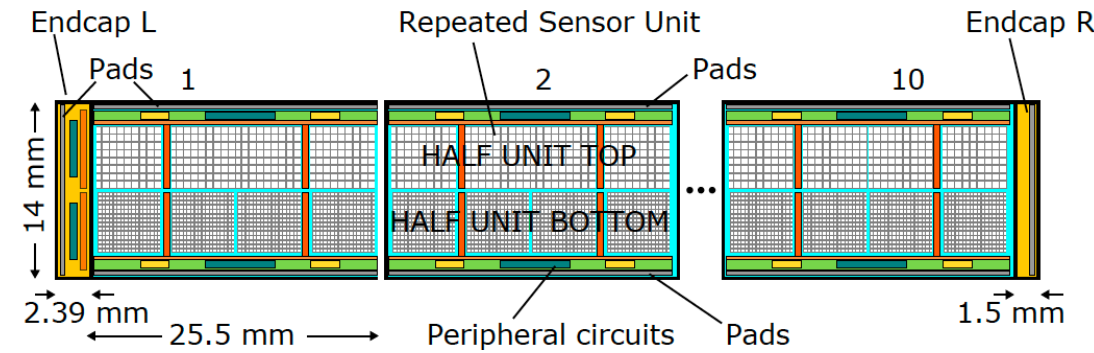
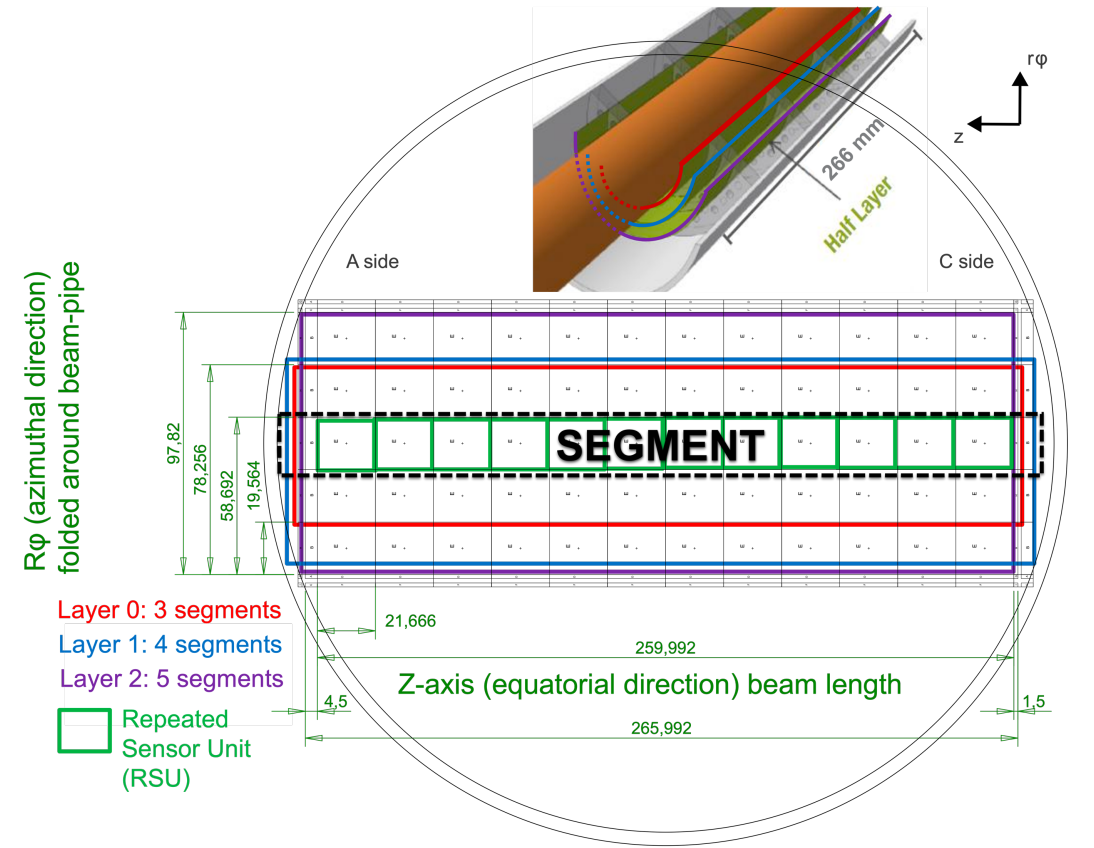
