

BabyMOSS Tests – Summary and Outlook

- **Beam Tests at Fermilab Test Beam Facility**

- Commissioned a 7-plane babyMOSS telescope and took data with 120 GeV protons at FTBF 5/22-6/4
 - Spatial resolution consistent with expectation; Strong dependence of the cluster size on incident angle
- Taking data with 120 GeV protons at at FTBF on 6/26-7/12 with
 - improved power cable connection (led to power loss from first run)
 - improved holder (secondary shower at large incident angles)
 - improved data taking process (loss of synchronization by the DUT at large VCASB)
 - 4 additional DC-LGAD planes with precision timing
 - Data analysis and report the findings (Tucker and Danush@UIC for MAPS)

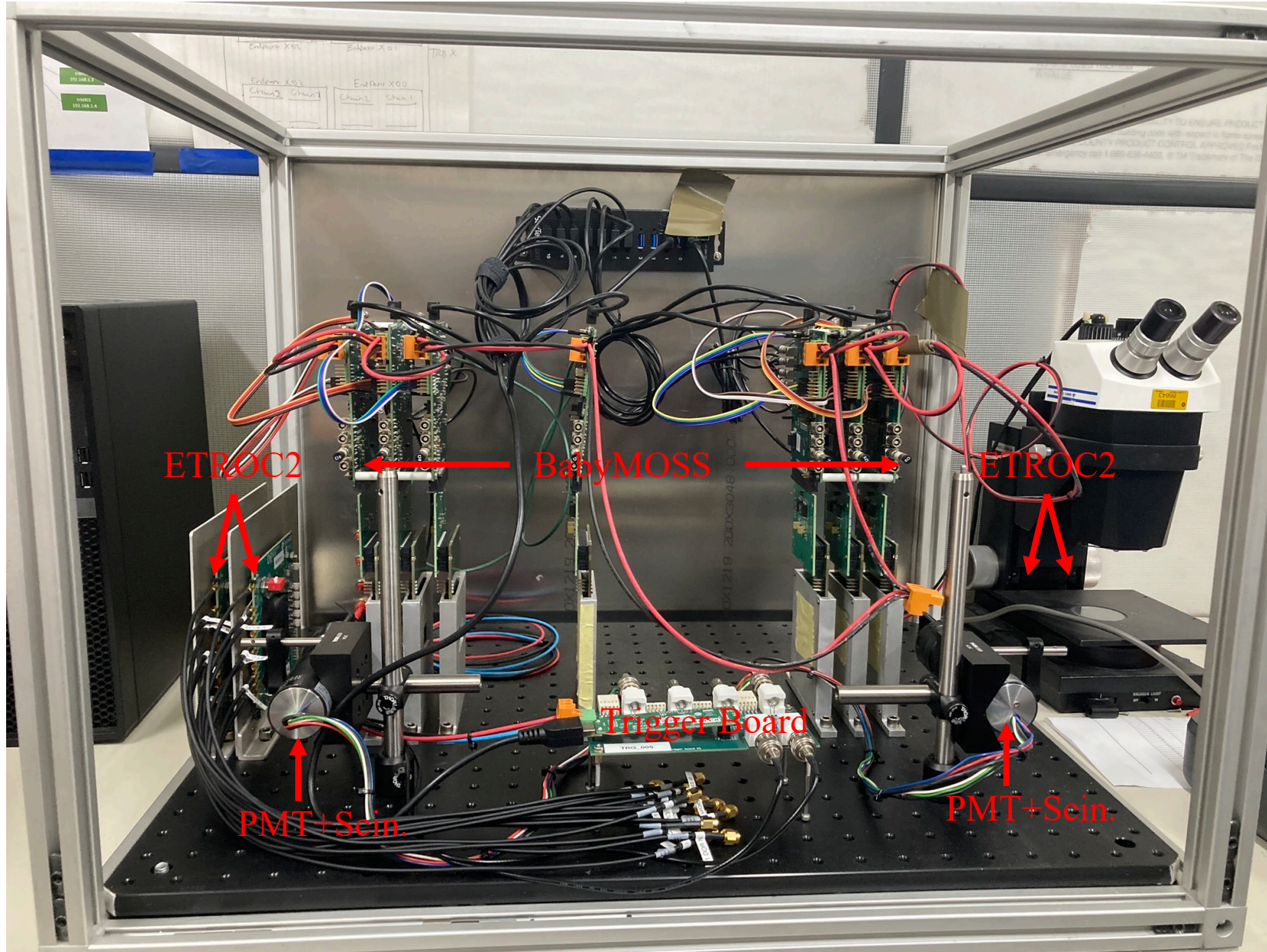
- **SEL Tests at Berkeley Accelerator Space Effects Facility**

