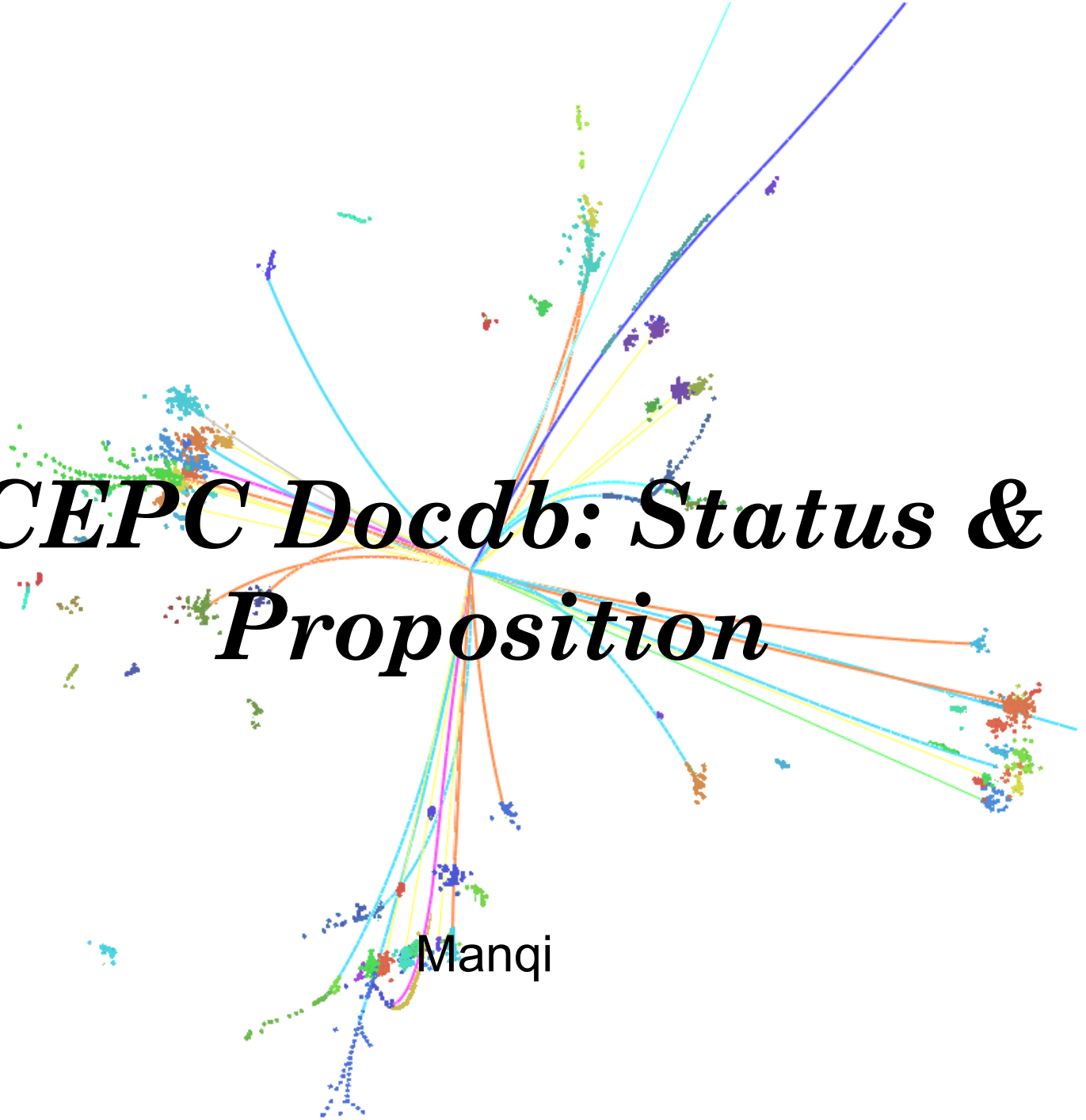

CEPC Docdb: Status & Proposition

Manqi

DocDB @ CEPC

- Put in usage since 2014.
- Include 214 documents till now.
- Covers vast topics
- Many converges to publication/presentation

List of Topics

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Accelerator
Detector Design
- Calo
- Implementation into Full Simulation
- Integration
- MDI
- Magnetic
- Muon
- TPC
- VTX

General
- Conference papers
- General of CEPC
- Journal Publications
- Presentations
- Thesis

Key Technologies
- Computing tool
- Generator
- Generic Software tool
- Reconstruction
- Simulation: Full/Fast Simulation
- Software Framework

Physic Analysis
- Physics at CEPC
  - Exotics
  - Higgs Physics
  - SM Physics: Z, WW, ISR,rr*
- Physics at Other facilities (comparison
- Physics at SPPC