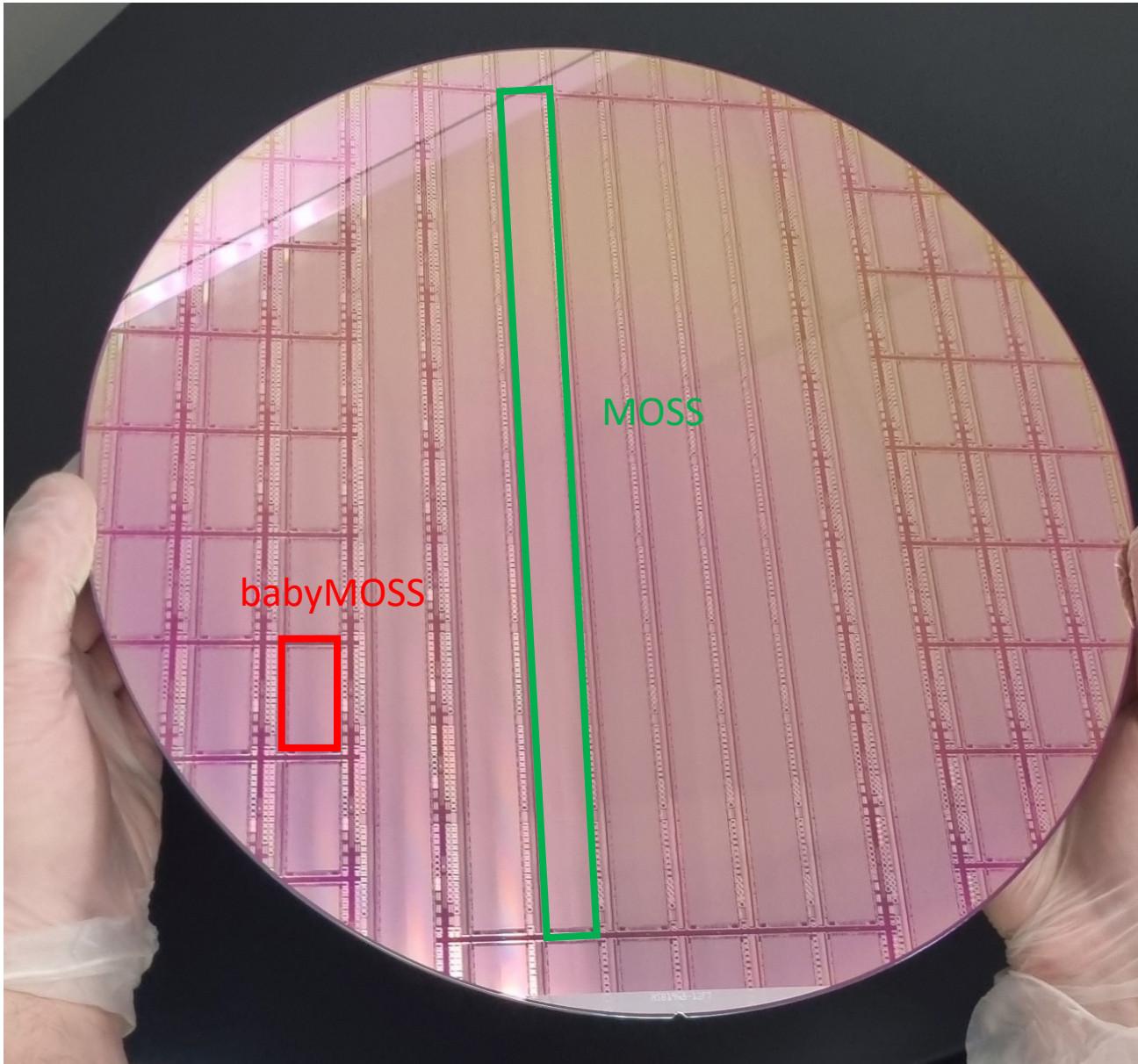


