Status report - Wednesday, July 09th

Preview and Cosmic Analysis

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09. July 2020
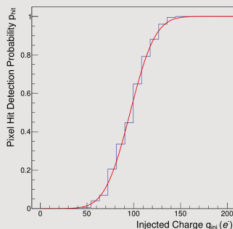
Preview of Presentation for July 21st

pdf can be found on indico →

Threshold Scan

50 Injections per charge point, then plot hit probability. (S-Curve scan)

Example:

$$p_{Hit}(q_{inj}) = \frac{1}{2}\left(1 + Erf\left[\frac{q_{inj} - \mu}{\sqrt{2}\sigma}\right]\right)$$

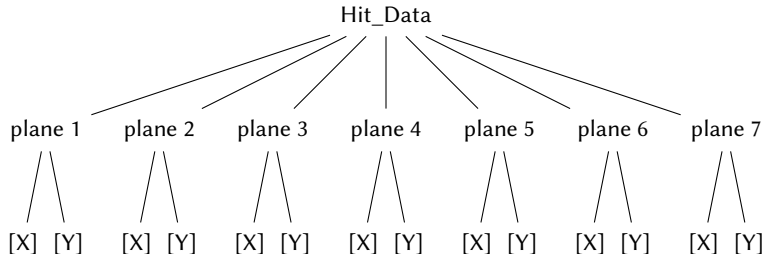## Cosmic Analysis

Problems

- (so far) unable to calculate residuals in Corry
- "Good" tracks spread out over 1.5 TB of raw data
  $\rightarrow$ Using Corry for tracking very difficult (not able to merge all data)

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Workaround: Writing an Event organizer in python

Cosmic Analysis

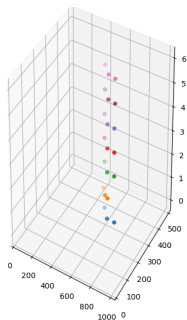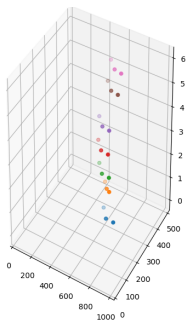Feed it with DESY Testbeam Data, to calculate the average offset of the planes:

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Plane 1 position: X 13.74 Y -36.65
Plane 2 position: X 25.4 Y 16.19
Plane 3 position: X 30.15 Y 21.23
Plane 4 position: X 20.29 Y 20.06
Plane 5 position: X 20.65 Y -52.77
Plane 6 position: X -22.33 Y -41.59
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Cosmic Analysis

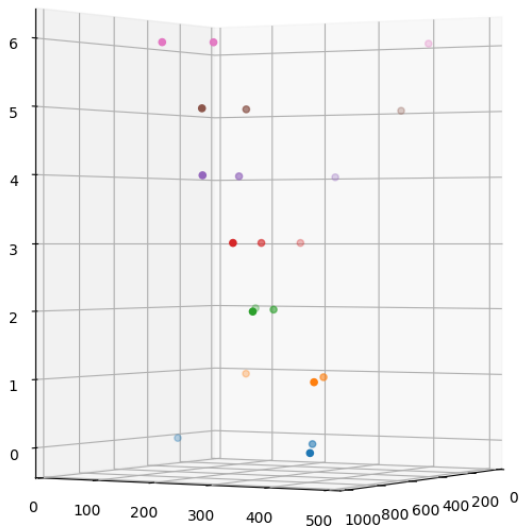Feed it with DESY Testbeam Data, to calculate the average offset of the
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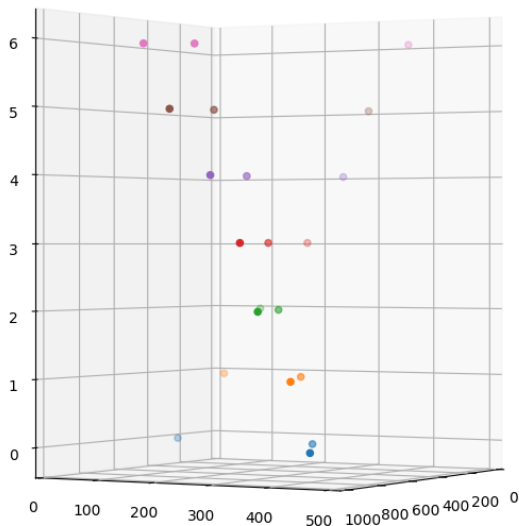yes they're ugly,
will produce some
nicer plots soon!

$\longrightarrow$

Cosmic Analysis

Some actual cosmics: (Before Alignment)

Cosmic Analysis

Some actual cosmics: (After Alignment)

Outlook

Next possible steps:

- Further improge alignment by adding rotation

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- Do some actual tracking and alignment with Cosmics

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- Produce some nicer Plots ;)

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- Further improge alignment by adding rotation
- fitting straight tracks through the data and calculate residuals
- Do some actual tracking and alignment with Cosmics
- Produce some nicer Plots ;)