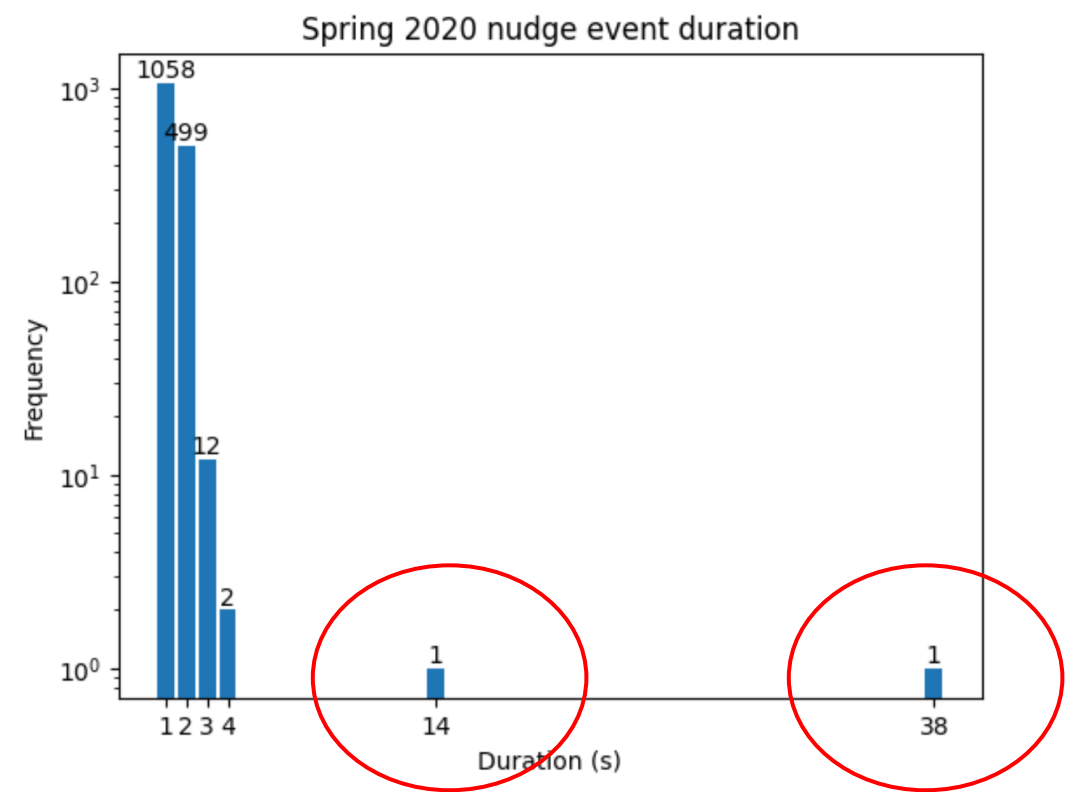
