

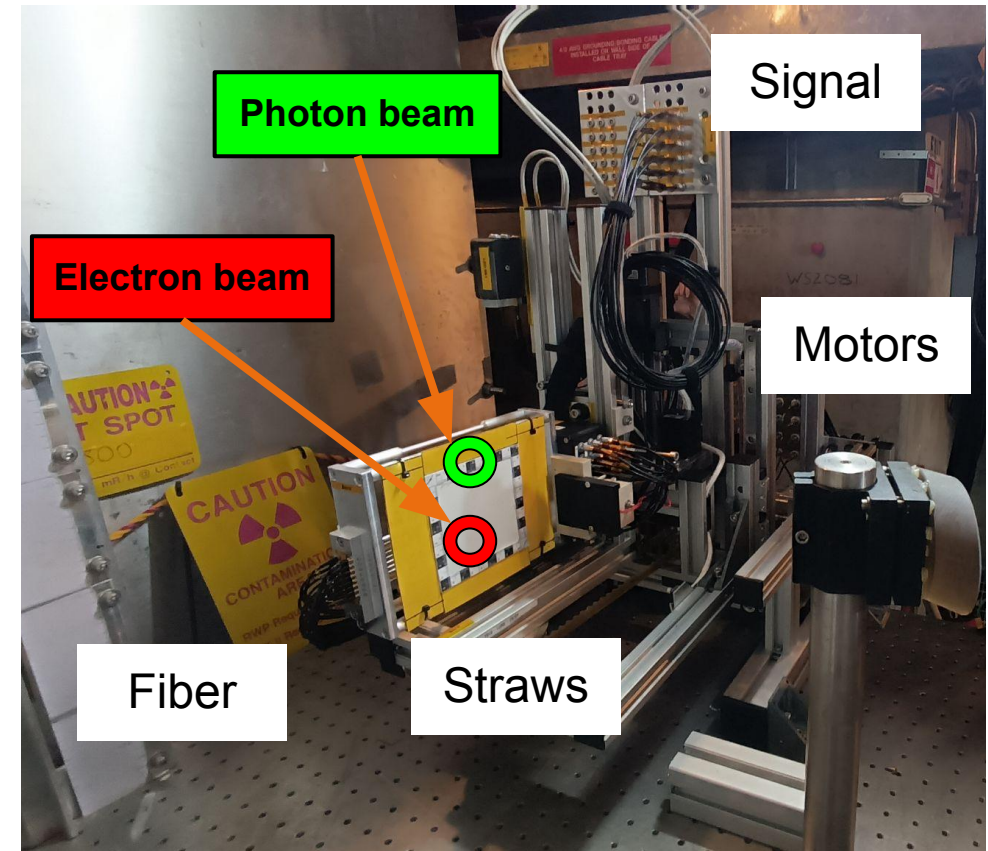
Status update: EDS

Antonios Athanassiadis on behalf of the EDS team

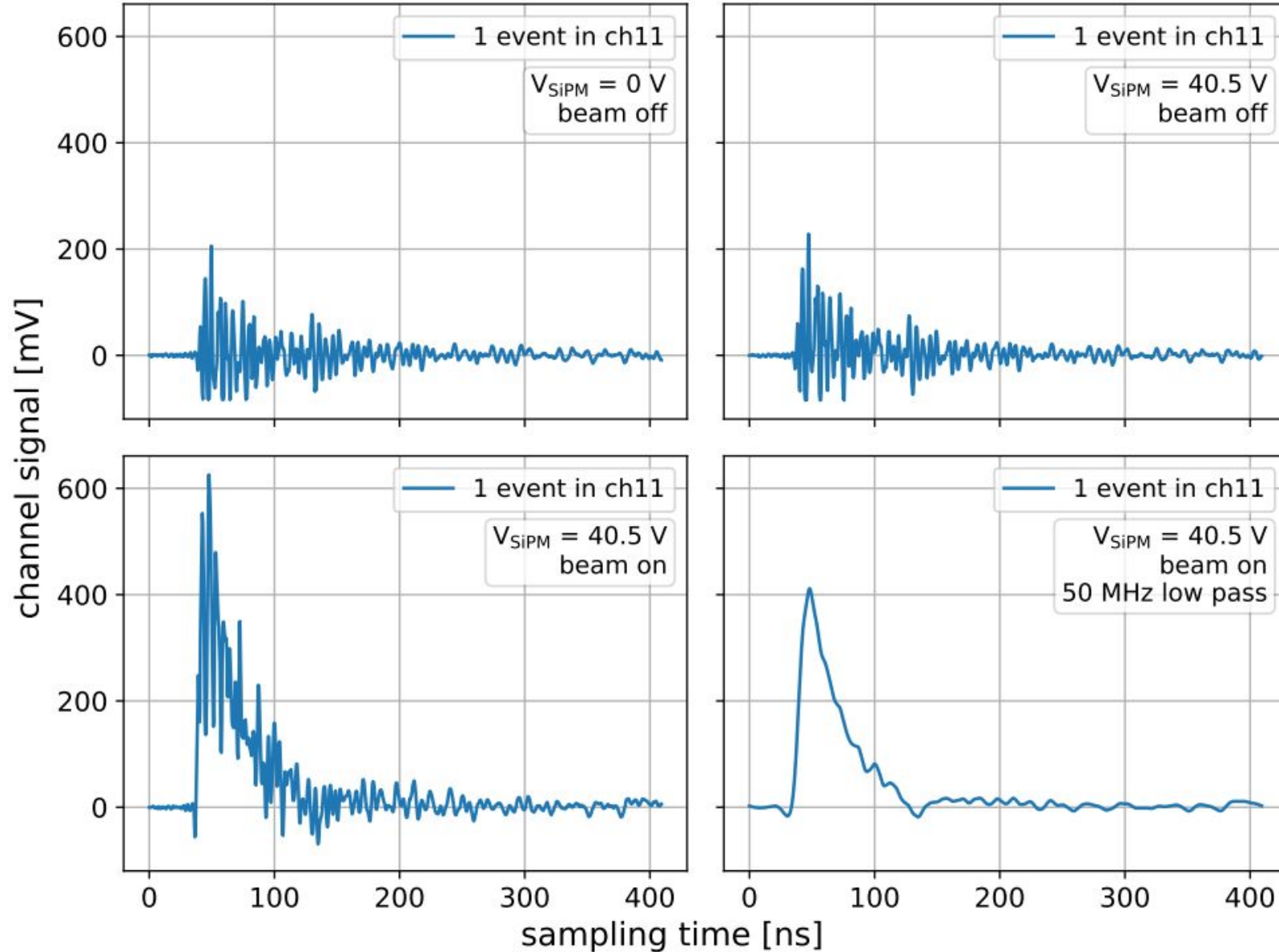
16.07.2024

LUXE320's Status at SLAC

- Installation in tunnel \Rightarrow 16 signal channels available
- DAQ development
 - Hardware control
 - Scripts for asynchronous EPICS to PC data transfer
 - FACET/DESY-DAQ synchronization
- 3 major beam times, but parasitically only
 - bias/gain scans
 - angle scans
 - transversal and vertical scans
 - DAQ timing tests
- Camera installed before leaving
- Now: FACET-II in summer shutdown