ER1 babyMOSS Characterization at LBL

Zhenyu Ye

LBNL

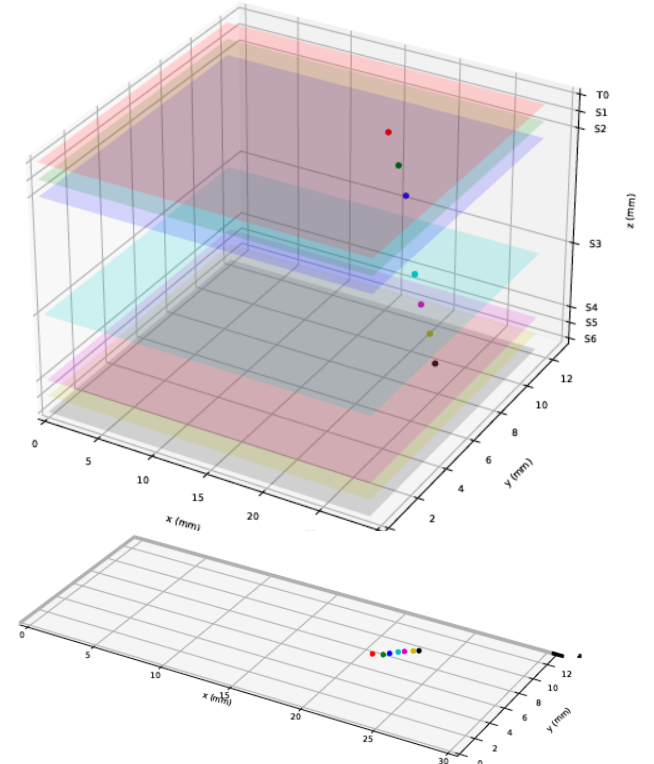
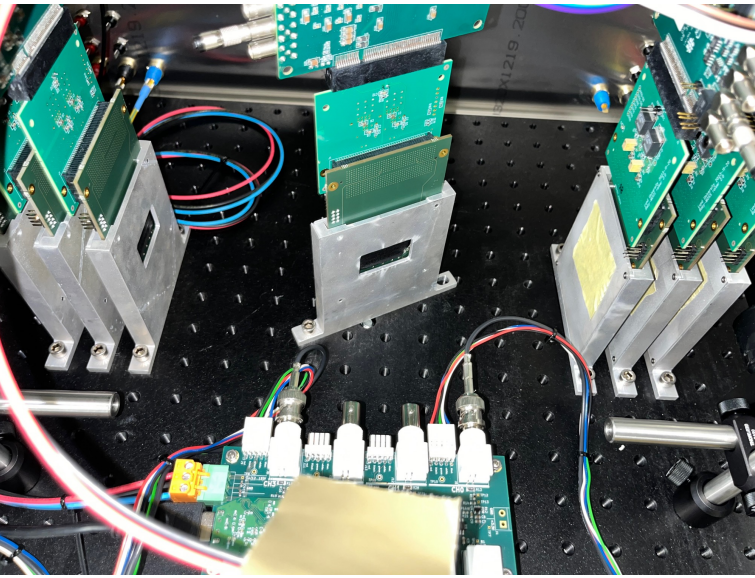
