Beyond sid02

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Tracking Meeting

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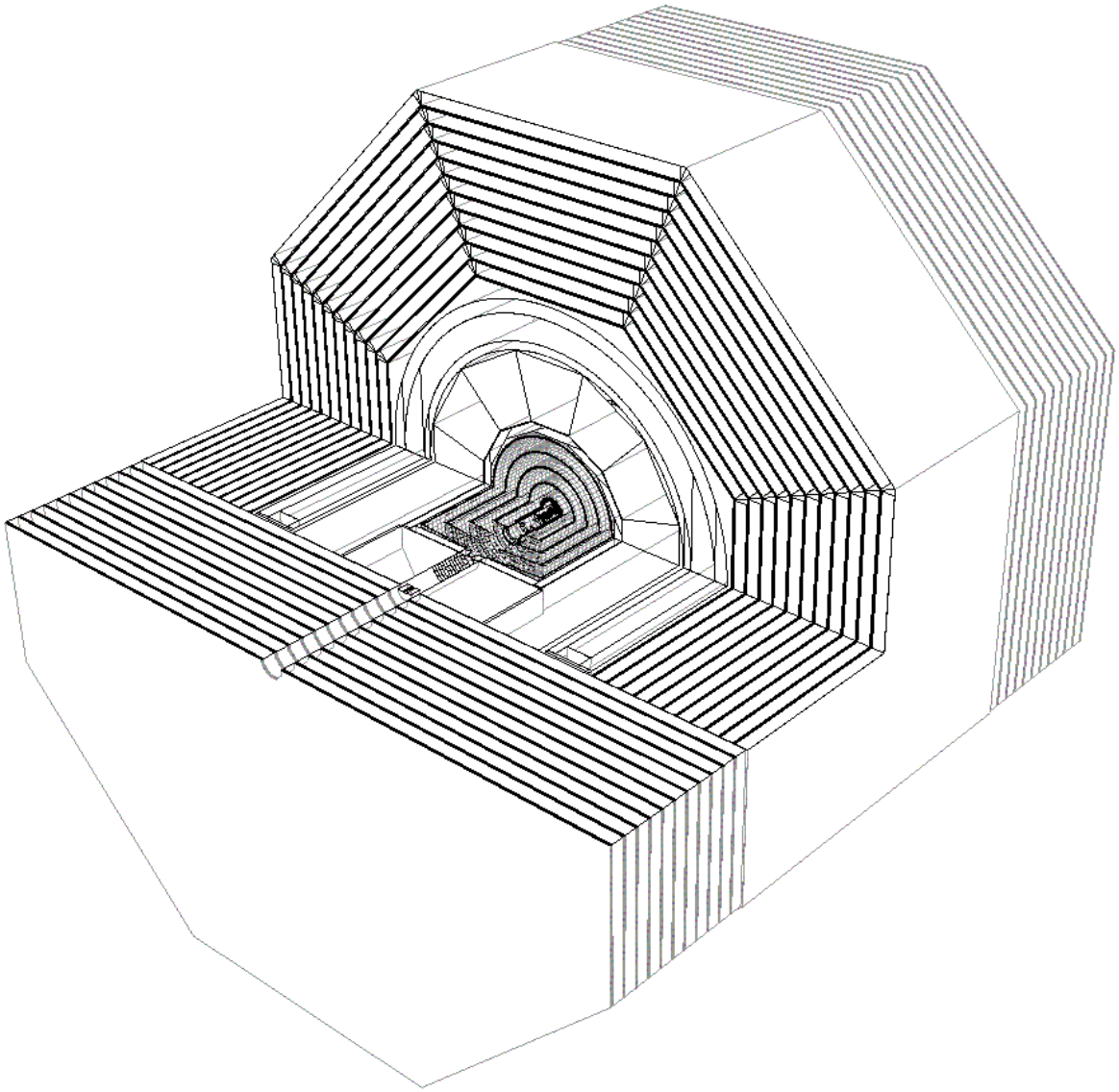
Beyond sid02

- The detector model sid02 was a necessary compromise between the desire to include all the details of the engineering designs and the need to complete the large-scale physics benchmarking simulations in a timely fashion.
- Since then we have implemented models with more realistic subdetector descriptions.
  - Benefits from engineering work done for the LOI.
  - Allows much more realistic subdetector performance studies to be undertaken.