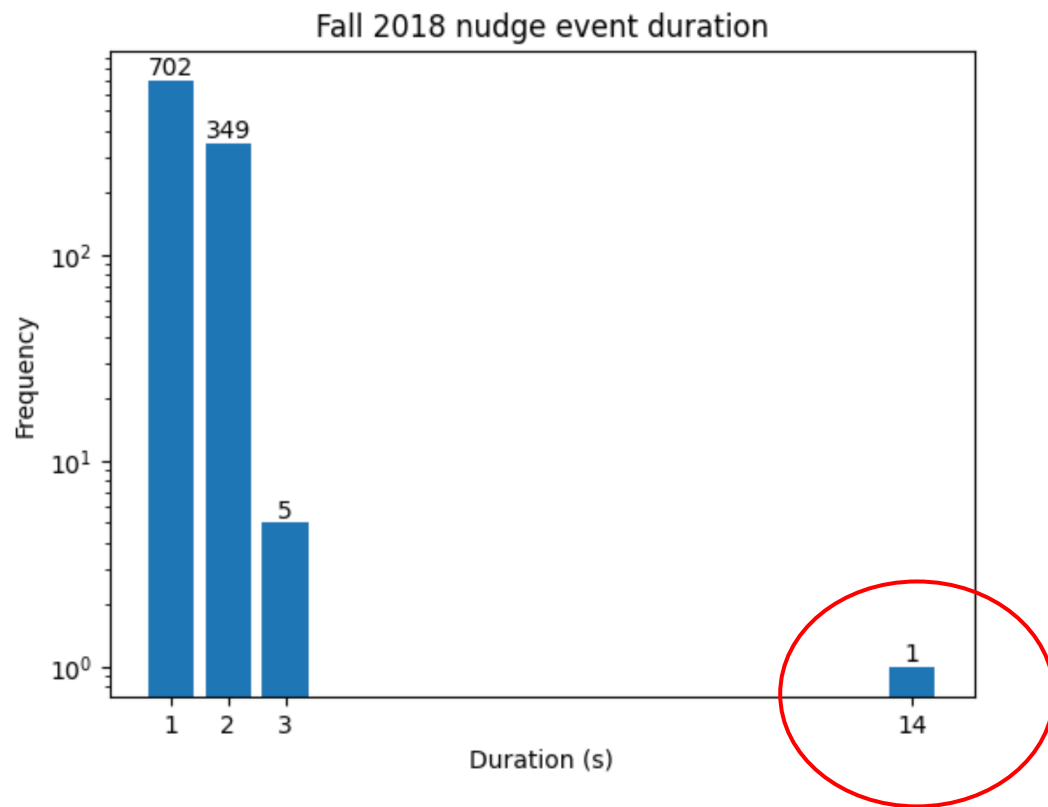