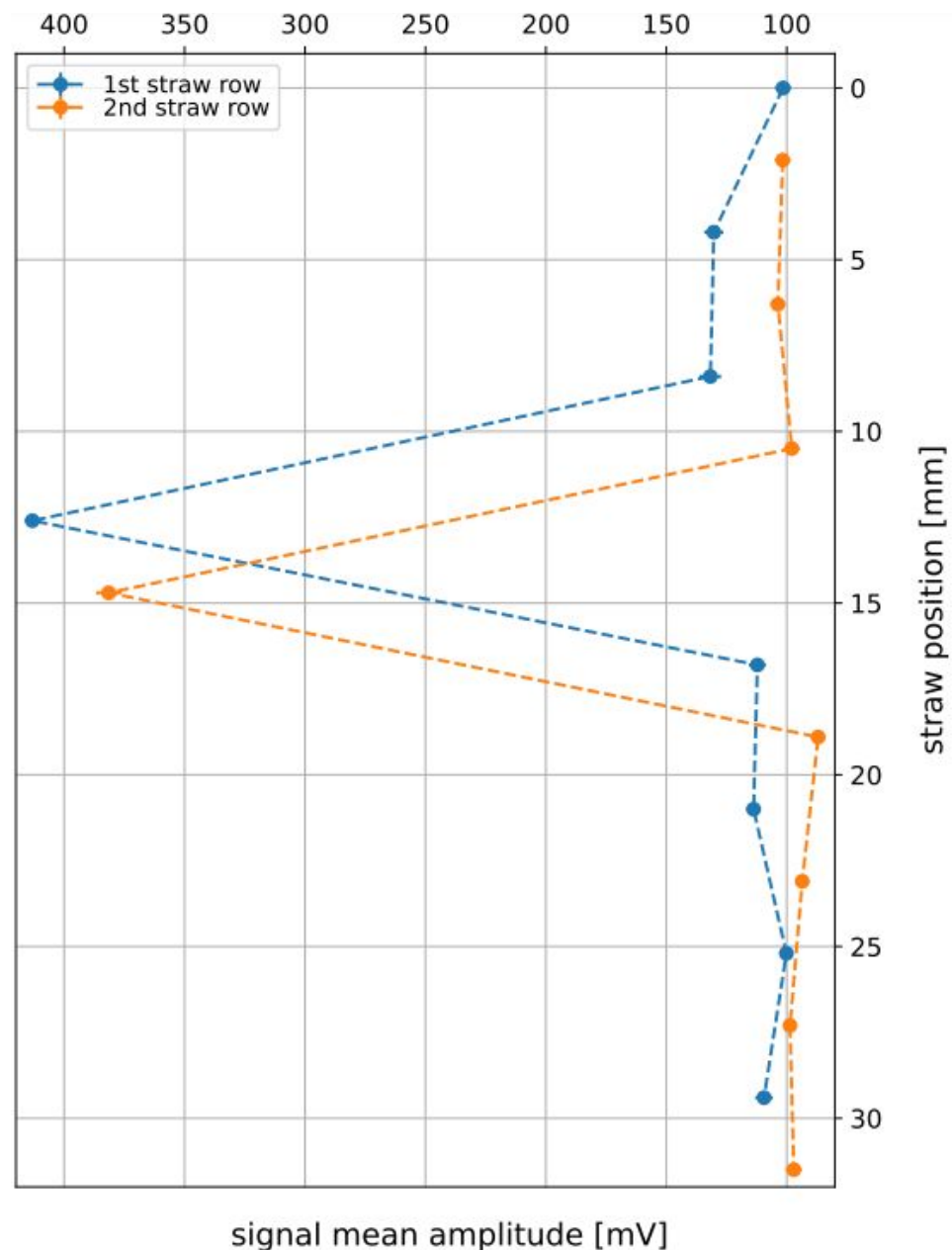
First Plots from LUXE320 Analysis



**Comparison between
different settings**

Waveform from run 310,
channel 11, event 44