- Searched for SEL-sensitive areas on babyMOSS with motion-controlled collimators on 5/22-5/23
 - Confirmed SEL and identified sensitive areas with Xe beam (incomplete)
- 2nd SEL test on 7/1
 - Measure SEL cross-section as a function of LET, Further search for SEL-sensitive areas with X-Y scan
 - Finish data analysis and report the findings (Anjali, Emma, Zhenyu)

- **Future tests with babyMOSS**

- Irradiate babyMOSS at Rhode Island Nuclear Science Center or UC Davis (?)
- Temperature dependence of fake hit rate with the climatic chamber at LBL in Fall 2024
- Temperature dependence of efficiency, resolution and cluster size at JLab/FTBF in Fall 2024/Spring 2025

BabyMOSS Beam Telescope - 6/26-7/12/2024



5/22-6/4

UCB/LBL: Tucker Hwang, ZY

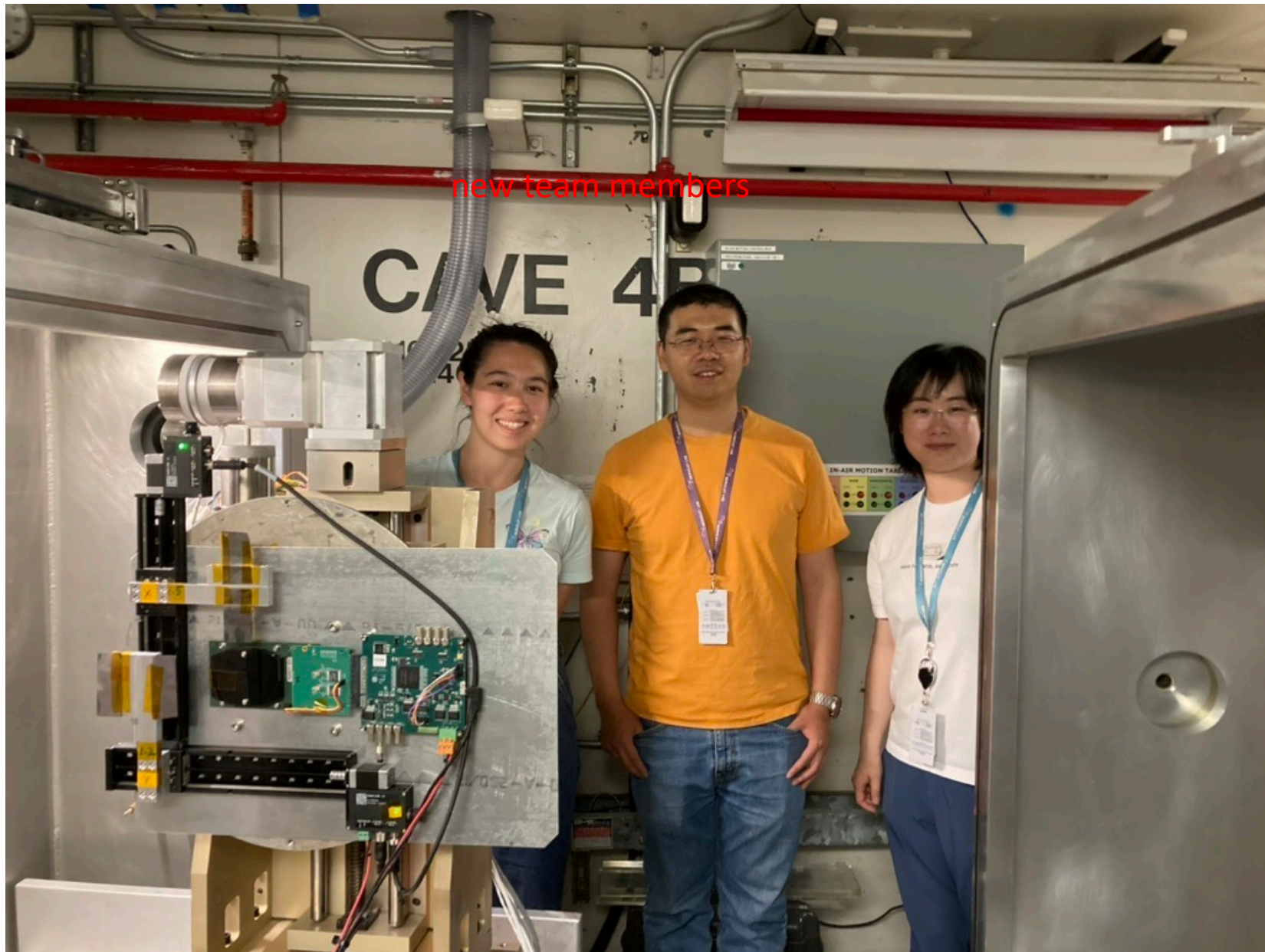
UIC: Danush Shekar

6/26-7/12

LBL: ZY

UIC: Danush Shekar, Abhishek Hingrajiya, Grigory Nigmatkulov, Zhenwei Xue

BabyMOSS SEE Tests



new team members

5/22-5/23

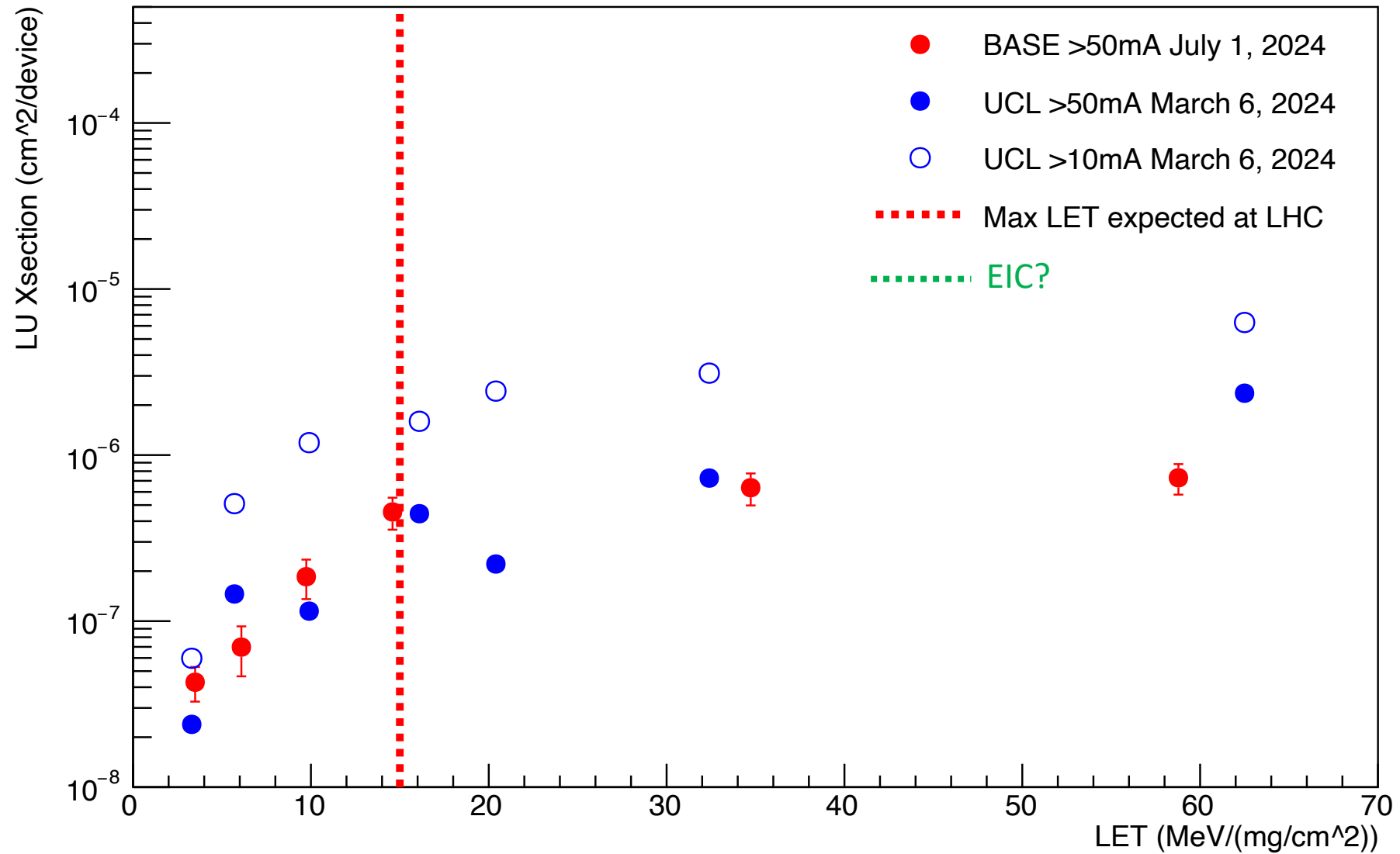
UCB/LBL: Anjali Ila Nambrath,
Barbara Jacak, Emma Yeats, ZY