Update

Jiawei Guo

May 6, 2024



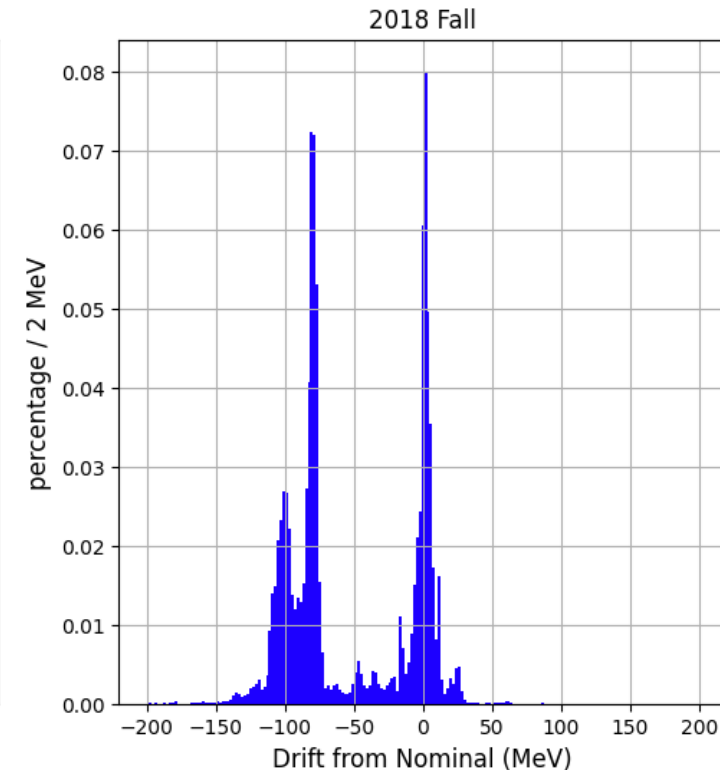
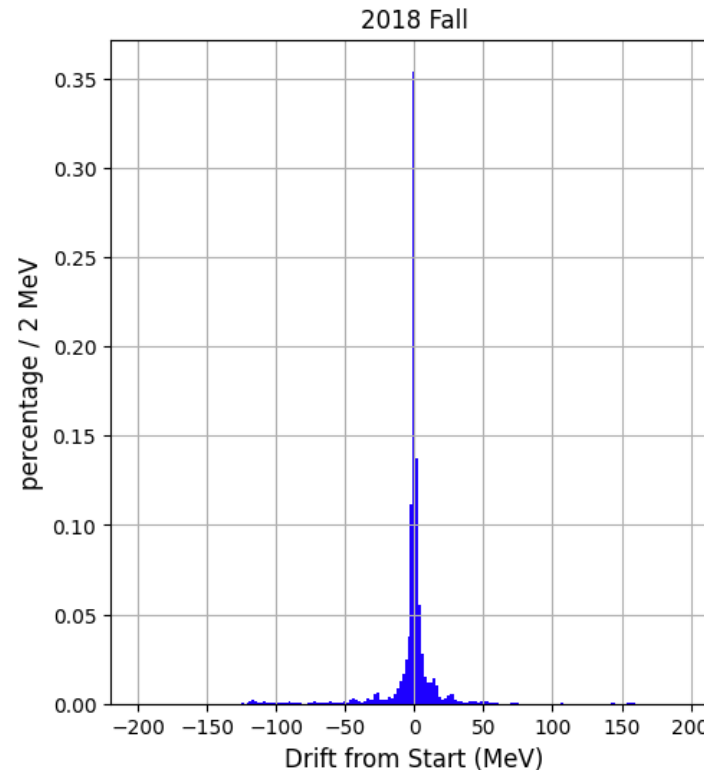
- Last time showed 3 nudge events have duration much larger than others
- Shift taker accidentally switched the diamond orientation but switched it back before finishing.
 - “HD:CBREM:PLANE” doesn’t change, so the event was not filtered

