SiD Workshop Summary, Next Steps & Life beyond the LOI

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Observations

Despite difficult (funding) times in several regions of world......

SiD keeps making progress
(not just wringing of hands in despair)
Even on short time scale since SLAC meeting in January 2008

Very good attendance at this meeting
Several new faces & groups

Two and a half days of very interesting talks with lots of progress and obvious progress on road to LOI
Different subsystems/efforts have different problems and approach them differently.

New information and several new ideas, directions were suggested at this workshop

Great location & surroundings, great hospitality, great food & excellent organization helped enormously.

Best SiD meeting so far.

SiD @ RAL, 14-16 Apr. 2008

Path forward

Fixing SiD Global Parameters

- Not ready to fix SiD's global parameters yet, but close.

  Lot of progress. Getting a sense and see trends. Some are done: either optimized or no change for long time

- New PFA results and optimization to be discussed Tuesday

  Clear derivatives. Good optimization exercise. Giving direction. Need non-Pandora PFA results

- At this meeting, we need to digest the new results, and plan for completing the process. By Warsaw? How?

  Lots of results ➔ lots of digesting. Good !! Need to come to a completion by Warsaw. John outlined process yesterday. Will need input from all in next month to this.

Tools readiness

(A) We'll hear present status of PFA and track reconstruction this afternoon and tomorrow morning.

We did. Pandora approach to optimization different & personal. Need SiD based PFA confirmation of Pandora trends. Excellent progress on tracking tools

(B) When do we need these tools for detector performance studies and physics benchmarking?

~July ?? See later discussion on time line

We need to discus and plan
     How do we get from (A) to (B)

No clear discussion on this

SiD @ RAL, 14-16 Apr. 2008

We need to think carefully about what is really needed for LOI. We've had grand plans. It's time to get real.

Need baseline for performance.
But will evolve after LOI

"stop monkeying around"

We need to understand *what must* be done for detector optimization/re-baselining.

A lot of information in last days

What engineering constraints must be included?

Some but not all; watch performance

What level of detail should go into the Monte Carlo?

Depends on subsystem (tracker, CAL)

Exactly what do we need to specify?

As above

We need to understand *what we are capable* of doing in terms of detector optimization/re-baselining.

Need cut-off for LOI & continue after LOI

What can we do with available resources?

Limited before LOI

Where can we get help from new collaborators?

If possible specific tasks for LOI; different afterwards ?

We need to agree on when this process must converge, how we keep these changes straight, and how SiD approves and implements the new design.

Proposal by John yesterday.
Define strawman in Exec/Advis get input
from all at regular collaboration meetings.
"Change control/documentation process"

Approach to LOI

The goal/purpose of is evolving and will continue to do so.

<u>Current thinking in SiD (please challenge):</u>

SiD should help shaping/establishing the LOI process

SiD LOI should:

Describe the status of where & what SiD is
Describe a baseline with options and how we arrived at baseline
Describe performance of the "baseline" configuration
Describe where we want to go, plans & ,milestones (after LOI)
Describe what R&D (with priorities & milestones) and resources
(?) are needed to do that
Describe cost of baseline

Question:

How important is cost at this point ???
How much does cost considerations impact baseline ?

Time line for LOI

Date	Milestone
4/09	**Submit LOI**
3/09	**Begin Final Edit of LOI;** complete authorlist
2/09	**Complete LOI Draft** Collaboration Review and Comment
9/08	**GEANT4 Description Ready** Performance Studies Ready Benchmarking Studies Ready
6/08	**Freeze Detector Design** SubSystems Fully Specified Subsystem Technologies/Alternates Selected Conceptual Designs Ready

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4/08	**Freeze Global Parameters** First Pass Detector Design
3/08	**First Pass Global Parameters**
	Optimization studies
01/08	**Subgroup Plans Defined** Milestones and Deliverables Manpower Resources Needed

From Andrei:

- April 2009 : submit LoI
- February 2009 : results available
- October 2008 : all MC samples available
  - SM sample is most CPU intensive
- August 2008 : start production
  - Reconstruction ready
- July 2008 : all analyses developed on fastMC and PFA, generator level samples ready

At UK meeting ? Not quite, but direction.

Optimization studies

SiD @ RAL, 14-16 Apr. 2008

Life Beyond the LOI

Some discussion at this meeting already….

LOI is not an endpoint, but a milestone in the SiD activities.

LOI will describe what SiD will do beyond the LOI.

Assumption:

- "Validation" of SiD in LOI process is a step closer to making SiD concept more real
- Continue work after LOI but hopefully more as a "proposed experiment" at the future "LC lab".
- Better and more clearer recognition as part of ILC/LC program

SiD

And before we start disappearing……..

Thanks to our UK hosts (especially Rutherford Lab and Oxford) for organizing this meeting in these difficult times.

They made it a great and uplifting meeting/experience for SiD

THANK YOU

Final slide

discussion, feedback, reactions, opinions……