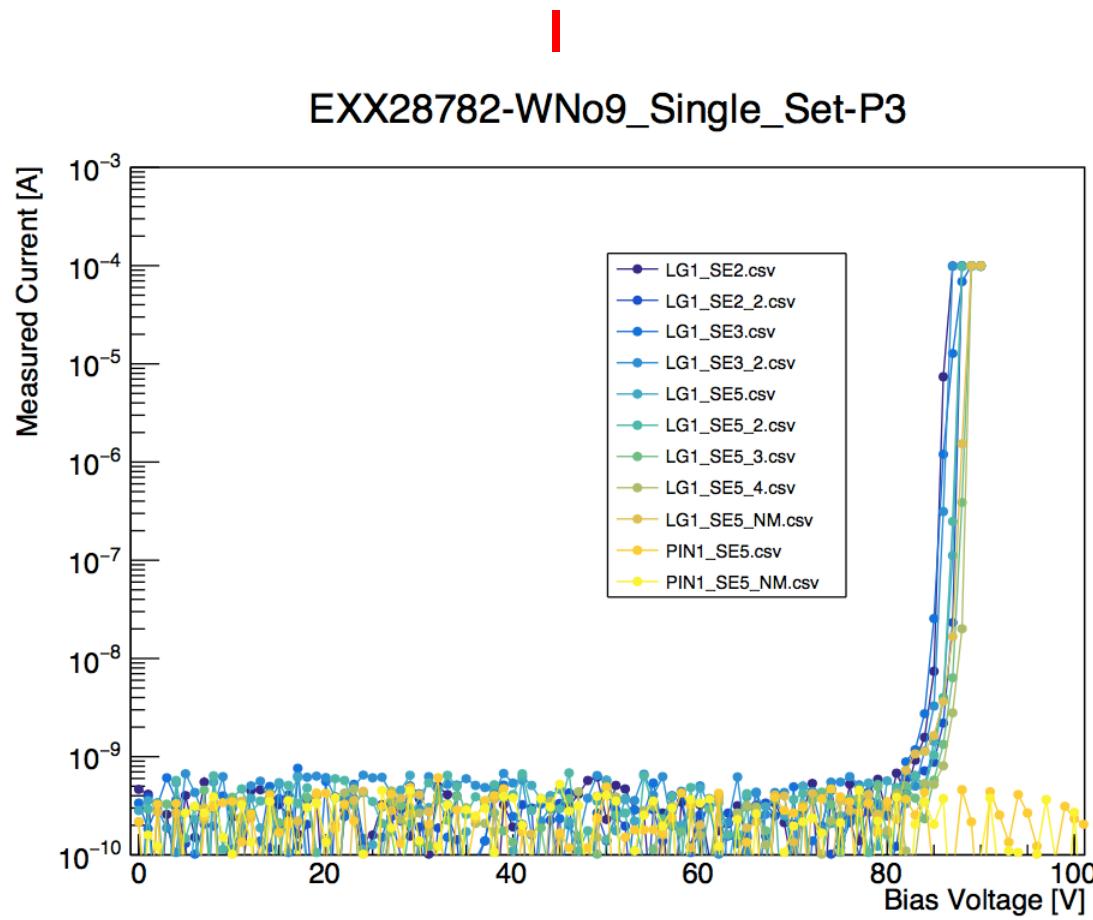
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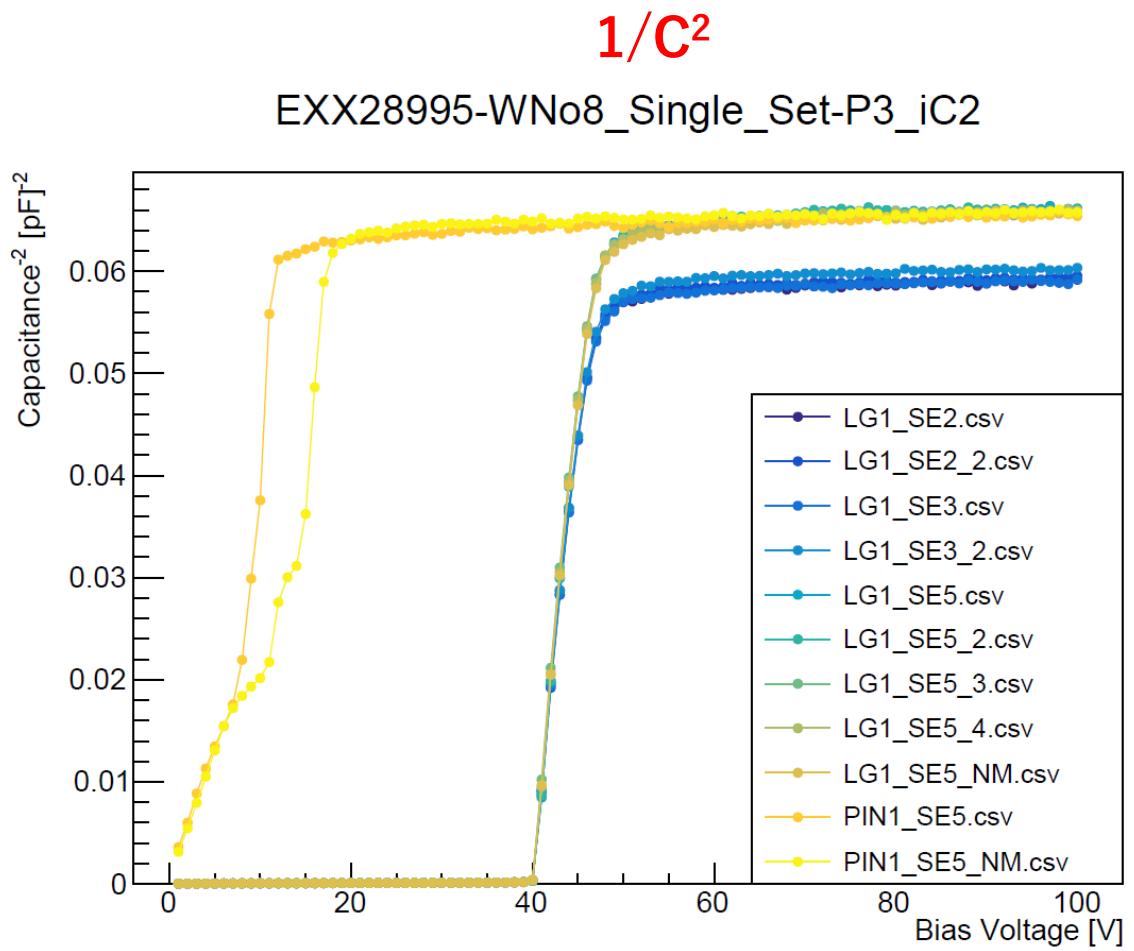