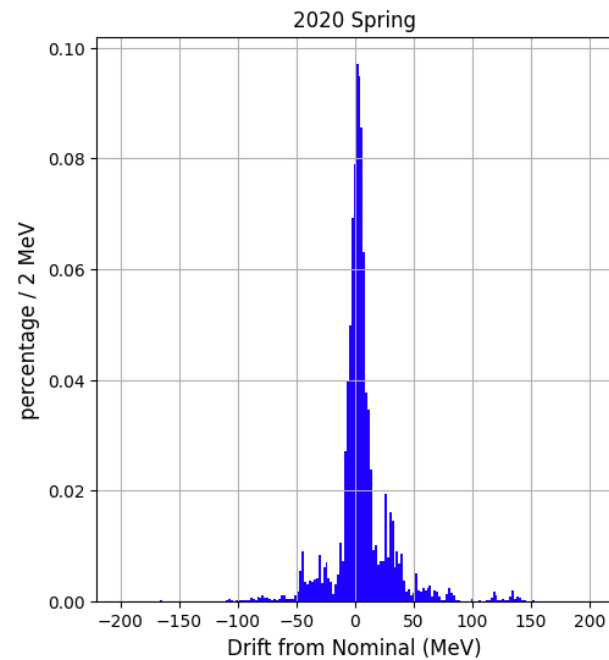
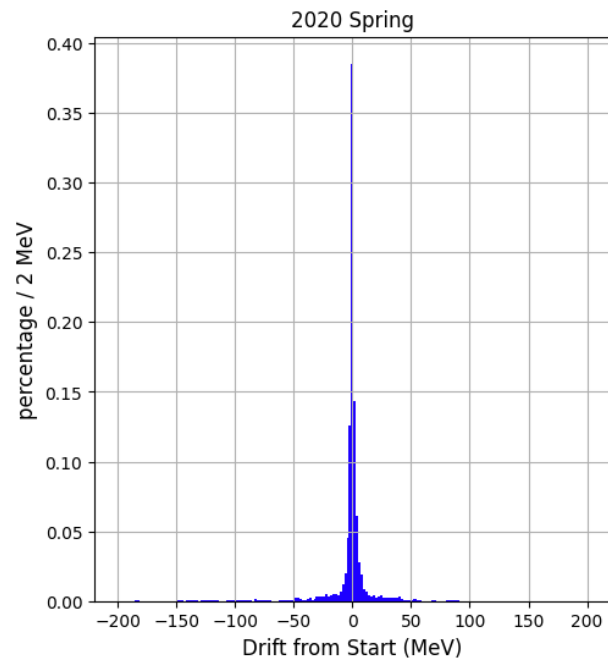
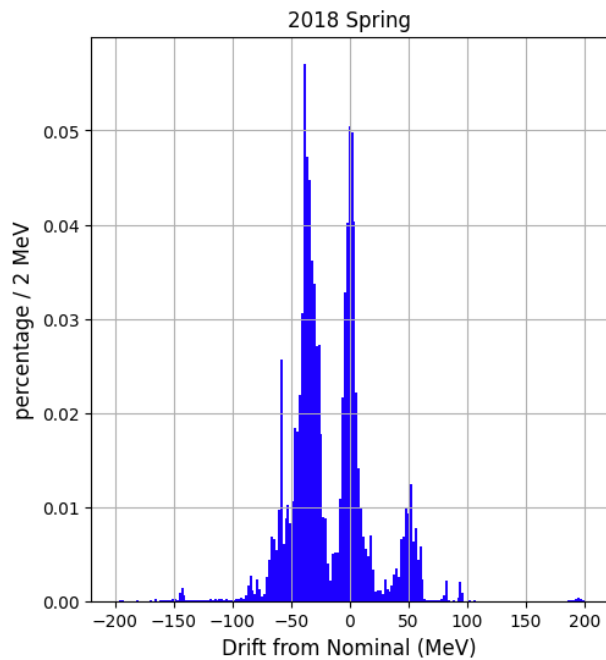
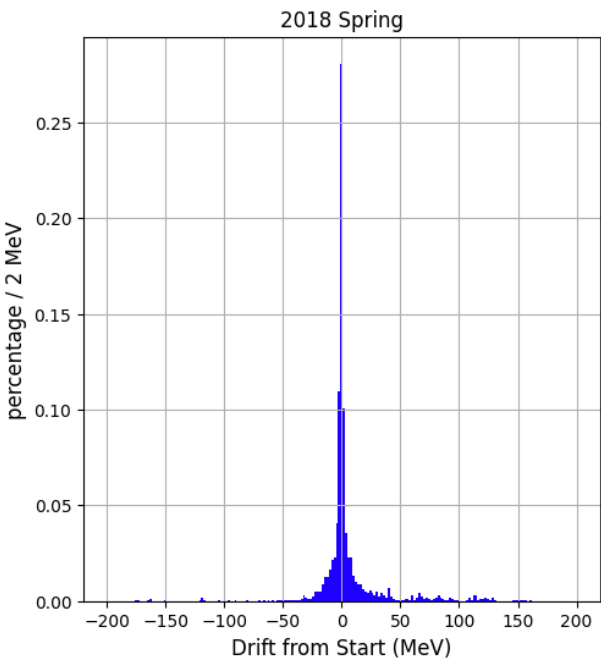
Coherent edge position drift plot

