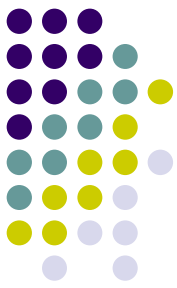


Mokka: recent developments

LCWS08 – Simulation Session

November 17, 2008

University of Illinois at Chicago



- New detector model ILD_00
- New TB models for FNAL 2008 and CERN 2007
- Other recent developments

Releasing model ILD_00 (I)



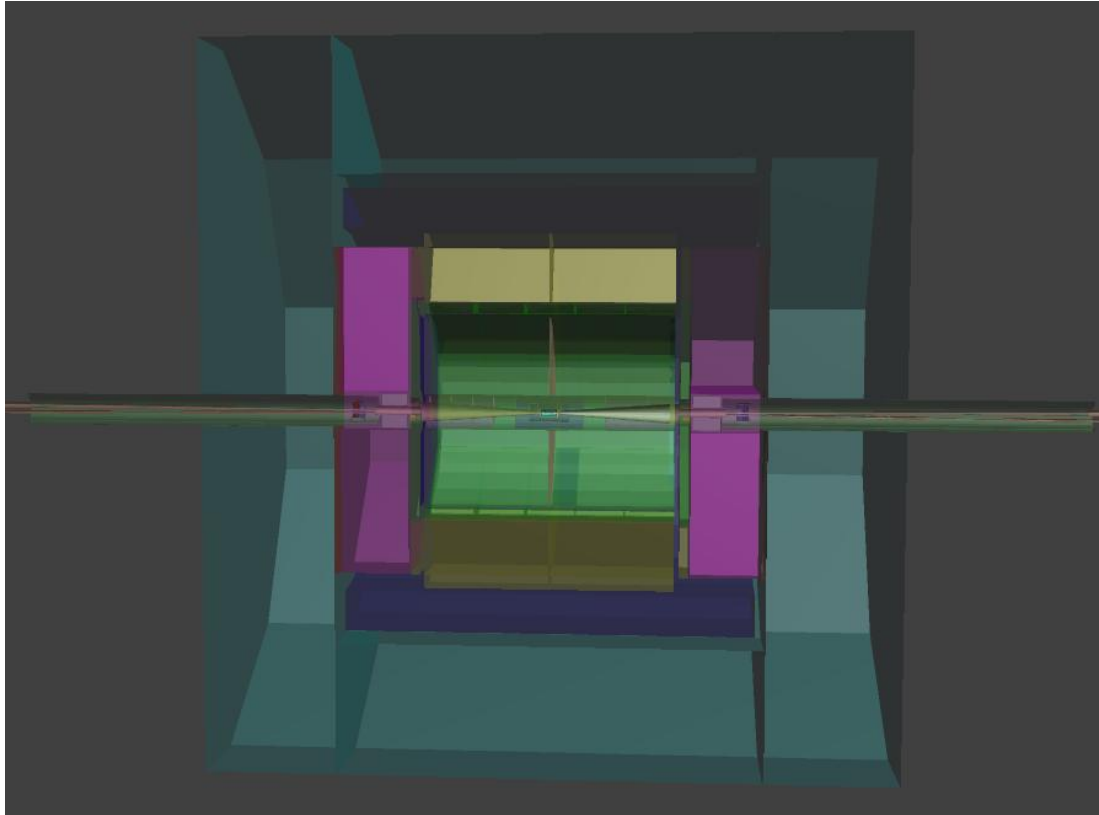
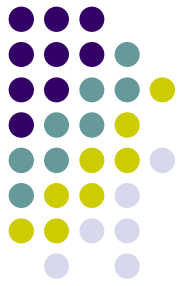
- Created for the simulation of the ILD reference detector
- Based on detector parameters discussed at Cambridge and in the ILD reference document (www.ilcild.org)
- Decisions also taken during phone/Webex meetings on detector optimization & software management: details on model composition and sub-detector parameters, to allow proper assembling and scaling of all components

Releasing model ILD_00 (II)



- Contributions on detector design/optimization from Ties Behnke, Akiya Miyamoto, Yasuhiro Sugimoto, Mark Thomson, Henri Videau
- Detector implementation & testing: contributions from Steve Aplin, Frank Gaede, Anthony Hartin, Angela Lucaci, Paulo Mora de Freitas, Bogdan Pawlik, Adrian Vogel
- and many other people
- New tag mokka-06-07: will present only the main features. More details in Release Notes

Releasing model ILD_00 (III)



- http://polywww.in2p3.fr/~mora/3Dpdfviews/ILD_00.pdf

ILD_00: new HCal implementation (Angela Lucaci)



- New Hcal super-driver SHcalSc02 (modified EndCaps to accomodate the LHcal)
- New sensitive detector (for EndCaps) SDHcalEndCapTesla
- more details at:

<http://www-flc.desy.de/lcnotes/notes/LC-TOOL-2008-001.pdf>

ILD_00: new LHcal detector (Paulo Mora de Freitas)

