

**Status of  
CALOrimeter  
Software**

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# CALO-Software

**1) CALO group is very interested in the development of new OO program**

- \* Ivan Belyaev**
- \* Vincent Breton**
- \* Olivier Callot**
- \* Jose Ocariz Echeverria**
- \* Oleg Iouchtchenko**
- \* Ivan Korolko**
- \* Dmitri Rusinov**
- \* Andreas Schopper**
- \* Ioana Videau**

**2) Regular bi-weekly meetings  
(see minutes on the WEB)**

# What do we need:

## 1) Geometry description model

- \* **Provided by GAUDI team**
- \* **Specific CALO features**
- \* **SICB vs GAUDI check**

## 2) CALO data model

- \* **Discussed last 2 months**
- \* **Close to be fixed**

## 3) Reconstruction algorithms

- \* **First experience (Vincent talk)**

## 4) Learn GEANT4 - future Simulation tool

- \* **First experience (Dmitri Rusinov)**

# Geometry (CALO specic)

## CaloDetectorElement

- \* Inherits from GAUDI DetectorElement
- \* Consists of SPD, PRS, ECAL and HCAL which inherit from it
- \* Internal structure is not visible
  - left-right parts
  - inner-outer sections
  - crates, FE cards
- \* Cells (about 20000) are not visible
- \* Interface via “Cellid”  
(numbering scheme is described in LHCb99-037 note)

# Geometry Interface

**\* Cellid at the given position**

**Cellid CaloDet -> Cell(x, y, z)**

**\* Position and Size**

**oat CaloDet -> x(Cellid)**

**oat CaloDet -> size(Cellid)**

**\* Neighbors in the same detector**

**std:list<Cellid> CaloDet -> neighbors(Cellid)**

**\* Neighbors in other detectors**

**Cellid CaloDet -> SpdCell(Cellid)**

**Cellid CaloDet -> PrsCell(Cellid)**

**std:list<Cellid> CaloDet -> EcalCell(Cellid)**

**std:list<Cellid> CaloDet -> HcalCell(Cellid)**

# CALO data

**CaloDigit - get from DATA tapes (calibrated)**

**e() : oat**

**id() : Cellid**

**CaloMCDigit - get from MC (calibrated)**

**eActive() : oat**

**eTotal() : oat**

**nDeposits() : unsigned int**

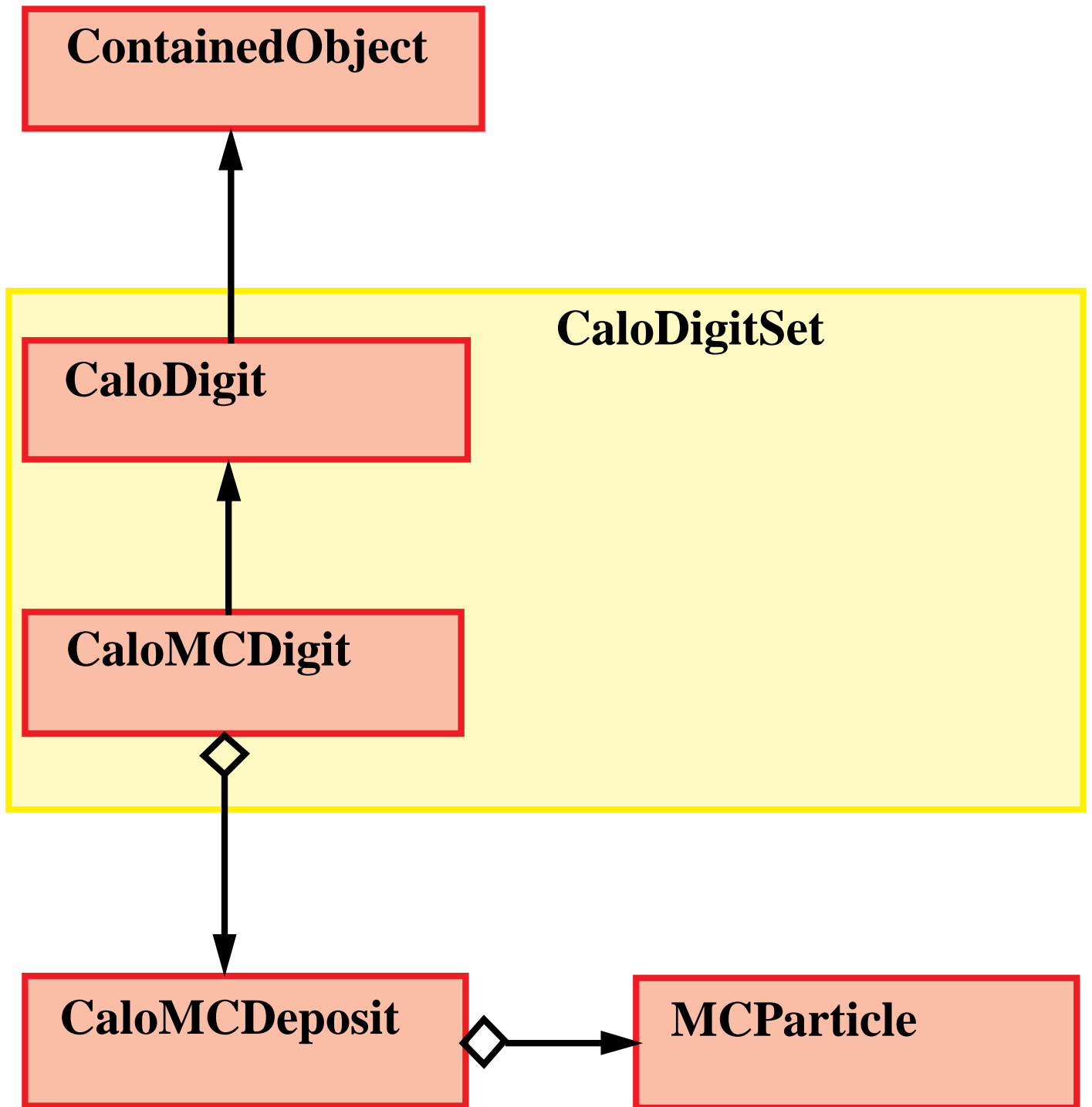
**CaloMCDeposit - contributions from tracks**

**eActive() : oat**

**eTotal() : oat**

**particle() : MCparticle\***

# Direct inheritance



# Interface inheritance