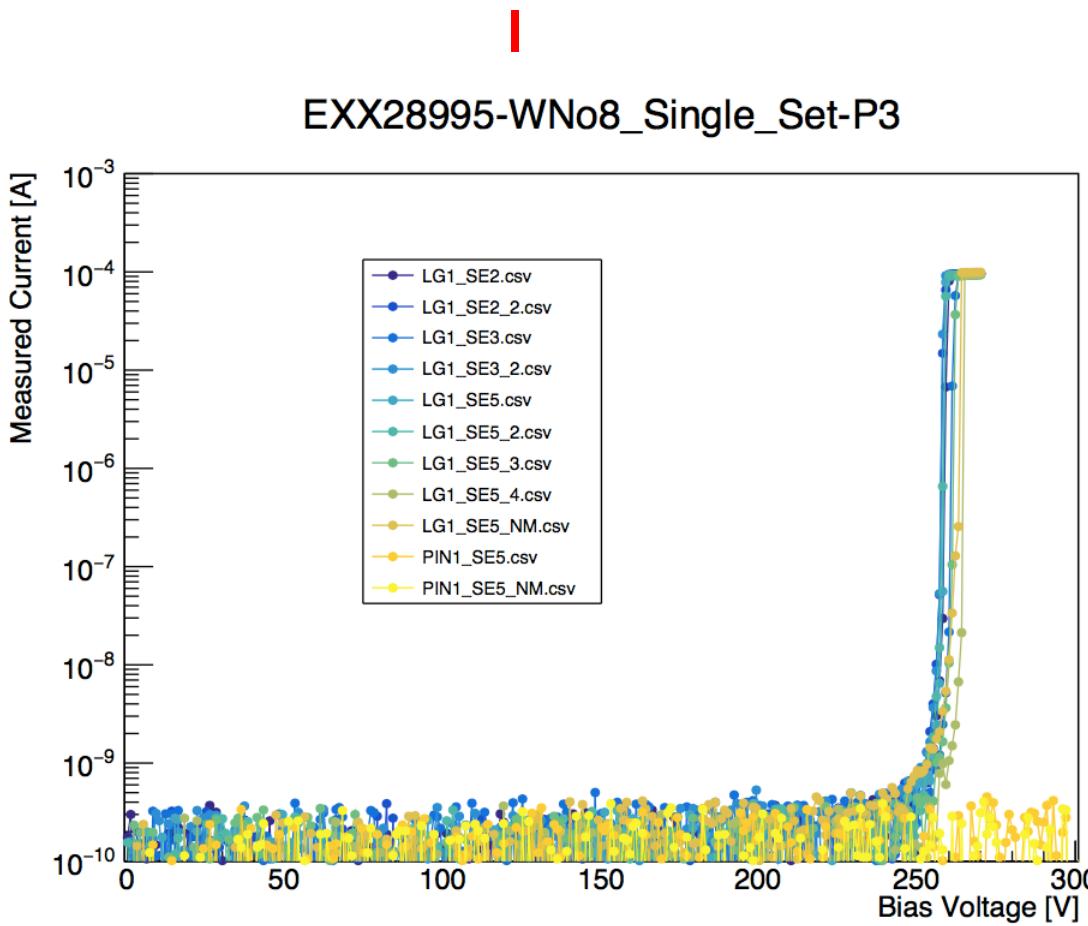
$1/C^2$



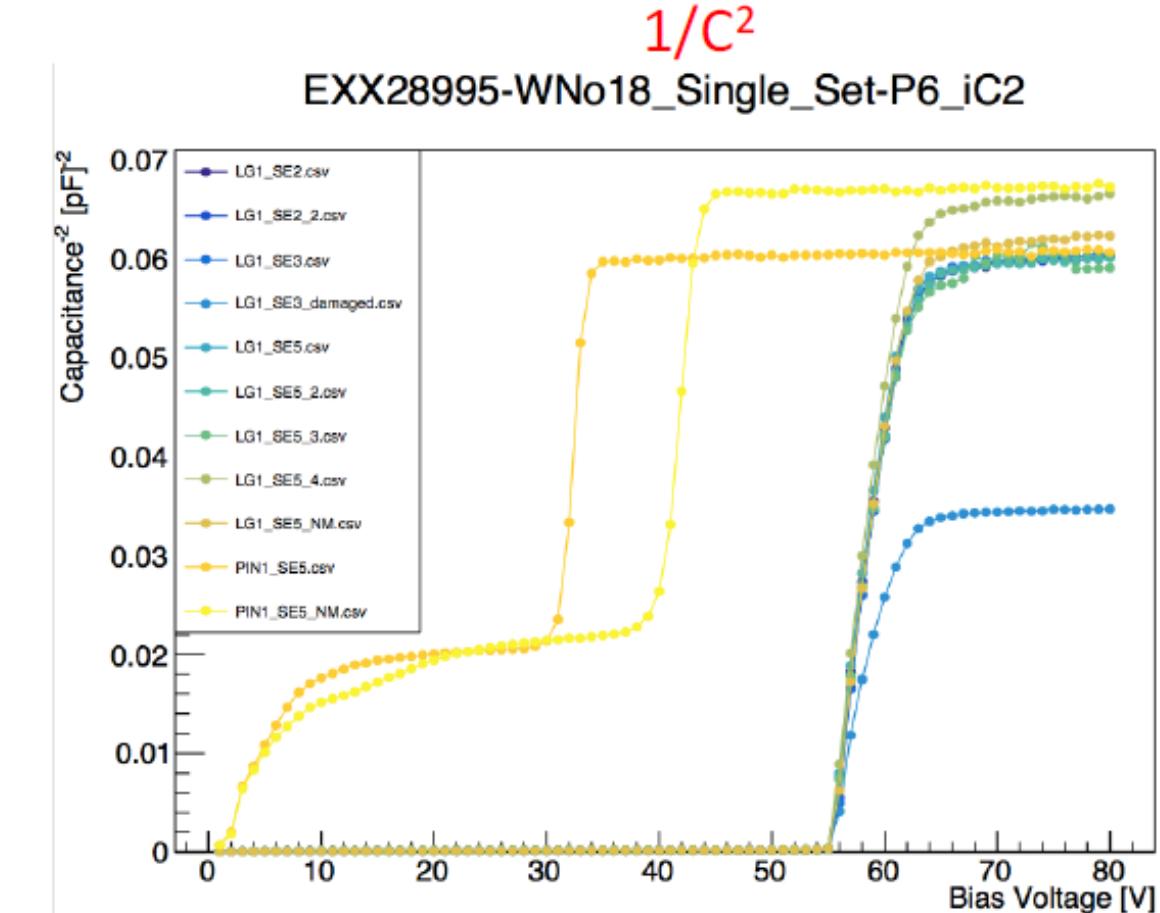
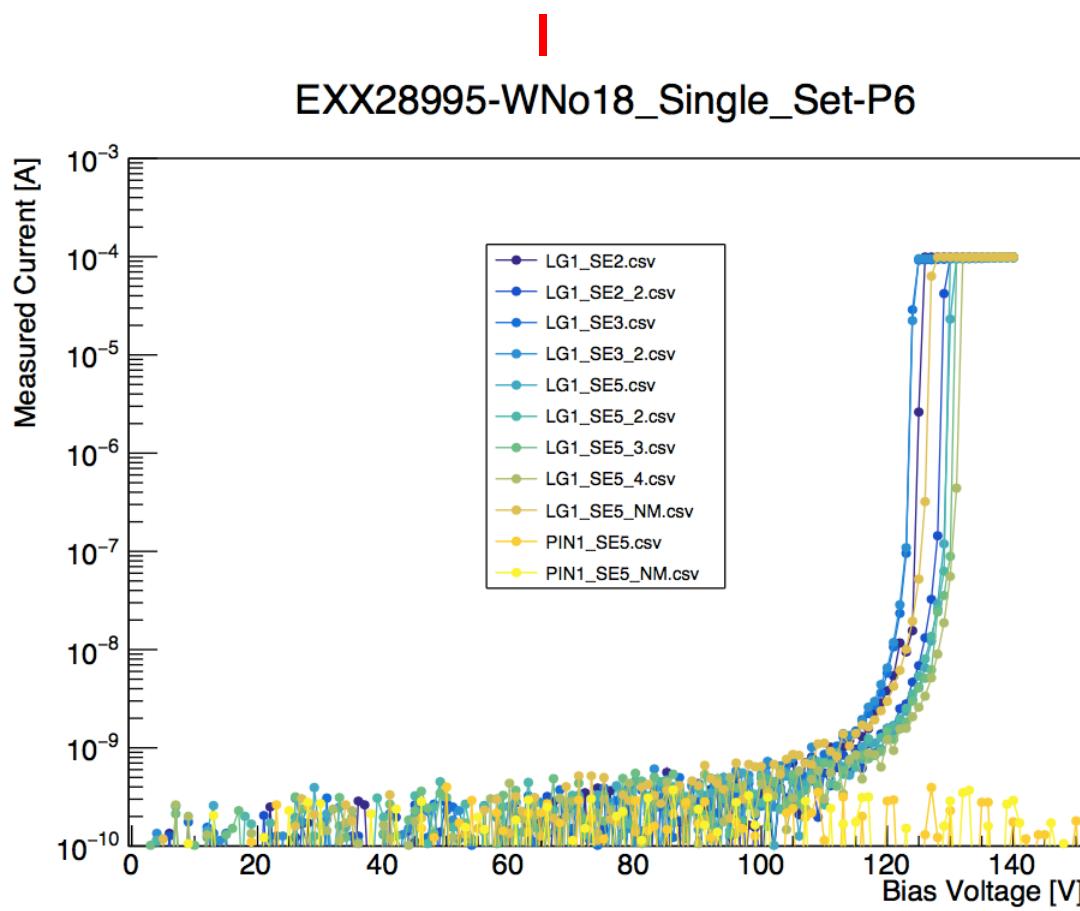
HPK-SMPL-1-W9-Single-Set-P3 : IV & CV



HPK-SMPL-3.1-W8-Single-Set-P3 : IV & CV



HPK-SMPL-3.2-W18-Single-Set-P6 : IV & CV



Comment

- For the new coming sensors , we can continue the measurement after the new year holiday
- We have contact with SCIPP for the 15x15 probe card.