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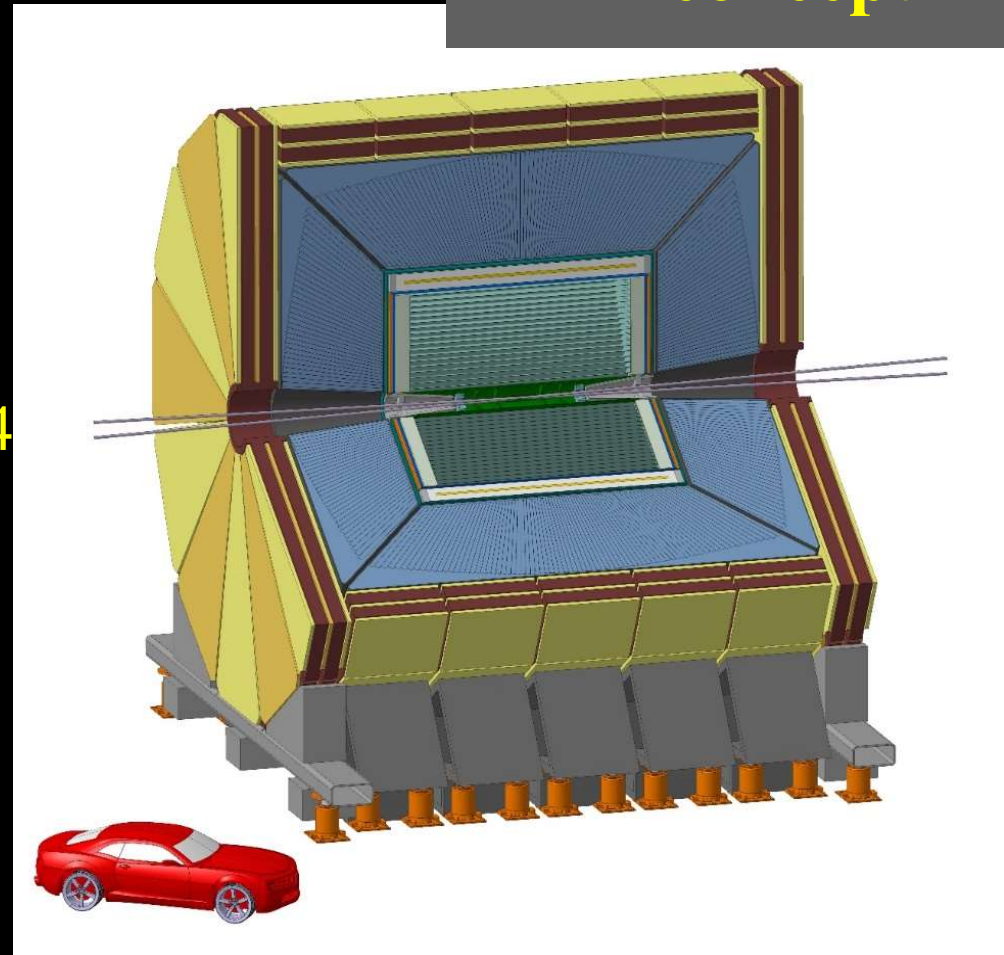
# **IDEA SOFTWARE & SIMULATION**

**15/10/2020**

# Detector concept IDEA

- ❖ Si pixel vertex detector
  - 5 MAPS layers
    - $R = 1.7 - 34$  cm
- ❖ Drift chamber (112 layers)
  - 4m long,  $r = 35 - 200$  cm
- ❖ Si wrapper: strips
- ❖ Solenoid: 2 T - 5 m,  $r = 2.1-2.4$ 
  - $0.74 X_0$ ,  $0.16 \lambda @ 90^\circ$
- ❖ Pre-shower:  $\mu$ Rwell
- ❖ Dual Readout calorimetry
  - 2m deep/ $8 \lambda$
- ❖ Muon chambers
  - $\mu$ Rwell

## IDEA concept



# Simulation & Software studies - FULL SIMULATION STATUS

	Geom	GEANT	DD4Hep	Local Reco	Reco	Perf	Delphes
<b>Vertex Detector</b>	need re-opt		Nilou old code				
<b>Drift Chamber</b>			Niloud old code			tracks only	
<b>DualReadout Calo</b>			From Corea			calo info only	
<b>Muon Detector</b>			?				?
<b>Silicon Wrapper</b>	need opt		?				

High priority: full GEANT Standalone description and ROOT->EDM4HEP interface

# FCC-ee: Case studies & detector requirements from Physics

- Case studies being collected and organized for FCC-ee. Documentation page will be released soon.
- Interest to be collected \*today\* from our group:
  - Sensitivity studies for processes not looked at:
    - can be done in Delphes
    - several interesting cases for BSM and Flavor
  - Detector Requirement studies from « benchmark processes » :
    - Initially with Delphes
    - will need FullSim and some reco
  - Detector performance (from requirements to design proposal):
    - needs FullSim
    - connected to detector R&D

## IDEA Simulation and Analysis Meetings

- *Possibly bi-weekly. Agenda on INFN Indico. Thursday morning 9-11*
- *New Mailing list with INFN being created*

## FCC-ee: Meetings

- Software Meeting FCCSW: Venerdì mattina (bi-settimanale) 9:30-11:00
  - Agenda di domani qui: <https://indico.cern.ch/event/921182/>
  - Mailing list: [fcc-experiments-sw-dev@cern.ch](mailto:fcc-experiments-sw-dev@cern.ch)
- Key4HEP Framework Meeting: Martedì mattina 9:30
  - Agenda Martedì Scorso <https://indico.cern.ch/event/929792/>
- FCC-ee Physics Meetings: Mensile, Lunedì Pomeriggio 15:00-17:00
- **NEW Physics Performance Meetings: Mensile, Lunedì pomeriggio 15:00-17:00**
  - **Next meeting 19/10/2020 <https://indico.cern.ch/event/965346/>**

Iscrizione alla mailing list di FCC-ee detector & experiments tramite la pagina web: <http://fcc-ee.web.cern.ch/> —> Contact/Join us

## CEPC: Meetings

- \*CEPC Mailing list : [cepc-physdet@maillist.ihep.ac.cn](mailto:cepc-physdet@maillist.ihep.ac.cn)
- \*Detector and simulation meetings ~weekly Mercoledì mattina 8:00-11:00