

EPICAL-2 Meeting - 07.05.26

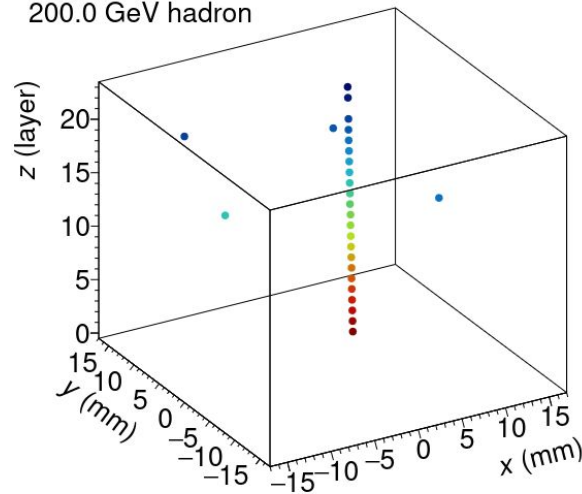
SPS Testbeam - Inclination

Jan Schöngarth

Track Selection

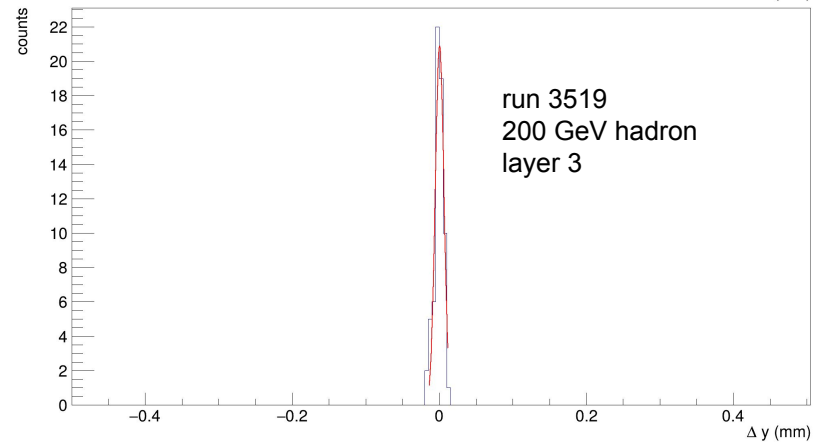
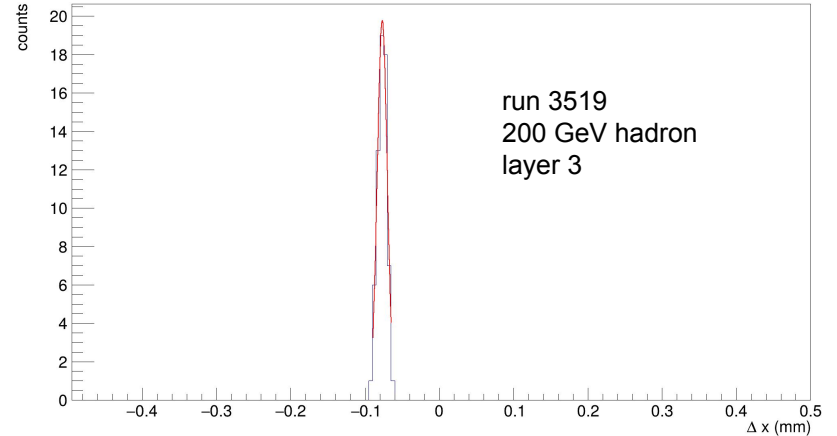
- tracklike events required → hadron runs
- simple event selection:
 - single cluster in layer 0 (defines beam position)
 - only one cluster per layer within 1 mm of beam position is allowed