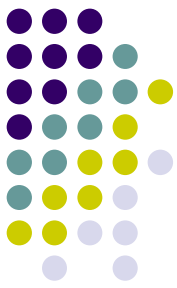


- Super-driver SLHcal01
- Parallelepiped volume placed inside Hcal EndCaps
- 40 W layers of 10 mm, each followed by a Si sensitive layer, similar to Ecal rings

ILD_00: new LCal implementation (Bogdan Pawlik)

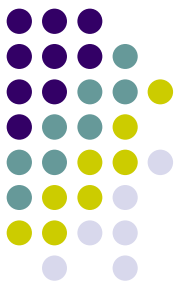


- Super-driver SLcal02 with no DB, that uses driver LumiCalX
- Many checks to position itself w.r.t Ecal EndCaps and Plugs
- Parameters used are listed in the Release Notes



ILD_00: new Bcal implementation

- First implementation by Fcal collaboration (A. Saproinov, A. Rosca, A. Popescu)
 - Several fixes by A. Hartin and S. Aplin
- New super-driver SBcal01 by A. Hartin and S. Aplin



ILD_00: new implementation for Yoke and Coil (Frank Gaede)

- Super-driver SCoil02: replaced hardcoded values by parameters
- Yoke04: added gap barrel-endcap, gear parameters, align outer radius of Yoke plug with Hcal endcap

ILD_00: new implementations for FTD, SIT, SET and ETD (Steve Aplin)



- Self scaling drivers: SSit03, SSet02, SEtd02
SFtd04
- Release Notes: list of parameters needed to
position themselves correctly



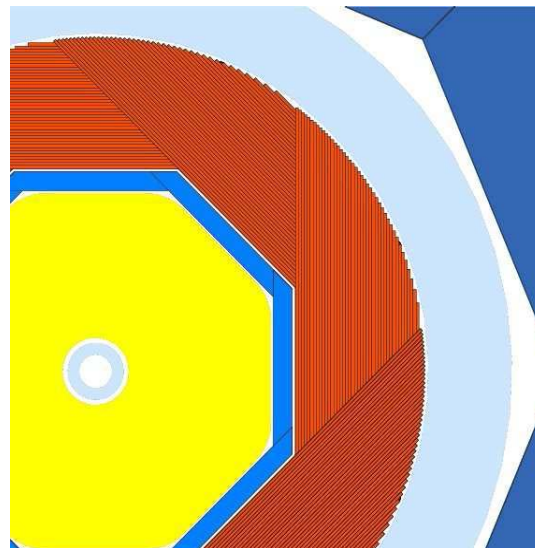
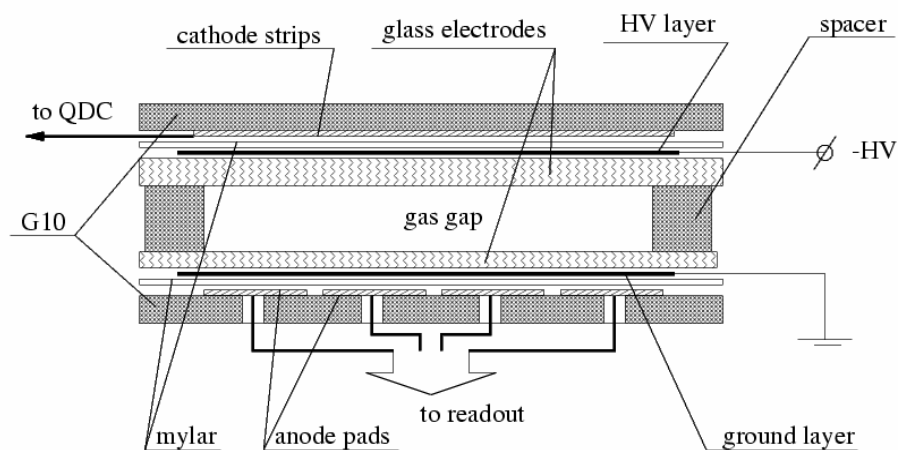
ILD_00: other contributions

- Changes to mask and tube to avoid overlaps with LHcal, LCal, Ftd
 - Steve Aplin, Paulo Mora de Freitas, Frank Gaede, Bogdan Pawlik, Adrian Vogel
- Bug fix in TRKSD00 (by Piotr Niezurawski):
 - See Release Notes for details
- New steering cmd (Frank Gaede):
 - /Mokka/init/lcioEventParameter
 - Specifies parameters (cross-section, process type, ...) that are added to LCIO events

New contribution to ILD detector: DHcal implementation



- Barrel implemented according to the geometry proposed by Henri Videau



Active detectors: Resistive Plate
Chambers

Developed together with Emmanuel Latour.

Details at:

<http://polzope.in2p3.fr:8081/MOKKA/detector-models/ldc/DHCALdoc.pdf>

New TB models



- Three new models for CERN 2007 setups:
 - TBCern07_dchxy_01 (with the ideal Ecal),
 - TBCern0707_dchxy_01 (with the Ecal in July 07 config), and
 - TBCern0807_dchxy_01 (with the Ecal in the August 07 config).
 - DCH's have separate X and Y sensitivity
- First implementation of FNAL May-July 2008 TB setup: detector model TBFnal08
 - Wire chambers and detectors before them are still missing
- Implemented together with Fabrizio Salvatore