UC Riverside: Barak Schmookler

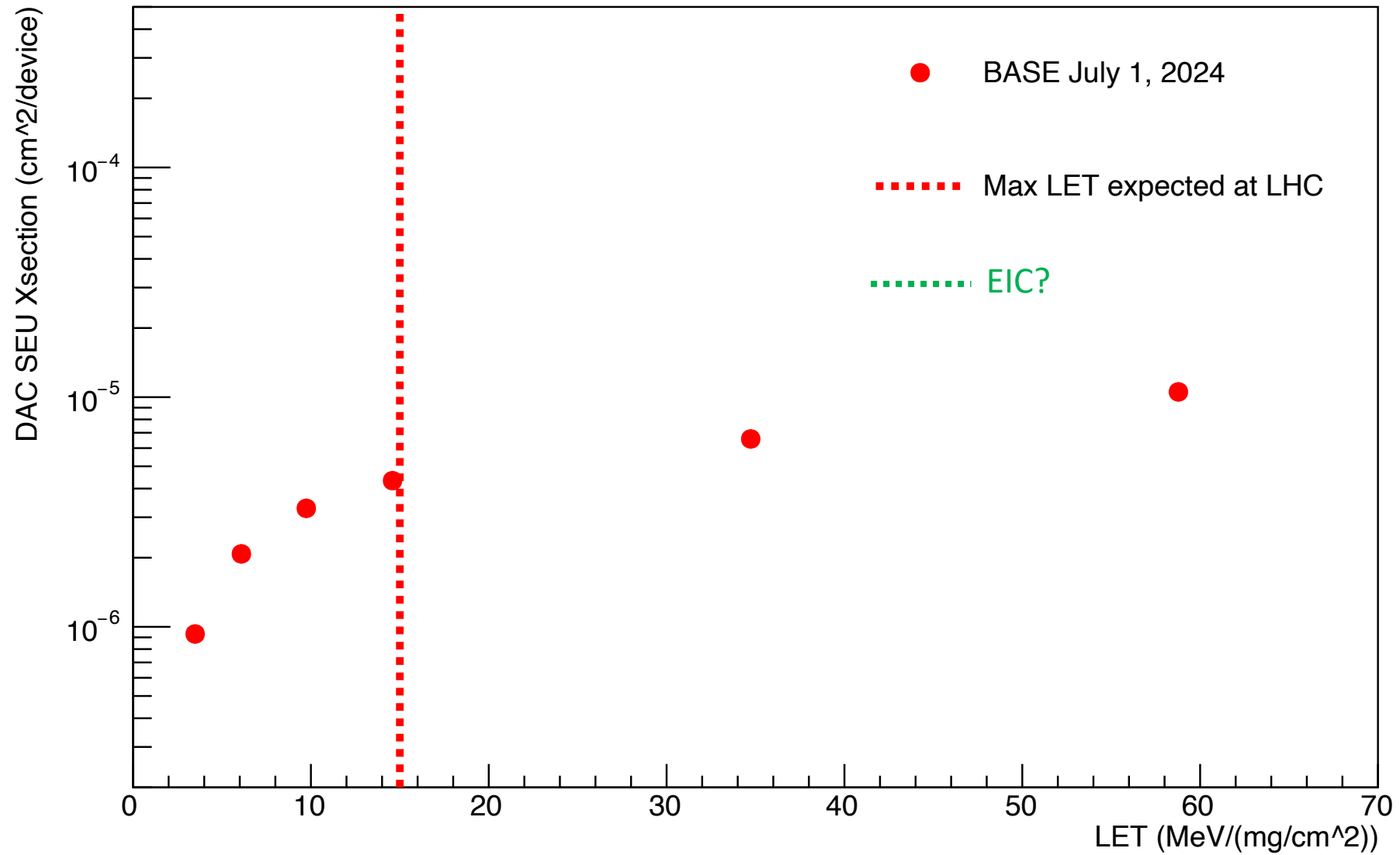
7/1

UCB/LBL: Beatrice Liang-
Gilman, Shujie Li, Yu Hu, Anjali
Ila Nambrath, Emma Yeats, ZY

BabyMOSS SEE Tests (Preliminary)



BabyMOSS SEE Tests (Preliminary)



BabyMOSS SEE Tests