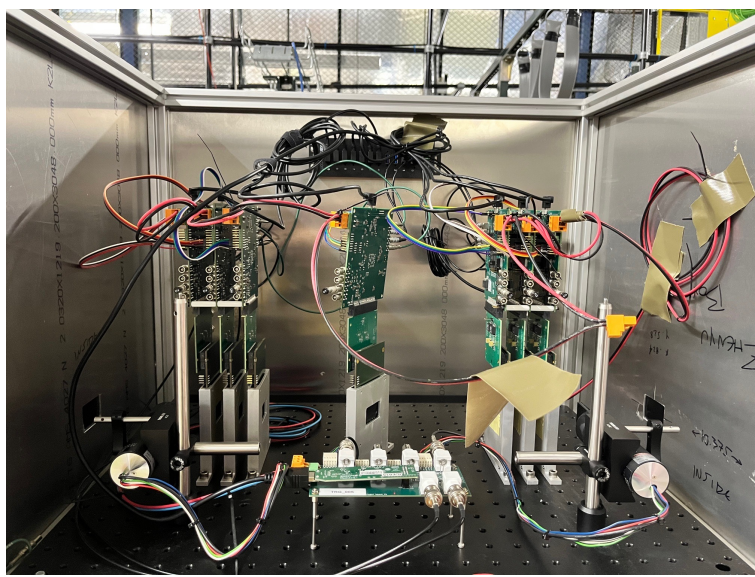
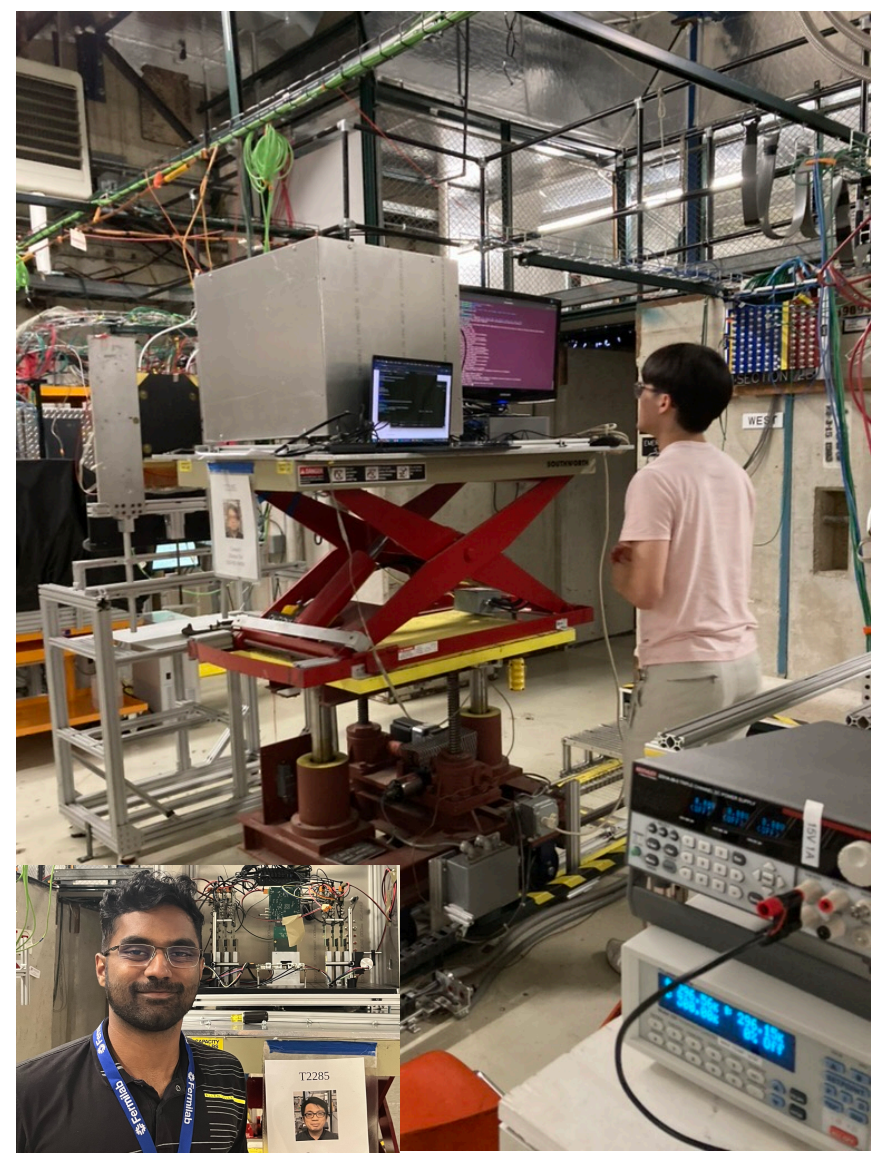
ALICE ITS3 ER1 – MOSS and babyMOSS Sensors



