

Closing Thoughts



SiD Concept Meeting at LCWS08
November 15, 2008

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Issues from Boulder...

...are mostly solved. Good progress!

- SiD02 is defined. Is it right?
- Do we have the resources to generate all the MC data needed?
- When will we be ready to start reconstruction?
Do we have the resources to process all the data?
Are the PFA and tracking algorithms adequate?
What's missing?
- Do we have realistic conceptual designs for all subsystems?
- Do we know how subsystems will perform?
- Do we have enough physics analysts?
Can we cover the benchmarking exercises?

Early Thanksgiving

- **SiD has a working PFA**
Thanks Mat, Usha, TJ, Ron, Norman, Marcel S, Andy...
- **SiD has working track reconstruction**
Thanks Rich, Dima, Cosmin, Tim N, Norman, Jeremy,...
- **SiD sim is generated and recon is working**
Thanks Norman, Ron, Jeremy, Tim B, Marcel S, Marcel D, Jan, Yannis,...
- **SiD is being benchmarked**
Thanks Tim B, Andrei, Erik, Jan, Marcel, Tomacz...
- **SiD Lol is being drafted**
Thanks Hiro, Phil, Mark, and loyal SiDizens

Very good start, but...

(my list from before the meeting:)

- Is Recon robust, complete, bugfree?
- Are benchmarking analyses working? Is SiD performance OK?
- Is subsystem performance documented?
- Have we answered IDAG questions, e.g.,
 - system calibration and alignment schemes?
 - system robustness to backgrounds?
 - system response to higher energies?
- Do we have conceptual designs for all subsystems?

(your list from after this meeting:)

- #1
- #2
- #3

Next stop: SiD Workshop at SLAC

Proposed dates: Feb 4-6, 2009

Milestones:

- tie up loose ends
- complete benchmarking results
- complete Lol draft

Time for Lol review, writing, re-writing, editing

Plan what's next for SiD



What's Coming Next?

Long Term View from RD

- **Detector Design Phase I 2010**
 - LOI Validation with IDAG
 - Advance critical R&D
 - Continue optimization/update physics performance
 - Refine MDI plans
- **Detector Design Phase II 2012**
 - React to LHC Results
 - Complete needed R&D
 - Complete technical design
 - Confirm physics performance
 - Develop reliable cost estimate

What does SiD do next?

- Prioritize and push the R&D list. We need to demonstrate proofs of principle before 2012.
Can SiD help generate support for detector R&D?
Can SiD receive/dispense funding for R&D?
- Continue optimizing the SiD Design. What exactly do we want to build?
We now have the tools. We will have the benchmarking results.
Many questions (all?) remain.
- Move toward making technology choices. Again, what exactly do we want to build?
Time scale is given by the GDE proposal in 2012

These and other activities will be overseen by the Research Director and IDAG, who will guide the community toward readying detector proposals in time for the GDE's Technical Design Phase II Proposal in 2012.

RD and IDAG Validation

The SiD Lol will be critically reviewed and “validated” by the International Detector Advisory Group (IDAG). The RD has elaborated on just what “validated” means:

- Are the physics aims of the detector convincing for an experiment at ILC?
- Is the detector concept suited and powerful enough for the desired physics aims and the expected accelerator environment? Namely, is the arrangement of the employed detector components adequate?
- Do the mechanism for the push-pull operation, related alignment and calibration methods enable the desired switching process?
- Is the detector feasible? Namely, is the required R&D for the selected technologies advancing fast enough so that they can be completed during the design phase? Are the estimated cost and the way to obtain it reasonable when examined at the time of LOI?
- Is the group powerful enough to accomplish the required design work through the technical design phase?

Interim Detector Report (2010)

- The RD will call for an Interim Detector Report, roughly a year after the submission of the Lol, in 2010
- The Report should summarize SiD's response to the validation process and progress toward its R&D goals.
- DOD, DCR, Lol, and IDR are the steps we are taking toward the SiD Proposal

Thanks for coming today

Please talk to us if you want to
get involved with the SiD Lol

See you at SLAC in February !