

CGEM directions

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Layer 3 and mechanics



- We had a very intense period
 - building, testing, fixing, re-testing, measuring, transporting, measuring again, testing...
- A lot of pressure (also from outside our group)
- The road ahead is slippery, and we must proceed very carefully
- Michele has accepted to lead mechanics in the next phase with the following mandate
 1. understand the weakness of the CGEM design by means of simulations and tests
 2. understand if there are ways to upgrade the current design to guarantee GEM spacing within 200 μm
 3. if answer to point 2 is positive, design and build a new Layer 3
- It must be clear that finding a solution is a responsibility of the entire group

Operations and travels



- Operations have been quite smooth during the dry season
- A lot of data acquired over the last year (thanks to all experts and shifters)
 - good for QA and detector stability
 - less for offline developments
- Maintenance proceeds very slowly
 - for obvious reasons
 - with the help of our Chinese colleagues
- Travels are still forbidden or very complicated, discouraged
 - this is a first order issue

Integration and electronics



- The goal is clear, it has been identified (reinvented) when we had to leave Beijing in Jan 2020
 - demonstrate the performance of the full readout chain with a small setup
 - replicate the result on the CGEM once in Beijing
- The path includes ancillary modules development, cosmic ray data taking, APV benchmarking, firmware upgrades, noise data studies, check on analysis procedures, and finally a test beam
- Not everything done yet, not everything with the same attention
- DAQ and Slow Control will eventually come

Software

- Still a lot of work in progress
- Global tracking with Hough transform: development driven by the Chinese group, some improvement but still far from the goal
- Calibrations and uTPC: several attempts, strategies, tests but no actual improvements on resolution
 - entangled with comprehension of the detector S/N
- Comprehension of the detector: is there anything left to learn from cosmic data
- Suffering of lack of dedicated manpower



Directions for?



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