Software
Theory
- Interpretation
- Proposition

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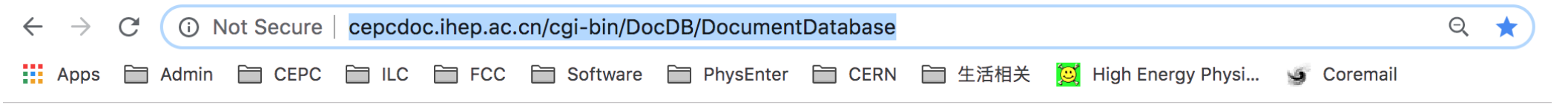
43-v10	CEPC-SPPC preCDR: Volume I - Physics and Detector	Xinchou LOU *et al.*	Physic Analysis General Detector Design	01 May 2015
18-v2	CEPC Muon System	Haijun Yang	General of CEPC Muon	14 Nov 2014
22-v1	TPC Tracking Detecotr Pre-CDR_v2	Huirong Qi	TPC General	05 Nov 2014
13-v2	Measurement of Higgs decays to ZZ* at CEPC	Xuan Yang	General of CEPC Higgs Physics	18 Sep 2014
8-v1	Physics performance of different Higgs factories: e+e- Vs. photon collider	Manqi RUAN	General of CEPC	26 Aug 2014
7-v1	test	Shuopin Wen	Conference papers	25 Aug 2014

Simple Access



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List:

◊ Authors ◊ All documents

◊ Topics

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◊ Keywords

◊ Events

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Execution time: 1 wallclock secs (0.23 usr + 0.02 sys = 0.25 CPU)

CEPC Notes on the Detector & Simulation studies

Particle Flow Oriented Electromagnetic Calorimeter Optimization for the Circular Electron Positron Collider	Hang Zhao	CEPC-DET-2019-001
The Higgs signature at the CEPC CDR baseline	Hang Zhao	CEPC-ANA-2019-005
Measurements of the decay branching fractions of Higgs to bb/cc/gg at the CEPC	Yu Bai	CEPC-ANA-2019-004
Sample generation for CEPC	Yuhang Tan	CEPC-ANA-2019-003
Performance study of the full hadronic WW and ZZ events' separation at the CEPC	Yongfeng Zhu	CEPC-ANA-2019-002
Higgs boson decaying to an invisible channel at the CEPC	Yuhang Tan	CEPC-ANA-2019-001
Proposing to use 650MHz large grain single cell cavity to replace 650MHz 2cell fine grain SC cavity in CEPC CDR	Jie Gao	CEPC-ACC-TECH-2019-002
Status report of tracking algorithms and performances at CEPC by 2018	Mingrui Zhao	CEPC-RECO-2019-003
Precision Higgs Physics at the CEPC	Fengfeng An	CEPC-HiggsPhysics-2019-004
Physics Impact of Silicon External Tracker in the CEPC Baseline Detector	Taifan Zheng	CEPC-RECO-2019-005
Cross Section and Higgs Mass Measurement with Higgsstrahlung at the CEPC	Zhenxing Chen	CEPC-HiggsPhysics-2019-006
Electroweak physics at the CEPC	Zhijun Liang	CEPC-EWPhysics-2019-007
Initial state radiation correction and its effect on data-taking scheme for sigma(ee→ZH) measurement	Shaung Han	CEPC-General-2019-008
Characterization of the first prototype CMOS pixel sensor developed for the CEPC vertex detector	Hongbo Zhu	CEPC-DET-2019-009
Deep learning based track reconstruction on CEPC luminometer	Yang Liu	CEPC-RECO-2019-010
Study of vertex optimization at the CEPC	Zhigang Wu	CEPC-Det-2019-011
Resarch and Design of the CEPC scintillator-tungsten ECAL	Mingyi Dong	CEPC-DET-2019-012
A testing system of scintillator readout unit based on waveform sampling for CEPC ECAL	Mingyi Dong	CEPC-DET-2019-013
Experimental study on siphon of superconducting magnet of large detector of circle electron positron colleder	Wenshuang Li	CEPC-DET-2019-014
Experimental study of a small-size He I thermosyphon for the detector superconducting magnet of the CEPC	Baotang Zhang	CEPC-DET-2019-015
Experimental and simulating study of a small HeI thermo-siphon for detector superconducting magnet of CEPC	Baotang Zhang	CEPC-DET-2019-016
Measurement of residual resistivity ratio of aluminum-stabilized rutherford cable	Xinyu Tong	CEPC-DET-2019-017
Mono-photon at CEPC	Liang Hao	CEPC-Physics-2019-018
Probing the strange Higgs coupling at e^+e^- colliders using light-jet flavor tagging	J. Duarte-Campderros, G. Perez, M.	CEPC-HiggsPhysics-2019-019
Road map and perspective of the Higgs measurement at CEPC	Manqi Ruan	CEPC-General-2018-028
Measurement of Higgs decay to WW* at CEPC	Zhenxin Chen	CEPC-RECO-2018-027
2014-tpccdr-v2	Huirong Qi	CEPC-DET-2018-026
Simulation of the CEPC Detector and its Physics Reaches	Manqi Ruan	CEPC-SIMU-2018-025
The Vertex Detector	Jianbei Liu	CEPC-DET-2018-024
The Vertex Detector	Qun Ouyang	CEPC-DET-2018-018
The Vertex Detector	Qun Ouyang	CEPC-DET-2018-023