- myHistory for each run.
 - Nominal value is the same for each run
 - Measured value keep changing
- Draw how long the measured values last vs how far they drift from the start/nominal value
 - Normalize to 1

```
50697
      Date      HD:CBREM:REQ_EDGE HD:CBREM:EDGE
2018-09-27 23:51:39      8900      8858.12
2018-09-27 23:51:42      8900      8861.04
2018-09-27 23:51:46      8900      8851.56
2018-09-27 23:51:50      8900      8863.65
2018-09-27 23:51:54      8900      8855.74
2018-09-27 23:51:58      8900      8860.23
2018-09-27 23:52:02      8900      8860.39
2018-09-27 23:52:06      8900      8853.05
```

- The measured values are consistent with the start value with some fluctuation
- Multi-peaks comparing with the nominal value
 - The archived nominal value is wrong?
 - Run started at a different value from the nominal one?





- Spring 2018 is similar

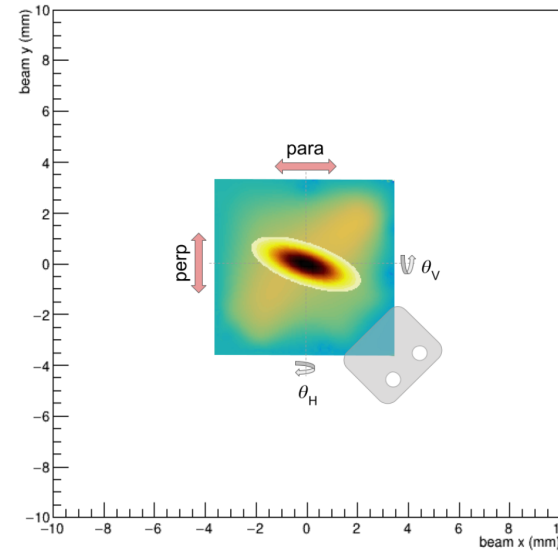
- Spring 2020 looks much better

- Collected all logbooks about diamond alignment
- How to find the beam spot?
 - Richard's spot finder tool?

diamond radiator spot finder tool

Richard Jones, University of Connecticut, June 2022

Choose a radiator: JD70-103 side facing upstream: front Update



[Check / modify parameters related to photon beam collimation](#)

electron beam properties

Update

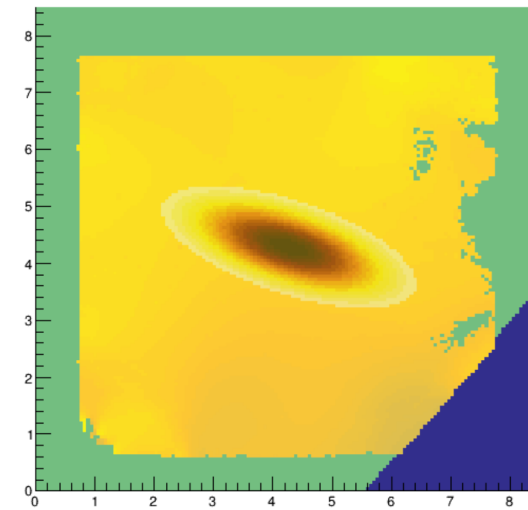
electron beam energy: 11.6 (GeV)
 beam rms size along x: 1.0 (mm)
 beam rms size along y: 0.5 (mm)
 beam xy correlation: -0.6 [-1,1]
 beam spot resolution: 0.02 (mm)
 radiator x offset: 0.0 (mm)
 radiator y offset: 0.0 (mm)
 radiator phi rotation: 0.0 (deg)
 radiator horizontal tilt: 0.0 (mr)
 radiator vertical tilt: 0.0 (mr)
 radiator tilt range radiator tilt resolution: 6.0 (GeV)
 snap primary edge to Para Perp at:

What to plot

- beam spot on crystal
- crystal tilt distribution
- photon beam intensity spectrum
- photon beam enhancement spectrum
- photon beam polarization spectrum

photon energy window: from 4.5 to 7.0 in steps of 0.02 GeV

beam fraction on crystal 0.999393, on mount 0.000090



Iteration number 1 for [topospot_JD70-103.0.11.6.4.5.7.0.0.02.2.2.0.02.1.0.0.5.-0.6.0.0.0.0.0.1.0.0.01.root](#)

Fall 2018: JD70-104
 Spring 2018: JD70-100
 Spring 2020: JD70-105

