

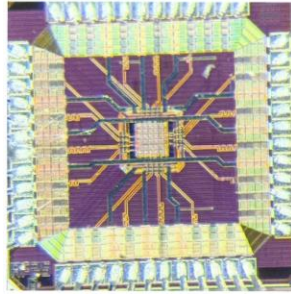
Studies on APTS & dSiPM

R&D on monolithic sensors in 65 & 150 nm CMOS imaging

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Hamburg, 08-Nov-2022

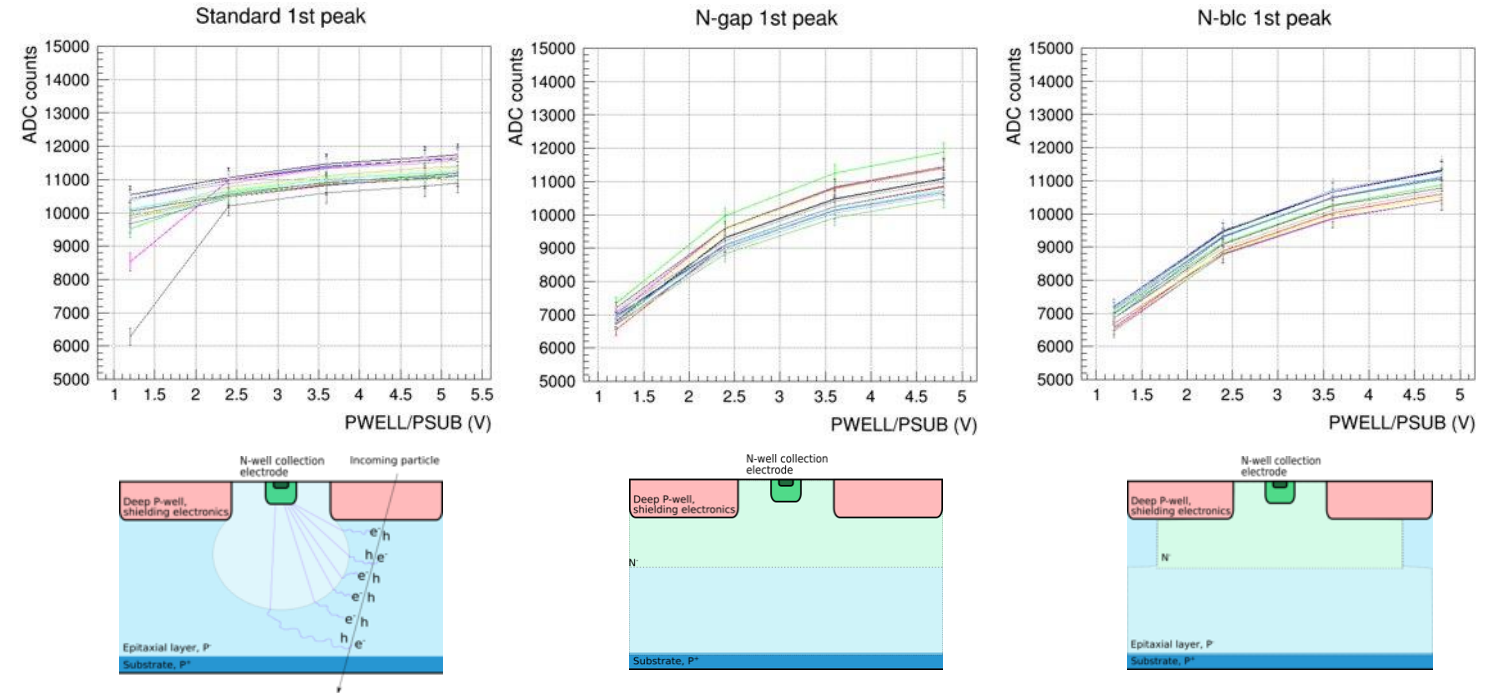
APTS

Gain Calibration & parameters scans



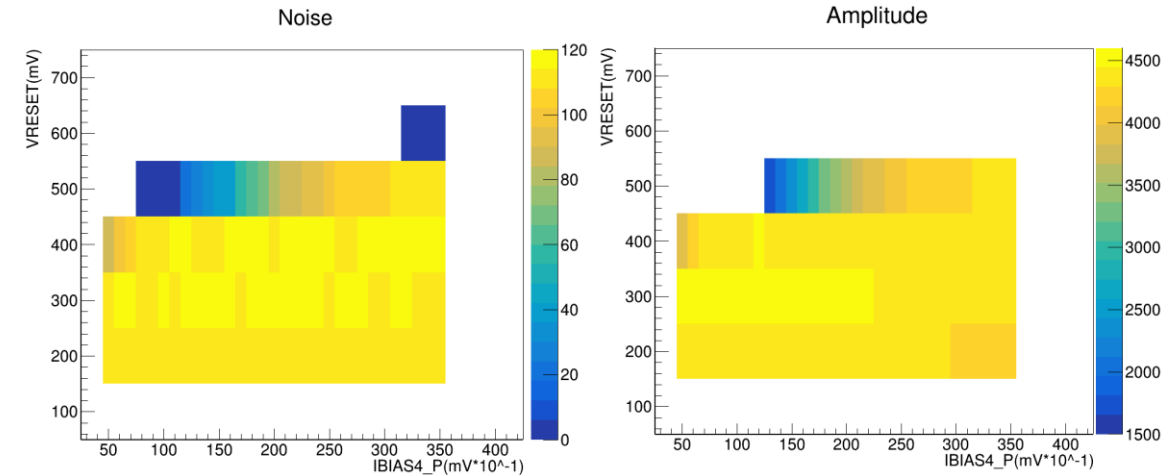
Fe-55 Studies on 25 um prototypes:

