

Use Cases

Open Questions

- Do the old Detector and/or Subdetector classes go away?
 - If so what replaces them?
- How are the new identifiers used?
 - Are they used in the same way for calorimeter hits and tracker hits?
 - What level does DetectorElement go to in the case of calorimetry?

Use cases

The idea here is to collect examples of how end users use the geometry package to ask various questions.

RawTrackerHit

Find what layer a tracker hit is in

Find the position of a trackerhit (or possibly line segment). (Note this is required for displaying hits in an event display – and needs to be done with no a-priori knowledge)

CalorimeterHit

Find neighbours of a given calorimeter hit

Find the cellid for a given position

Find the maximum valid phi and theta bins in given calorimeter layer

Find the layer of a calorimeter hit

General

Enumerate the subdetectors in a detector, and get their name and id

example.java

```
Detector det = event.getDetector();
for (Subdetector sub : det.getSubdetectors().values())
{
    String name = sub.getName();
    int id = sub.getSystemID();
}
```

Find if this detector has a TPC, and if so what is its outer radius