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Principal Reviewer

Olivier Callot

Code Location

Package	Project	Functionality	Responsible
Sim/GaussCherenkov			Sajan Easo

Comments

- This is used along with Sim/GaussRICH to run Gauss with MAPMT. GaussCherenkov contains the parts needed for creating hits with MAPMTs and corresponding monitoring software.

The corresponding detector elements are in Det/RichDet. To go from HPD detector elements to HPD+PMT, base classes named 'DeRichPD' and DeRichPDPanel were created and the HPD and PMT detector elements were set to derive from this. The event model classes are modified to accomodate the hpd/pmt hits in RichSmartID. The MCRichHit , MCOpticalPhoton etc are unchanged and the same structure is used for HPD/PMT.

GaussCherenkov also contains the specialised processes needed (example photoelectric effect) as part of single photon simulation. It also has software to tag information from various stages of simulation, for analysis done at a later stage. The monitoring part also includes some fast reconstruction software to check the integrity of the simulation. The results from GaussCherenkov can be found in various talks on upgrade RICH-simulation. (5-12-2011 , 19-6-2012 etc for example). If anyone needs some examples to run this, please let me (Sajan) know. The corresponding database is available in the lhcb-upgrade DB area.

Recently GaussCherenkov also has a part for TORCH testbeam, which is being used for analysing recent testbeam data. TORCH uses MCPs as photodetectors.

Proposed Event Classes

Class	Class ID	Description
aClass	anID	aDescription

Notes for Developers

Please make the reviewer aware of the code location and also provide them with an explanation of how the code works and fits into the LHCb software framework.

-- PaulSzczyпка - 13-Jun-2012

This topic: LHCb > UpgradeSoftwareReviewRich

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