Examples: on performance studies

CEPC Document 169-v3

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PFA Oriented ECAL Optimization for the CEPC

Document #: CEPC DocDB-doc-169-v3
Document type: Group Notes
Submitted by: Hang Zhao
Updated by: Hang Zhao
Document Created: 27 Dec 2017, 22:04
Contents Revised: 25 Feb 2019, 22:21
DB Info Revised: 25 Feb 2019, 22:21

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Abstract:
The design and optimization of the Electromagnetic Calorimeter (ECAL) are crucial for the Circular Electron Positron Collider (CEPC) project, a proposed future Higgs/Z factory. Following the reference design of the International Large Detector (ILD), a set of silicon-tungsten sampling ECAL geometries are implemented into the Geant4 simulation, whose performance is then scanned using Arbor algorithm. At single particle level, the photon energy response at different ECAL longitudinal structures is analyzed. At bi-particle sample, the separation performance with different ECAL transverse cell sizes is investigated and parametrized. The overall performance is characterized by a set of physics benchmarks, including $\nu\nu H$ events where Higgs boson decays into a pair of photons (EM objects) or gluons (jets) and $Z\to\tau^+\tau^-$ events. Based on these results, we proposed an optimized ECAL geometry for the CEPC project.

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Other Versions:
CEPC DocDB-doc-169-v2
17 Oct 2018, 08:50
CEPC DocDB-doc-169-v1
27 Dec 2017, 22:04

Files in Document:
- CEPCNoteCover.pdf (734.9 kB)

Get all files as tar.gz, zip.

Topics:
- Detector Design:Calo
- Key Technologies:Simulation: Full/Fast Simulation

Authors:
- Hang Zhao

Keywords:
Calorimeter methods Simulation methods and programs Detector modelling and simulations

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CEPC Document 177-v5

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240 GeV mumuHiggs Validation

Document #: CEPC DocDB-doc-177-v5
Document type: Group Notes
Submitted by: YongFeng Zhu
Updated by: YongFeng Zhu
Document Created: 08 Aug 2018, 14:12
Contents Revised: 25 Feb 2019, 22:04
DB Info Revised: 25 Feb 2019, 22:04

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Username:
Password:

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Abstract:
In this note, with CEPC operation at 240GeV, using the APODIS and cepcsoft, the distribution of the reconstructed invariant mass of the Higgs boson in the decay channel of mumuHiggs, Higgs decay inclusive and exclusive are shown.

Files in Document:
- CEPCNoteCover.pdf (1.7 MB)

Get all files as tar.gz, zip.

Topics:
- Physic Analysis:Physics at CEPC:Higgs Physics
- Physic Analysis:Physics at CEPC

Authors:
- YongFeng Zhu

Keywords:
240GeV mumuHiggs Higgs invariant mass

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CEPC DocDB-doc-177-v4
10 Sep 2018, 16:44
CEPC DocDB-doc-177-v3
10 Sep 2018, 16:42
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21 Aug 2018, 12:34
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08 Aug 2018, 14:21

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- Preserves the history of document update, facilitate the review/polish
- Unique Note Number Assigned

CEPC NOTE

CEPC-RECO-2018-005

February 25, 2019

Institute of High Energy Physics
Chinese Academy of Sciences

240 GeV $\mu\mu$Higgs validation at CEPC

Zhu Yongfeng

Problems & Solution

- The CEPC Docdb is not only a documentation repository, but shall also
  - Enhance the scientific productivity of the CEPC study
  - Facilitate the related paper publications, help improving the qualities of these citables

- Problem:
  - Not so widely used
  - No routine review/polish processes – essential for the quality and productivity
  - Not easy to find needed information

Proposition

- Solution:
  - Establish clear regulation of the CEPC publication: from the CEPC note - review - publication procedure.
  - Identify responsible person (conveners), to keep and provide the book keeping information of different topics
  - Set regular discussions and discuss the publication/note preparation plan.
  - Encourage the researchers, to regularly summarize their works into citadels (note/publications)
  - Identify internal review groups, to help polishing the writing... (which was applied during the CDR study, but still need more significant manpower.)
- First of all: write down a note and send it to the docdb contact person