sidloi



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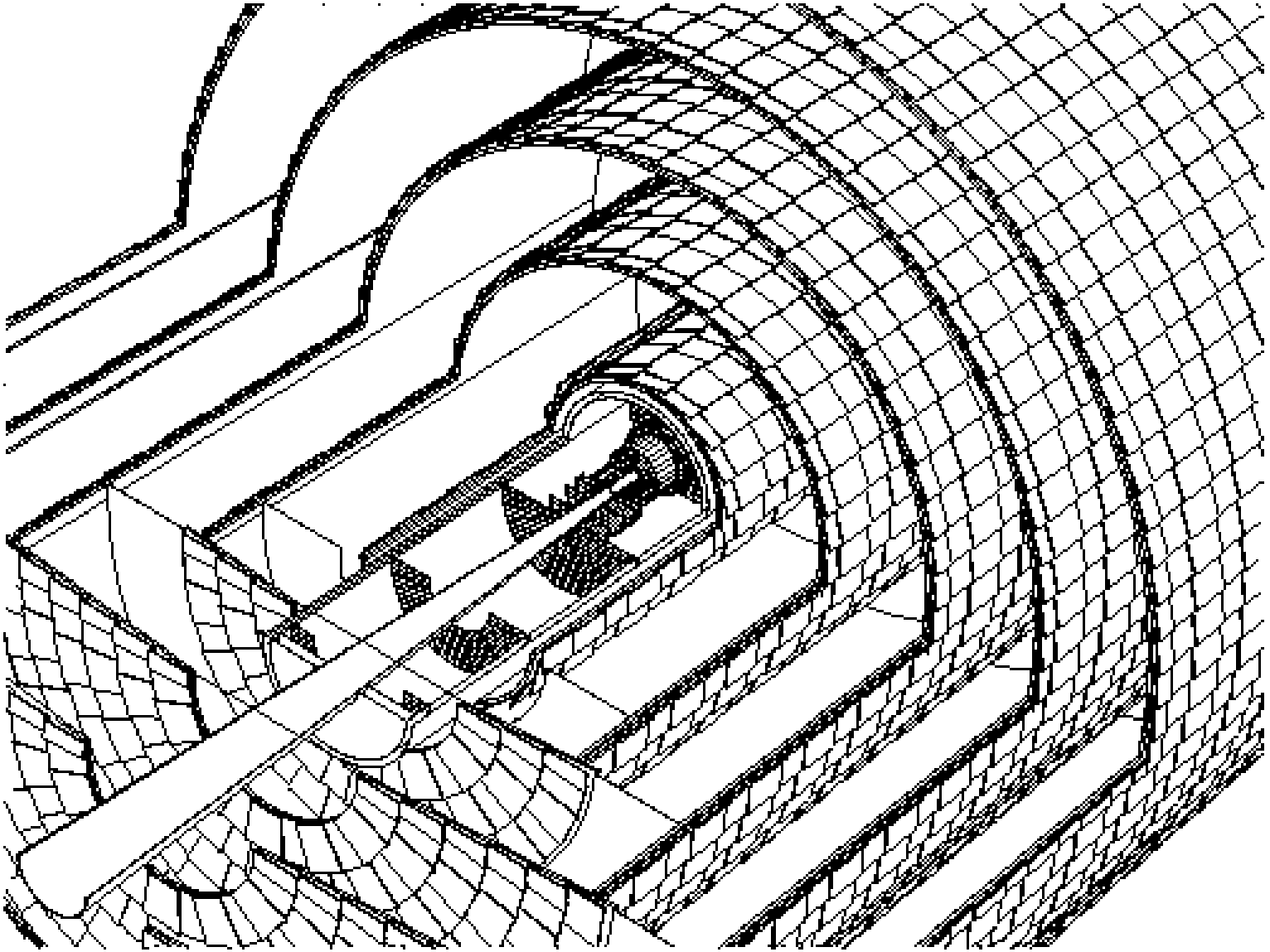
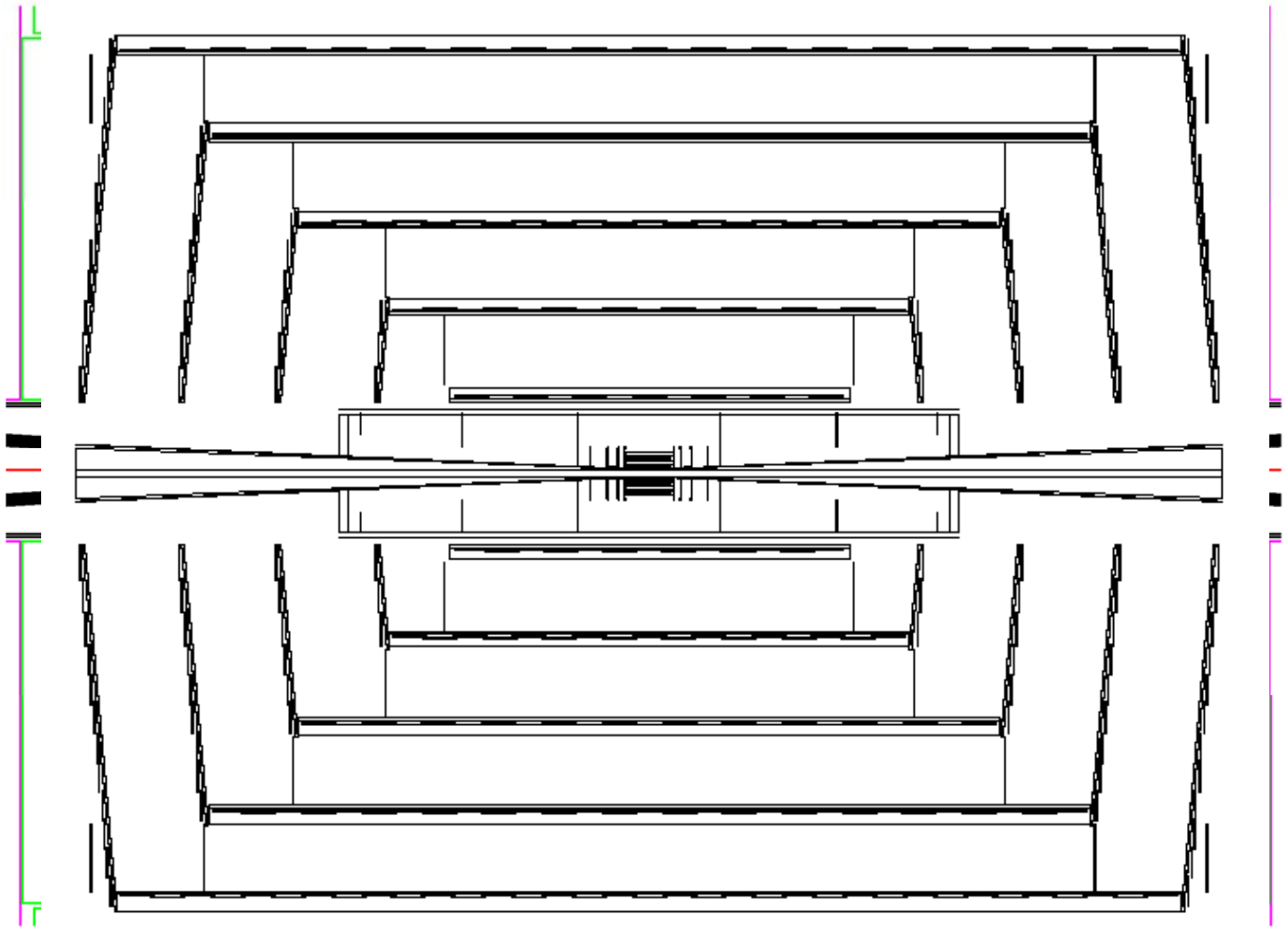


sidloi Tracker



sidloi Validation

- Would like to have all relevant individuals compare the detector model to that described in the LOI and comment on, fix, or sign off on the design.
- compact.xml file is in plain ASCII, with some comments and somewhat self-descriptive element tag names.
- Assistance can be given where needed.
- Would like to start generating events right away.

Detector optimization

- Need to systematically optimize the detector design based on full simulation and reconstruction of events.
- Need to better support subdetector options.

Reconstruction

- Still a lot of work needed to improve and robustify the existing reconstruction code.
- Need to be able to use it as a tool to systematically answer detailed detector questions, e.g.
  - Optimize number and location of tracker sensors.
  - Model specific, detailed readout technologies.
  - Study effects of noise & inefficiencies.
- Optimize for higher energies (at least 1TeV).

- Loss of key individuals and lack of infrastructure support at the labs makes this very challenging.

Going Forward…

- Highest priority will be to respond to IDAG questions regarding LOI.
  - Need to make it past Albuquerque
- Understand needs of TDP-1(Summer 2010?) and TDP-2 (2012)
- Go back and clean up the code, document the performance and work on the neglected infrastructure.