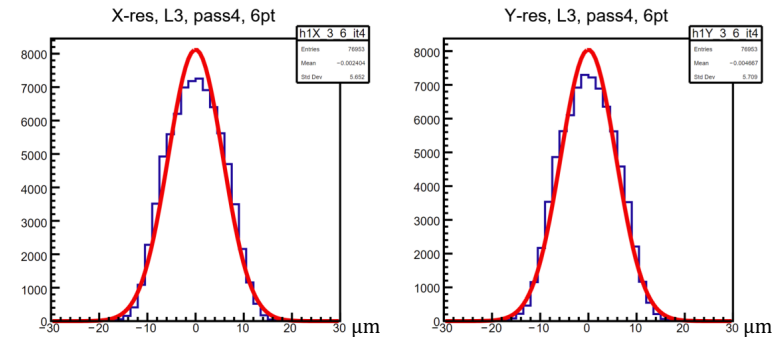
BabyMOSS Beam Tests at FTBF – May/July 2024

babyMOSS Telescope at Fermilab Test Beam Facility

A 120 GeV proton beam event

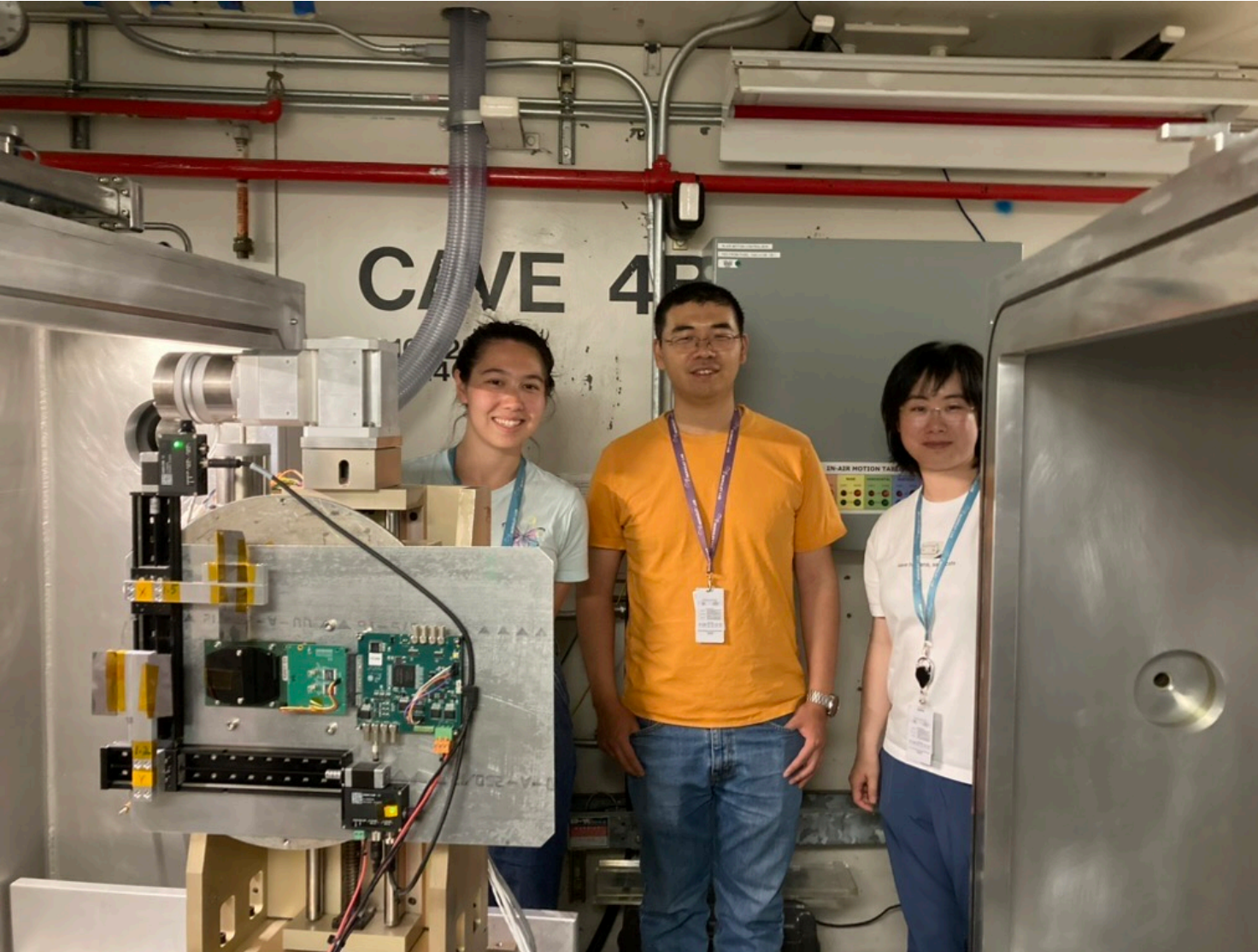


Residual of the DUT (middle plane)

