Introductory remarks

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中國科學院高能物理研究所
Institute of High Energy Physics
Chinese Academy of Sciences

News

- **November Workshop Successful!: Nov 6-8**
  - http://indico.ihep.ac.cn/event/6618/overview
  - About 250 attendees with over 70 from abroad
    - Busy parallel sessions and plenty of discussions
- **International Advisory Committee Meeting: Nov 8-9**
  - Preliminary recommendations/concerns
    - Encouraged to pursue the internationalization of the project
      - e.g. including international conveners in the organization
    - Concern about lack of engineering information on how to build the detector and in particular the calorimeter
    - Concern about lack of DAQ/Trigger chapter in CDR. We were encouraged to include it in the final version
    - The detector optimization should be clarified and the justification for the need of a 3-Tesla magnet should be made clear
    - The path for a decision on the detector concepts should be made clear
- **Hong Kong IAS Program on High Energy Physics 2018**
  - Program: 8-26 January 2018; Conference: 22-25 January 2018
  - Calorimeter workshop: 18-19 January 2018
  - http://iasprogram.ust.hk/hep/2018/index.html

CEPC Detector CDR Mini-review

- November 10-11
  - http://indico.ihep.ac.cn/event/7384/
  - Very active discussions throughout both days
  - Participation from our side could have been better — in particular, we need to concern about the interface of each part so that the text is well integrated
- Reviewers:
  - Jianming Qian, University of Michigan
  - Sebastian Grinstein, University of Barcelona
  - Alberto Belloni, University of Maryland
  - Charlie Young, SLAC
  - Sasha Glazov, DESY
  - Daniela Bortolleto, Oxford University (writing)
  - Massimo Caccia, University of Insubria, Italy (writing)
- Input:
  - Mostly provided orally at the mini-review to conveners and representatives of the different detector parts
  - Written contributions so far posted to this agenda

中国科学院高能物理研究所

CEPC Detector CDR Mini-review

Friday, 10 November 2017

08:30 - 08:40 **Welcome**
Convener: Joao Guimaraes Costa

08:40 - 09:10 **Introduction**
Convener: Joao Guimaraes Costa
Material: slides

09:10 - 10:10 **Physics Motivation**
Convener: Tiantao Wang (University of Chicago)
- 09:10 **Chapter overview** 15'
- 09:25 **Discussion** 45'

10:10 - 10:30 Coffee 20'

10:30 - 12:30 **Physics performance**
Conveners: Mr. Hanqi Ruan (IHEP), LI Gang (EPC,IHEP), Prof. Yaquan FANG Yaquan (方亚泉), Dr. Qiang Li (School of physics, Peking University)
Material: slides
- 10:30 **chapter overview** 10'
- 10:40 **Discussion** 1h50'

12:30 - 13:00 Lunch 30'

13:00 - 13:30 **MDI: Background Estimation**
Convener: Dr. Hongbo ZHU (IHEP)
- 13:00 **Chapter overview** 10'
  Speaker: Dr. Hongbo ZHU (IHEP)
  Material: Slides
- 13:10 **Discussion** 20'

13:30 - 14:00 **MDI: LumiCal**
Convener: Suen Hou (侯森哲)
- 13:30 **Chapter overview** 10'
- 13:40 **Discussion** 20'

14:00 - 15:00 **Tracking System: Vertex**
Convener: Prof. Qun OUYANG (IHEP)
- 14:00 **Chapter overview** 10'
  Speaker: Prof. Qun OUYANG (IHEP)
  Material: Slides
- 14:10 **Discussion** 50'

15:00 - 15:30 Coffee

15:30 - 16:30 **Tracking System: silicon tracker**
Convener: Prof. Meng Wang (Shandong University)
- 15:30 **Chapter overview** 10'
  Speaker: Mr. Qingyuan LIU (Shandong University)
  Material: Slides
- 15:40 **Discussion** 50'

16:30 - 17:30 **Tracking System: TPC**
Convener: Dr. Huirong Qi (Institute of High Energy Physics, CAS)
- 16:30 **Chapter overview** 10'
  Speaker: Dr. Huirong Qi (Institute of High Energy Physics, CAS)
  Material: Slides
- 16:40 **Discussion** 50'

17:30 - 18:30 **Tracking System: All-silicon**
Convener: Dr. Weiming Yao (LBNL)
- 17:30 **All-silicon** 10'
  Material: Slides
- 17:40 **Discussion** 50'