- Extracted peaks position for all the Bias and Layouts tested
- Results show clear trends related to the changes in capacitance (need to be confirmed with simulations)



Parameters scans on 15 um devices:

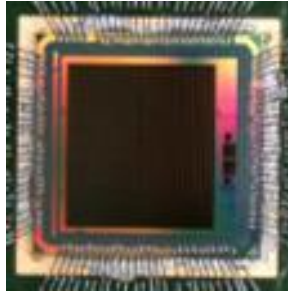
- Evaluation of best working point (Amplitude, S/N ratio, Uniformity)
- Test Beam ongoing in TB line 21



Exaple of parameters scan

dSiPM

Efficiency, DCR &
Timing Studies



MIP detection studies:

- Cooling system successfully implemented
- New TB data with temperature down to -2°C on Chip
- Data analysis ongoing

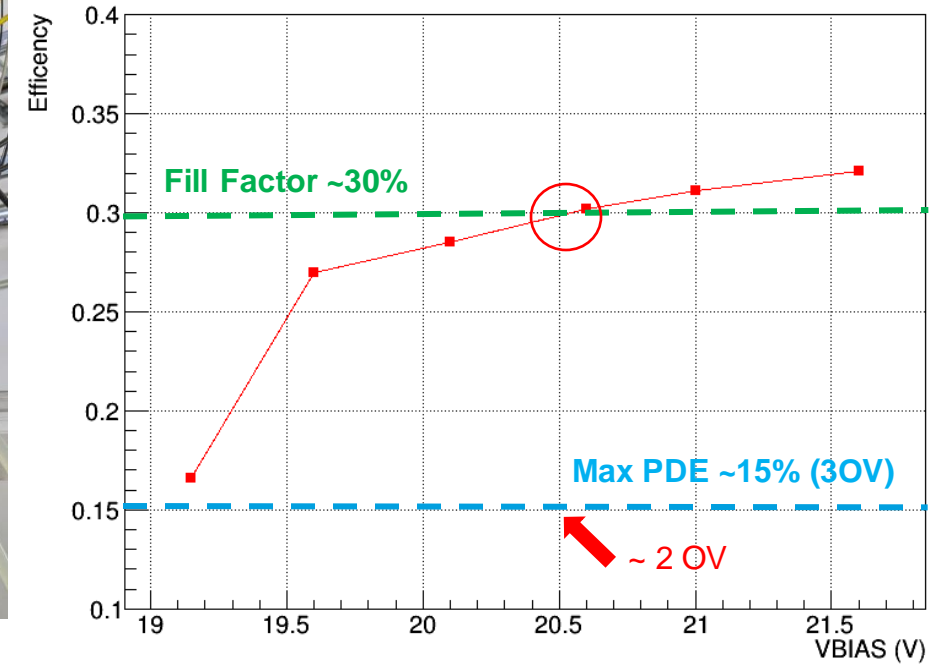
IV & DCR:

- Developed an automated procedure for a systematic characterisation of prototypes

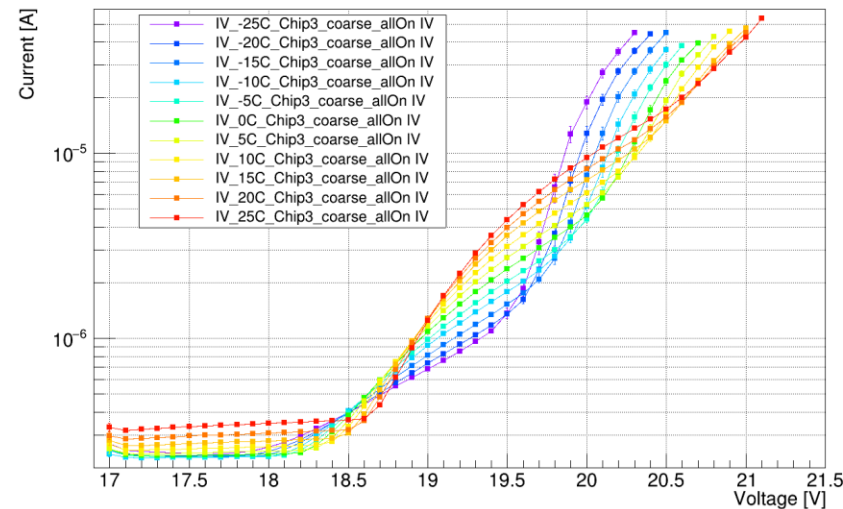
Timing studies:

- Preliminary results obtained with LED
- Laser Studies in the near Future

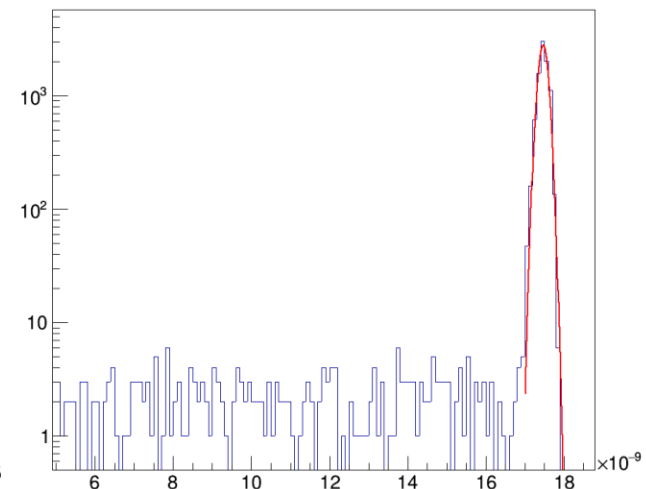
Efficiency vs VBIAS



Coarse IV Chip3



TOA_Q1



Thank you.