EPICAL-2 data
200.0 GeV hadron



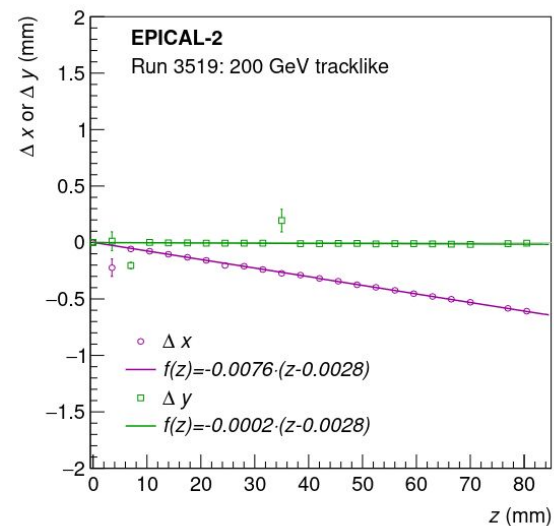
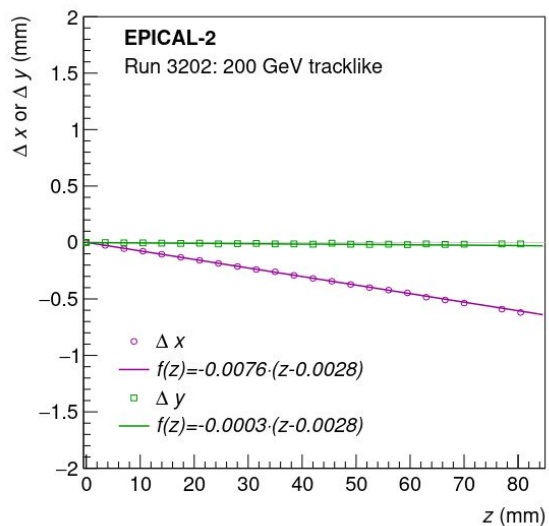
Residuals

- in each layer:
 - find residuals (e.g. $\Delta x = x - x_0$)
 - get peak position for each layer (gaussian fit)



Inclination

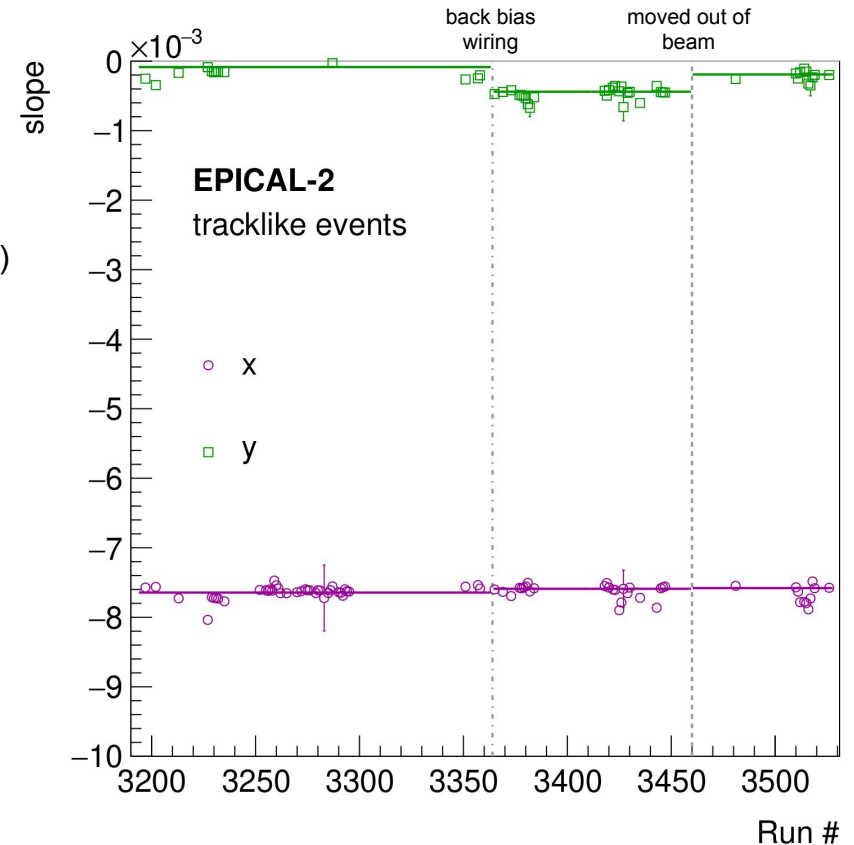
- parametrize Δx and Δy with $f(z) = m(z-0.028)$