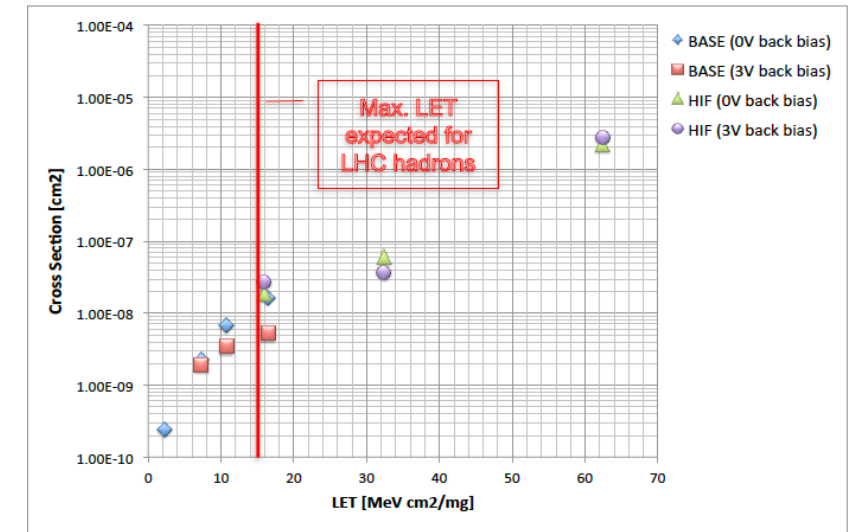


BabyMOSS SEL Tests at BASE – May/July 2024

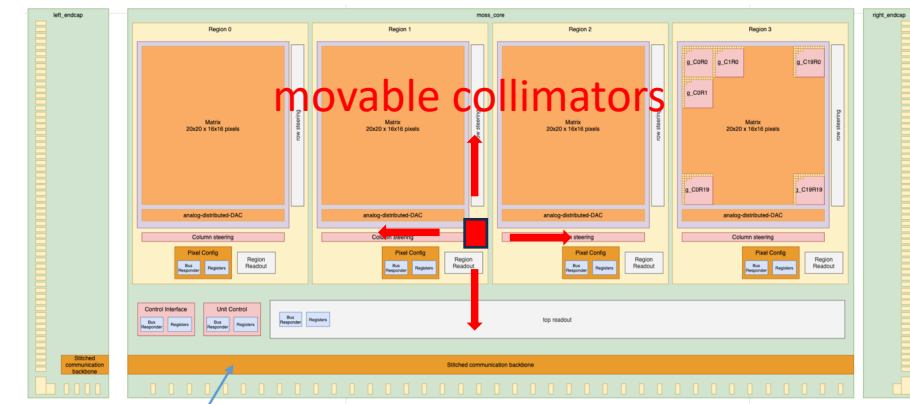
babyMOSS SEL Setup at BASE



ALPIDE SEL Cross-section vs LET



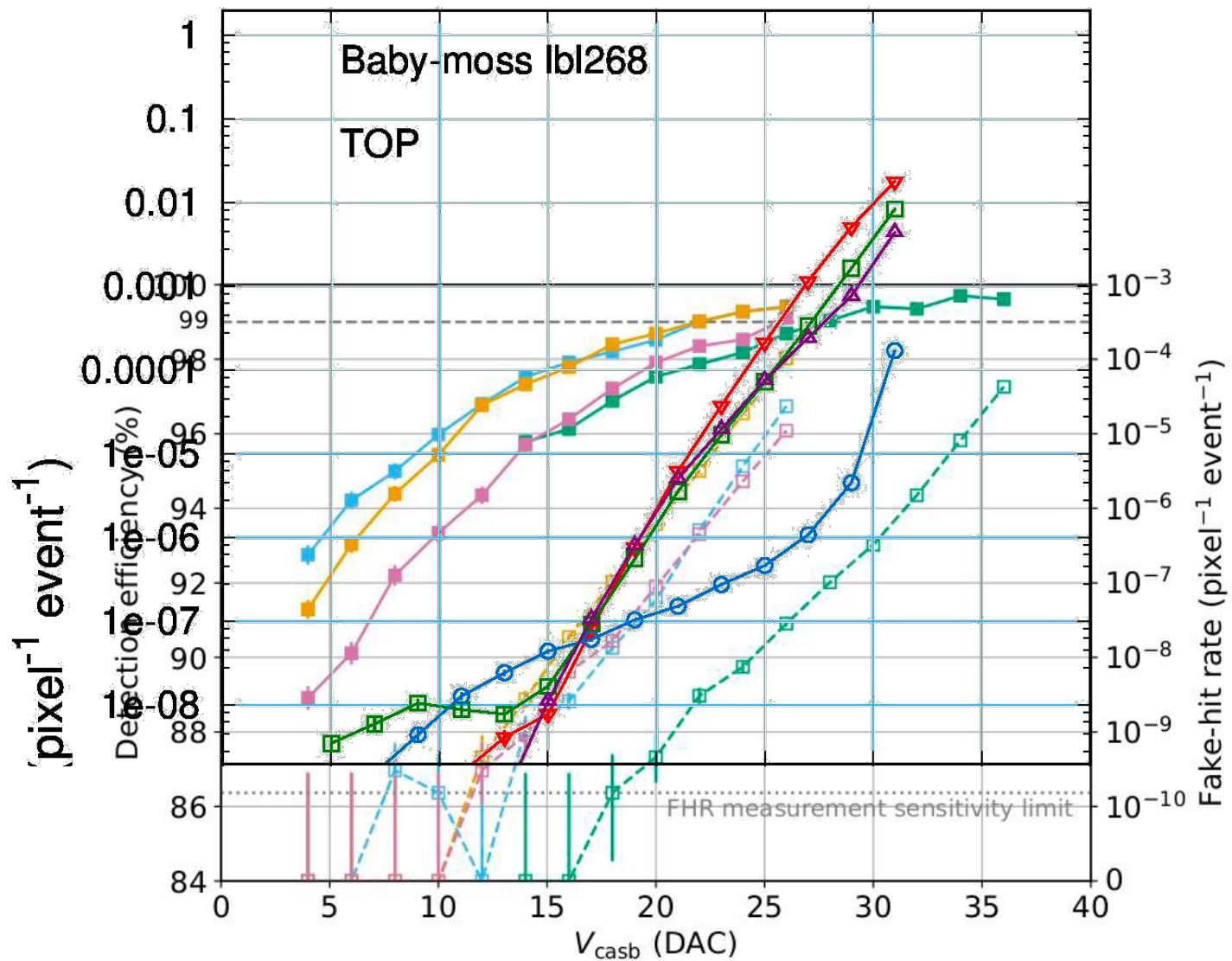
Locate SEL Sensitive Circuits (illustration)



UCB: Barbara Jacak, Beatrice Liang-Gilman, Anjali Nambrath, Emma Yeats; LBL: Yu Hu, Shujie Li, Zhenyu Ye;

CERN: Hartmut Hillemanns; KU: Nicola Minafra; UC Riverside: Barak Schmookler

Fake Hit Rate vs Temperature



- **babyMOSS Assembly**

- LBL cleanroom 12/2024-3/2025
- Produce carrier cards and assemble with babyMOSS (same jigs for babyMOSAIX)

- **TID and NIEL effects**

- UC Davis on 1/21/2025 with 64 MeV protons to reach $1 \text{ Mrad} + 10^{13} \text{ n/cm}^2$ for two sensors
- Measure FHR temp. dependence after irradiation

- **Sensor performance**

- Jlab in 3/2025 with 3-6 GeV e^-
- Streaming vs triggered readout efficiency
- Measure temp. dependence of efficiency and resolution pre-/post-irradiation

