

Status Report

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Updates

- Updates the correlation fitting with new strategy.
 - Combine the e^+ , p and π^+ sample and do the fit.
 - Rotate point and angle are decided by this combined fit.
 - Check the rotate points along with the inject kinetic energy.
- Checks the correlation with different sizes of BGO.
 - Same xy size + different z size (xyz)
 - 221, 222, 224
 - Different xy size + same z size (xyz)
 - 111, 221, 441
 - Prototype-like size: 17cm * 17cm * 60cm



The correlation vs particle types

 From the previous slides, the fixing point (kinetic energy + particle mass) doesn't work for protons



• Does proton follow a different shape of correlation?



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Fit with new strategy

• Combine e^+, π^+, p sample, fix the rotate point by the combined sample.











- There is a roughly linear correlation between the inject (kinetic) energy and the rotate point (x0)
 - Need to be confirmed with results from more energy points
 - Could be used to determine the rotate point (x0) for different energies



• After updating the fit strategy, both the energy resolution and bias are corrected for both proton and pion



Different size?

• Same xy size, different z size





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Different size?

• Different xy, same z



• There is a potential trend, with the smaller size in xy, the correlation between E_{dep} and E_{dep}^{h} is getting larger.

Prototype-like size

• The spread of the correlation is quite large,