Run Overview

- 3 run periods (rp):
 - 1st rp
 - 2nd rp after back bias wiring (detector was touched)
 - 3rd rp after table was moved (FoCal without EPICAL-2)
- x-slope unchanged between run periods

rp	x-slope $\times 10^{-3}$	y-slope $\times 10^{-3}$
1	-7.64451	-0.0848234
2	-7.59031	-0.439851
3	-7.58019	-0.192206

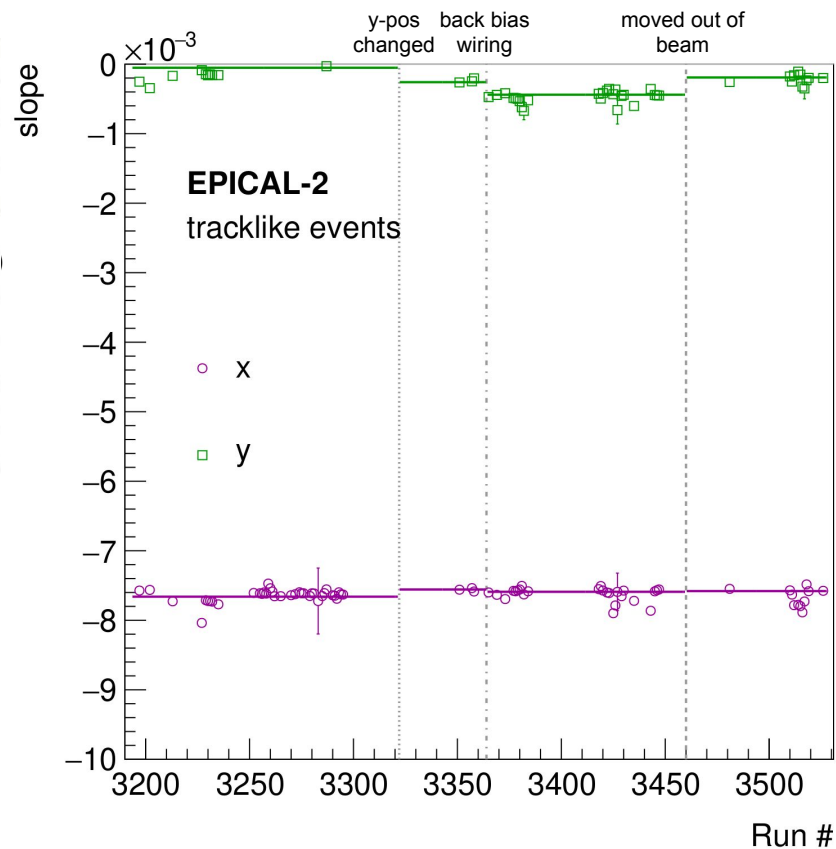


Run Overview

3321 40 GeV e⁻ 25c 350A
 3322 40 GeV 25c 1000+ } testing
 3323 40 GeV 25c 1000+ } readout
 3324 40 GeV 25c 1000+ } testing
 3325 _____ } readout
 3326 40 GeV 100c 200t } start stop/

Changed detector
 y from 52 to 49

rp	x-slope $\times 10^{-3}$	y-slope $\times 10^{-3}$
1	-7.66086	-0.0522032
2	-7.55729	-0.259708
3	-7.59031	-0.439851
4	-7.58019	-0.192206



Run Overview

- NOTE: Table moved between these runs
3187 & 3188, 3190 & 3191, 3204 & 3205
- hadron data not for all of these run periods available
- muon run (block down) 3151 not yet included in this analysis
- small parameters, effect might be neglectable

rp	x-slope $\times 10^{-3}$	y-slope $\times 10^{-3}$
1	-7.66086	-0.0522032
2	-7.55729	-0.259708
3	-7.59031	-0.439851
4	-7.58019	-0.192206

