

Energy calibration based on π^0 mass ---- plan to write a paper

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Implementation





MC preparation



- From Raw data to π sample
 - Raw data from PandaRoot simulation, Hits and Clusters
 - Selection: reduce background
 - Data format conversion
 - From EDM in PandaRoot to EDM defined for calibration
 - $-\pi$ sample

Raw data **Event selection** Data format conversion π^0 sample

PANDA CM 20/2

Validation

- Test
 - 5M, 1 GeV π
 - Single thread
 - Iterations: 7
 - Time: ~3h30min
 - 8 threads
 - Iterations: 7
 - Time: ~41min (5.9min/iteration)
 - Same result as single thread case
 Improvement
 - Reduce 80% consuming time (1/5)

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Status and Plan



- The work is a continuation of PhD Thesis of Bernhard Roth
- Codes are redesigned to be compatible with PandaRoot
- New approaches in calibration
 - Event Data Model has been designed to convert data from PandaRoot to the one required by the calibration
 - Update all hits energy in the iteration (instead of the seed hit)
 - Design and implementation of multi-thread structure
- The software is ready for research
- Welcome to join as a co-author

WELCOME TO JOIN US!