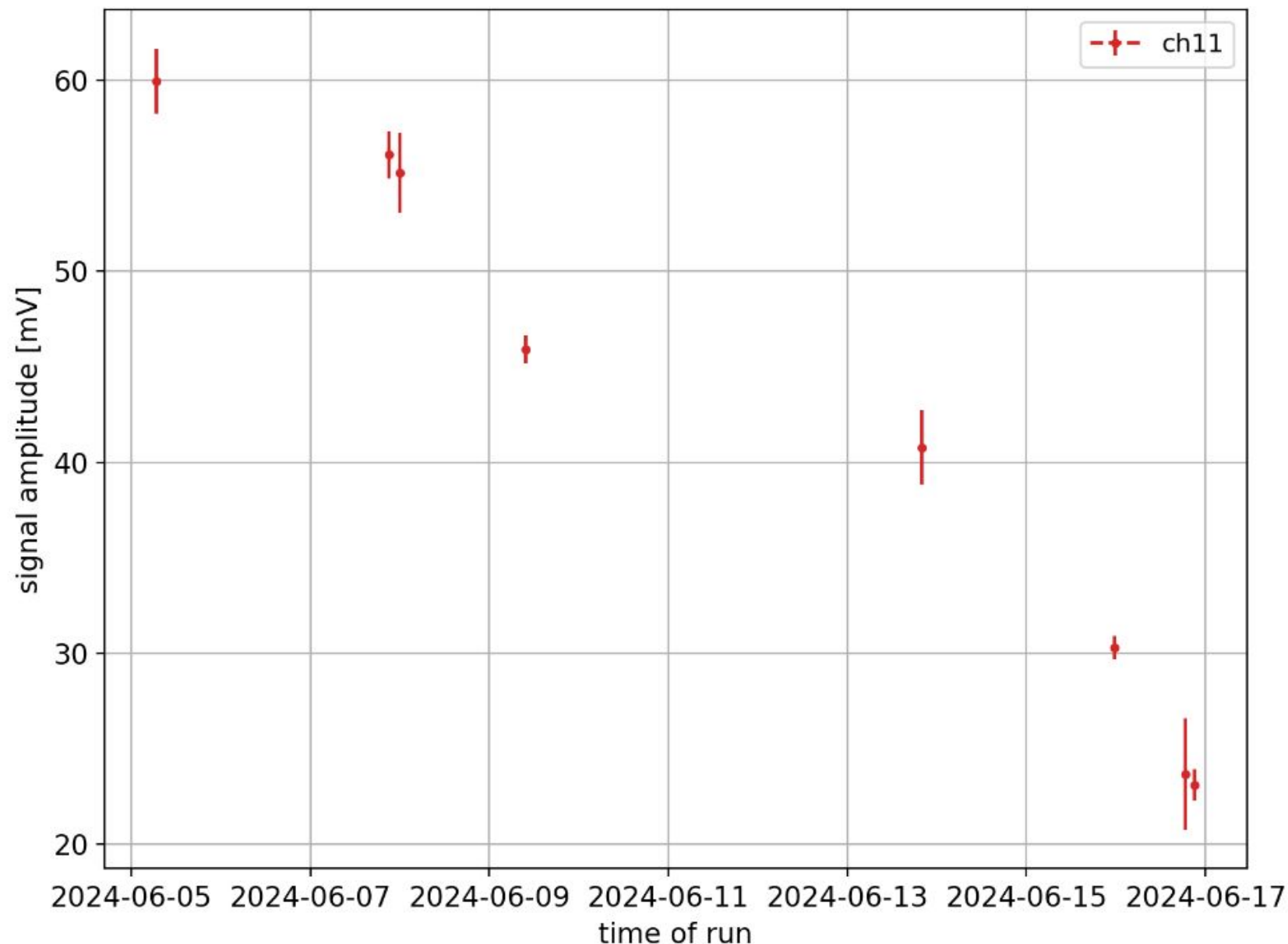
First Plots from LUXE320 Analysis



Comparison between first and second row straw signals

Mean amplitudes from run 310 (no background subtraction)

