SiD
LoI ECAL Status
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The SiD ECAL

- We know what we want for the LoI

    - Silicon + Tungsten

    - R=1.27 m z= 1.7 m

    - 26 X_0

    - 17% /sqrt(E) resolution

- Two readout options

    - Analog readout with KPix (baseline)

    - Digital readout using MAPS (option)

- Both fit in one mechanical design

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So far so good …

- What is in the LoI so far
  - Introduction (needs work)
  - Description of the ECAL global design ✔
  - Plots from Marco ✔
  - Baseline option (too long)
  - MAPS option (Make it coherent with baseline section)
  - Performance plots for the baseline (to come)
  - R&D chapter (needs real work)

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Some Comments

- We are not short on material

- But we could be more concise

- And are quite frankly too long …

- 10 pages and we do not even have all the material in

- For the ECAL we like to keep all option in the main document

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What is in the pipeline

- Performance plots for the baseline (Ron)
- Linearity plot for the MAPS (Marcel)
- π^0 Separation (Paul)
- Plan to have all these ready for the LoI

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Plans for this workshop

- The usual suspects will get together here

    - Fix Introduction (easy)

    - Cut down baseline option and MAPS (make things shorter)

- R&D chapter is a big issue

    - Need guidance from the Editors and SiD …

    - What should we write there ?

- Additional Material …

    - Incorporate it as best as possible

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Open Questions

- How many pages should we go for …

    - Editors, please make an executive decision

- Other issues

    - There is the question on why 17 %/ sqrt(E) …

- Gluing together the PFA and dual-readout is quite challenging …

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IDAG items

- 1 TeV running …

  – Can always make ECAL deeper if needed

- Calibration and alignment

  – We have some words on calibration

  – We did not say anything on the required accuracy of the alignment

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R&D chapter

- Builds around Testbeam Stacks

- 30 layer device for the baseline option
    - Needs 1024 channel KPix
    - 30720 channels
    - Results by 2012 (?)

- 16 layer Digital ECAL stack
    - Using a large TPAC sensor (maybe 5x5 cm)
    - 64 million channels
    - Results by 2012

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Some more news

- Poorer-than-expected noise performance of KpiX seems to be understood.

- We will be able to confirm this in KpiX-8, back in 3 month with 256 channels

- If it works, go ahead with the 1024-channel KPiX

- There has been some good progress on bump bonding recently. We have a new vendor who is making good gold-stud bonds.

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Funding ...

- What do we need to say about this ?

- Baseline option

  - DOE funding has been requested via SiD

- Digital Stack

  - UK Funding received as part of SPiDeR program

  - Starting from 1st of April (Beginning of UK financial year)

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