Saturday, 11 November 2017

08:30 - 11:30 **Calorimeter**
Conveners: Dr. Jianbei Liu (University of Science and Technology of China), Haijun Yang (Shanghai Jiao Tong University), Prof. Tao HU (IHEP)
- 08:30 **ECAL chapter overview** 10'
  Speakers: Haijun Yang (Shanghai Jiao Tong University), Prof. Tao HU (IHEP)
  Meterial: Slides
- 08:40 **Discussion** 40'
- 09:20 **HCAL chapter overview** 10'
  Speakers: Haijun Yang (Shanghai Jiao Tong University), Prof. Tao HU (IHEP)
  Meterial: Slides
- 09:30 **Discussion** 40'
- 10:10 Coffee 30'
- 10:40 **Dual-Readout chapter overview** 10'
  Speaker: Haijun Yang (Shanghai Jiao Tong University)
  Meterial: Slides
- 10:50 **Discussion** 40'

11:30 - 12:30 **Tracking System: Drift Chamber**
Convener: Francesco Grancagnolo (INFN-Lecce)
- 11:30 **chapter overview** 10'
  Speaker: Francesco Grancagnolo (INFN-Lecce)
  Material: Slides
- 11:40 **Discussion** 50'

12:30 - 14:00 Lunch

14:00 - 16:00 **Muon system**
Convener: Prof. Liang Li (Shanghai Jiao Tong University)
- 14:00 **Chapter overview** 10'
  Speaker: Prof. Liang Li (Shanghai Jiao Tong University)
  Meterial: Slides
- 14:10 **Discussion** 50'

15:00 - 15:30 Coffee

15:30 - 16:30 **Magnet**
Conveners: Mr. Zian ZHU Zian (朱紫安), Dr. Feipeng NING Feipeng (宁飞鹏)
- 15:30 **Chapter overview** 10'
  Speaker: Dr. Feipeng NING Feipeng (宁飞鹏)
  Material: Slides
- 15:40 **Discussion** 30'

16:30 - 17:00 **Summary**

CEPC Detector CDR Mini-review: **Some Points Raised**

- Need for introduction and overview chapter!
- Re-organization proposal:
  - Two detector concepts described in completely separate chapters
    - Advantage: Clear to the reader what is what
    - Disadvantages: Concepts are not developed at the same level; separation of communities
- Need for chapter with detector requirements
- Making sure the numbers are internally consistent
- Text in document is very much like a technical paper, turn this more into a real CDR, e.g. drop technical details on test beams
- Make connection between theory and physics benchmarks
- Muon detector description should be simplified
- Need chapter on trigger and DAQ
- Need some information on engineering aspects

CDR Next Steps

- Planned Final Release: Spring 2018
  - Steering Group meeting on Dec 29
    - Finalize planning for CDR release
  - Possible timescale (for discussion):
    - Start harmonization of text and introduction chapters now
    - Complete draft of each chapter by Jan 2017
    - Editing and internal review: Feb-Mar 2017
    - International review: April 2018
      - Implementation of suggestions: May 2018
    - Public release: May-June 2018

Extra Slides

International Advisory Committee Meeting

- The fourth CEPC IAC meeting: November 8-9
  - http://indico.ihep.ac.cn/event/7390/overview
  - Some overlap with the workshop on November 8
    - Activities to start at 5 pm
  - CEPC CDR Status report to be presented on November 8
  - Main goal of this meeting is the discussion on how to broaden the internationalization of the CEPC project

International Advisory Committee

Young-Kee Kim, U. Chicago (Chair)
Barry Barish, Caltech
Hesheng Chen, IHEP
Michael Davier, LAL
Brian Foster, Oxford
Rohini Godbole, CHEP, Indian Institute of Science
David Gross, UC Santa Barbara
George Hou, Taiwan U.
Peter Jenni, CERN
Eugene Levichev, BINP
Lucie Linssen, CERN
Joe Lykken, Fermilab
Luciano Maiani, Sapienza University of Rome
Michelangelo Mangano, CERN
Hitoshi Murayama, UC Berkeley/IPMU
Katsunobu Oide, KEK
Robert Palmer, BNL
John Seeman, SLAC
Ian Shipsey, Oxford
Steinar Stapnes, CERN
Geoffrey Taylor, U. Melbourne
Henry Tye, IAS, HKUST
Yifang Wang, IHEP
Harry Weerts, ANL

Last Week's Version

CONTENTS