

Recap of last 4 months:

- Initial M.C. studies by Andrei showed worse ($\sim 0.5\%$) energy resolution for course grained segmentation vs. fine grained segmentation. (3/17/2011)
- Subsequent simulations showed large discrepancies between polar angle (3/29/2011 , 4/12/2011) and efficiency (4/12/2011)
- Efficiency discrepancy was resolved with additional study (4/26/2011)
- Dedicated meetings started on issue of BCAL segmentation on 5/19/2011
- Much of the BCAL smearing in M.C. , including dark hits was re-written and more sophisticated algorithm developed for determining threshold (5/19/2011 , 5/26/2011 , 6/2/2011)
- Effort shifted to developing energy calibration system for BCAL. Dual efforts were made leading to similar results (6/17/2011)
- Various contributions to the energy resolution were studied with the conclusion that the dark hits + threshold contributed an additional 2.2% to the stochastic term (raising it from 5.5% to 5.7%)
- More detailed studies of the electronic signal shape based on individual step info from hdgeant began (6/23/2011 , 6/30/2011)
- Calculation tying threshold calculated in MeV based on data rate limitations to mV based on pulse shape started: 2.3 MeV \rightarrow ~ 40 mV

- In the course of the last 4 months, it became clear that parameters in the KLOE algorithm would need to be tuned for the course segmentation (and possibly the fine segmentation) scheme to make a comparison at a detailed level.

- However, we have seen indications that the efficiency, energy resolution, and phi-angular resolution are not significantly affected by the choice of segmentation scheme.

- Polar angle seems to be the only big question remaining. I will have additional results based on the ongoing ab initio studies next week.

- As discussed at the meeting 2 weeks ago, this decision (on the segmentation) affects the board design which is already 6 months past due.

- Other factors may affect the board design which may add additional time for M.C. studies. Barring that, this decision will hold up the schedule until it is made.

Proposal: *If no significant difference in the polar angle (z-position) resolution is seen AND no additional delays in board design are foreseen due to other reasons, we make a decision to maintain the course segmentation in the design.*