

Introduction

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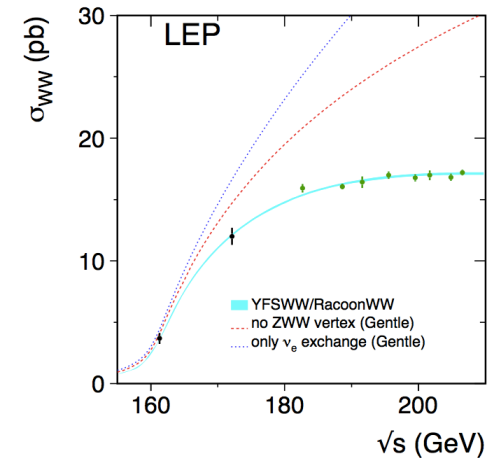
CEPC CDR time scale

Timeline Proposal from Joao:

- Preliminary proposal for discussion:
 - **July 2:** physics updates finished (one month from now!)
 - July 15: text for physics and performance available
 - **July 30:** final internal editing finished
 - Aug 30: finish internal review
 - Sept 1-30: international review
 - **Oct 30:** release to public
- Here is the link to current draft of CEPC CDR in Git :
 - <http://cepcgit.ihep.ac.cn/cepcdoc/CDR>

WW threshold scan proposal

- Accelerator team is asking for data taking proposal for WW threshold scan runs for CDR writing.
- Draft proposal Based on Peixun and Gang study :
 - 1 year Data taking in WW threshold (2.5 ab^{-1})
 - Four energy scan points:
 - 157.5, 161.5, 162.5(W mass, W width measurements)
 - 172.0 GeV (α_{QCD} measurement, $\text{Br}(W \rightarrow \text{had})$, CKM $|V_{cs}|$)
 - 16M WW events in total (40k WW events in LEP2)
 - 400 times larger than LEP2 comparing WW runs



E_{cm} (GeV)	Lumiosity(ab^{-1})	Cross section (pb)	Number of WW pairs (M)
157.5	0.5	1.6	0.8
161.5	0.2	5.1	1.0
162.5	1.3	6.6	8.6
172.0	0.5	12.4	6.2

Expected precision in WW scan

- Statistics is enough for Branching ratio measurement $\text{Br}(W \rightarrow \text{had})$ and $\alpha_{\text{QCD}}(mW)$ measurements.
- Statistics uncertainty is one of the limiting factor for W mass and W width measurement in CEPC one year running plan (2.5 fb^{-1})

Energy (GeV)	Systematics	Statistics uncertainty	limiting factor
W mass	1MeV Beam energy	1.3 MeV	Statistics
W width	1 MeV	3.6 MeV	Statistics
Br (W→had) & $\alpha_{\text{QCD}}(mW)$	10^{-4}	10^{-4}	/

Estimation based of $\alpha_{\text{QCD}}(mW)$ based on
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