Status of babyMOSS: Training, Testing and Test-Beam
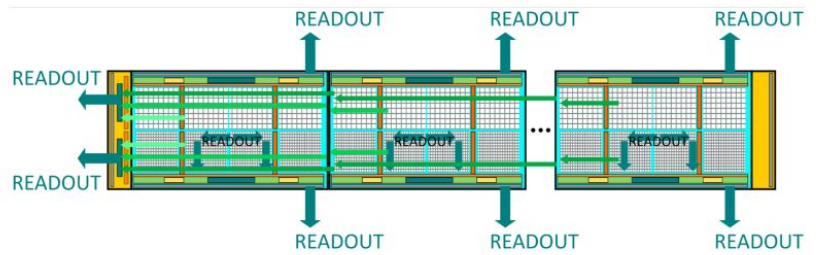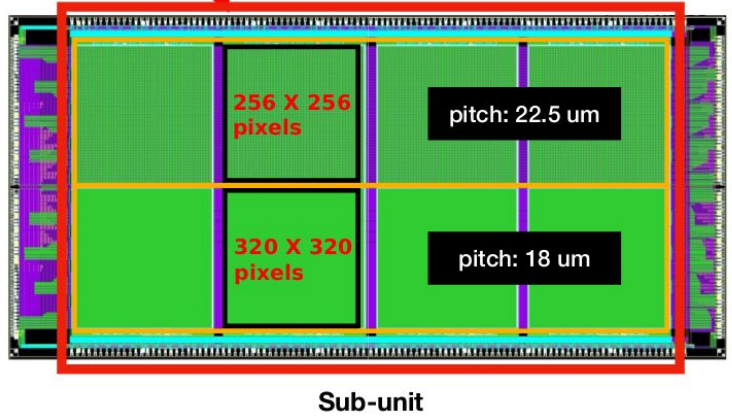
meeting Pixel - Bari

05.11.2024

MOSS chip structure and babyMOSS


6.72 megapixel

1 of 10

Sub-unit

- MOSS is made of ten **repeated sensor units** (**RSUs**). One RSU is equivalent to a **babyMOSS.**
- Each RSU is composed of two **half-units (HUs)**, labeled **top** and **bottom**. Each half-unit contains four **matrices**, also referred to as **regions.**

babyMOSS chip: Training of chip characterization and test-beam participation

- CERN visit, 26th September - 7th October, 2024
- Training on babyMOSS chip testing
  - Software installation and communication with the DAQ board
  - Power-on/off, register scan
  - DAC, FHR, digital, analogue, threshold scan
 - Correlation between threshold and FHR with VCASB -> Higher VCASB corresponding to lower threshold

- ➢ At Bari, we received 3 raiser boards
- ➢ Waiting for 3 babyMOSS and 3DAQ boards to start babyMOSS testing activities
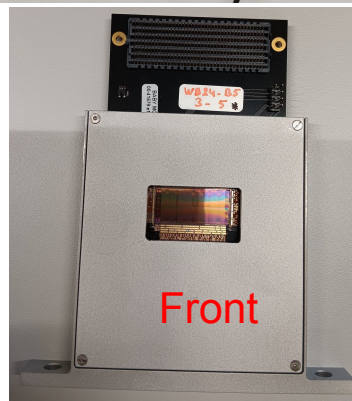
babyMOSS chip: Training of chip characterization and test-beam participation

- babyMOSS test-beam participation
  - @CERN PS, September 2024
  - babyMOSS telescope is used
  - Non-radiated and irradiated babyMOSS DUTs are tested
  - Goals: Threshold scan, FHR and efficiency Measurements with different DCASB setting. with the DAQ board

babyMOSS telescope
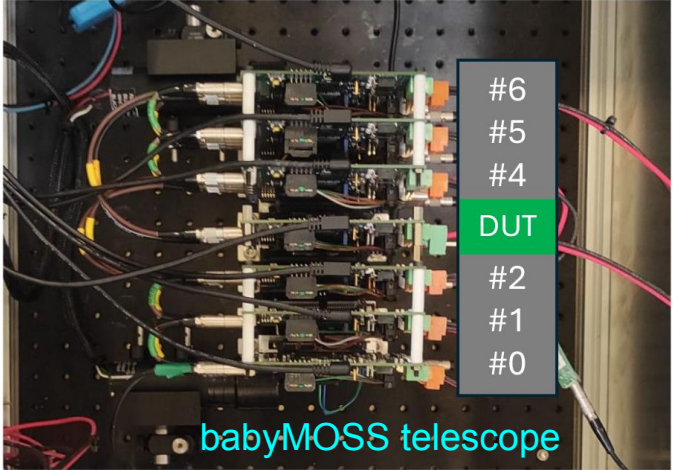
babyMOSS-2_1_W22C7 | bb Threshold distributions | ThresholdScanAnalysis

babyMOSS-2_1_W22C7 | bb Noise distributions | ThresholdScanAnalysis
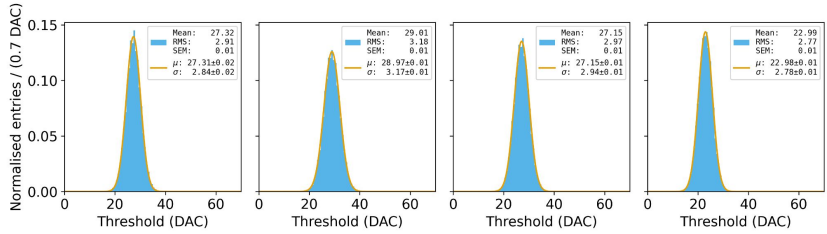
Example of QA analysis: Threshold scan

babyMOSS-2_1_W22C7 | bb noisy pixels | ThresholdScanAnalysis