Charge to the ECFA/LC Valencia meeting and News

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Introduction

WWS-GDE connections

Evaluation of Detector R&D

What comes after the DCR ?

Valencia : a common ECFA-GDE meeting

- As was recognized in Vienna, we need to reinforce the links between Machine and Detector/Physics experts
- The MDI panel which contains representatives from WWS and GDE was set for this purpose and has started the process (14 mrad decision)
- Many technical choices recently proposed by the GDE have direct impact on Physics

GDE-ECFA

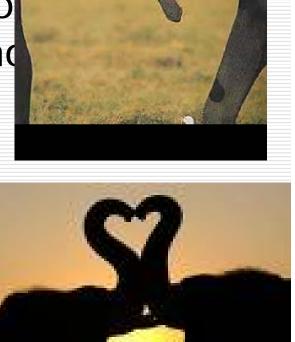
- Valencia is an opportunity to have a public dialogue on these choices
- The plenary meeting on Wednesday evening is to discuss the implications for physics
- BDIR/MDI/WWS/GDE common meeting on Wednesday morning on the push/pull issues

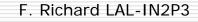
PUSH/PULL

- First discussion on #IR #Detectors took place in Snowmass: the community is strongly in favour of 2 IR and two detectors
- □ The GDE (Barry) says:
- two IR are very expensive, please look at the push pull scenario with one IR and tell us if this is technically feasible
- □ you (the WWS) will be part of the study
- we take very seriously your priority for two detectors believe that the 1 IR scenario will increase the probability to get funding for two detectors
- Representatives of the concepts chosen through the WWS are involved in the TASK FORCE led by A. Servi

PUSH PULL II

- Major technical challenge:
- Move 2 detectors 10000 T o of meters into a position known the mm level
- Technical risks?
- Sociological' ones : how to equally these two detectors
- We are just starting





Other issues

- Revisit the Parameters of ILC: Luminosity *L*, Energy, Polarisation, Energy spread
- \Box e.g. what if we start ILC with reduced \mathcal{L}
- \Box Can we stand a large μ halo (occupancy)
- Can we mount our detectors on surface in less than 5 years
- Some will be addressed in R. Heuer and B. Barish plenary presentations on Wednesday evening
- Others can be asked by the audience during the Discussion

Reviews on Detector R&D

- An R&D Detector WWS panel was set under the responsibility of C. Damerell
- It had an impressive start in producing a global view of resources on R&D and these conclusions helped in triggering increased efforts in the US and Japan
- Next: DRDC like LHC or merge with the GDE R&D? No...
- Instead a global reviewing of the sub-detectors with a form of peer review (external members invited) and written reports during our next meetings

Next meetings in 2007

Beijing ACFA/GDE Feb. 4-7 IHEP, Beijing http://bilcw07.ihep.ac.cn/ Tracking DESY LCWS07/GDE May 31-June 4 2007 Calorimetry FNAL ALCPG/GDE October 2007 Vertexing ACFA (Asia) Beg. 2008 Particle ID, muon tracking, solenoid, beam diagnostics and DAQ

R&D Panel reviewing (continued)

- The goal of this system is certainly not to send negative messages but to make sure that there is a consistent effort of our R&D which is a guarantee for our credibility
- Everything effort should be done to advise and protect emerging groups
- GDE supports this initiative while the panel remains under the WWS supervision
- Chris will present the project to FALC for support of the funding agencies

What comes after the DCR ?

- DCR report due to the end of this year (see J. Jaros report)
- Not the end of this effort specially for what concerns the evaluation of performances using representative physics channels: Higgs, top, precision measurements
- Notoriously insufficient at the moment but we hope that the software tools and the computing resources will make it possible to start a new program of PA (numerous PhD?).
- Plenary presentations on Thursday to stimulate this effort

Then what?

- We need to be in phase with the GDE roadmap for the TDR and the construction plans
- Machine TDR ~end of 2009 to be ready for a decision on ILC in 2010
- (provided the RDR cost is judged acceptable)
- Need to form 2 Detector collaborations ~2008

The LHC scenario

- 1992 Collaborations CMS ATLAS have started
- □ 1994 LHC approved
- □ 1997 LHC construction started
- □ ATLAS assembled in the pit
- CMS, comparable to ILC concepts, assembled on the surface

How to get to collaborations?

Discussion on this topic going on with ILCSC

Possible scenario:

- CDR documents issued by the groups forming the concepts
- A body needs (ITRP-like?) to be formed for a selection and, eventually for a procedure of merging

Cautions

- Avoid loosing forces in this process
 Avoid creating 'region oriented' detectors
- -> Groups allowed/encouraged to participate to more than one concept

An unrealistic scenario ?

- □ US plans are assuming this type of roadmap
- P5 Report: The Particle Physics Roadmap October 2006
- http://www.science.doe.gov/hep/P5RoadmapfinalOctober2006.pdf
- 'The ILC is the highest priority future project in the recent EPP2010 report from the National Research Council. We allocate \$500 million for the relevant R&D activities over a five-year period. The goal is to produce a technical design on an international basis and once initial LHC physics results are known to initiate the next step toward realization of this accelerator'

P5 Roadm	14p - 2006, US Pro	gram										
DPD Decision !	Point at the End of R&D											
	Point at the End of R&D		_									
Construction Construction Following Critical Review												
Operation Following Critical Review												
Decision Point, Need More Input												
First LHC Results												
	ion Effort for ILC											
Internationalizat	ON EIIOR IOFILC											
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CONCLUSIONS

- Valencia is a crucial meeting for the Detector community
- Physics analysis needs to be reinforced using the new software tools
- 2007 is a decisive year for future orientations of ILC
- This is an ongoing process for which we need your guidance

9th ACFA ILC Physics and Detector Workshop & ILC GDE Meeting

Feb. 4-7, 2007, IHEP, Beijing http://bilew07.ihep.ac.cn/





international linear collider



Linear Collider? - Walkway of Temple of Heaven

EUROPE



- In Europe resources and priority are
 - for LHC while, as noted by ESFRI, a strategy group created by CERN council claims that:
- 'It is fundamental to complement the results of the LHC with measurements at a linear collider. In the energy range of 0.5 to 1 TeV, the ILC, based on SC technology, will provide a unique scientific opportunity at the precision frontier'
- It also notes that 'It is also vital to strengthen the advanced accelerator R&D programme' (CLIC and neutrinos)