First Plots from LUXE320 Analysis

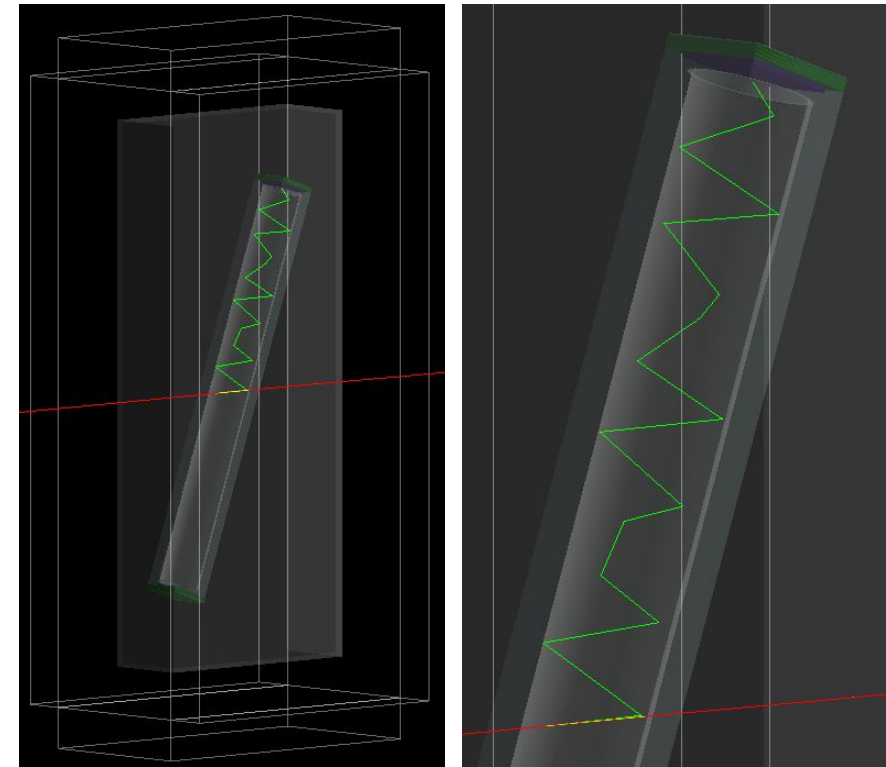
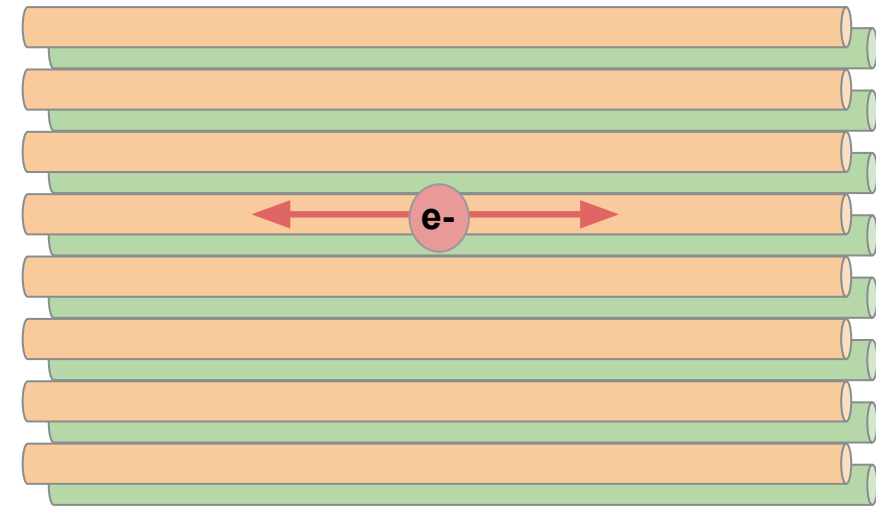


LED scan over time

Amplitude degrades!
Radiation damage of SiPM,
fibers, LEDs?

Summer Student Project

- Elena Papadimitriou
- Starting today until 05.09.
- Introduction into LUXE, E320, EDS and analysis framework
- Analysis of LUXE320 data
 - Beginning with transversal scan data
 - Comparing dependencies to Monte-Carlo study
 - Further data sets available



LUXE320 Planning

Analysis

- Data synchronization (screen and cherenkov)
- Event-wise beam jitter
- Signal calibration
- Spatial resolution (vertical/transversal)
- Radiation damage
- Angle dependence
- Background and noise

Upgrade to more channels

- In August:
 - Only 10 new BNC cables will be installed
 - Buying or sending custom cables difficult
 - Discussions in progress...
 - Installation of LUXE Positron Tracker

Run 2 in October

- Hardware upgrade and adjustments
- Commission camera & screen system
- Work on synchronization & calibration
- Beamtime together with E320 & WIS

Schedule

- FACET-II restarts 01.10. → running ~14.10.
- Tunnel accesses: 07.10. | **21.10.** | 04.11. | ...
- WIS colleagues will visit somewhere in October
- Unplannable beamtime of E320 in that time
- FACET-II shutdown from ~28.11. or ~15.12. on
- **Who will / could join?**