

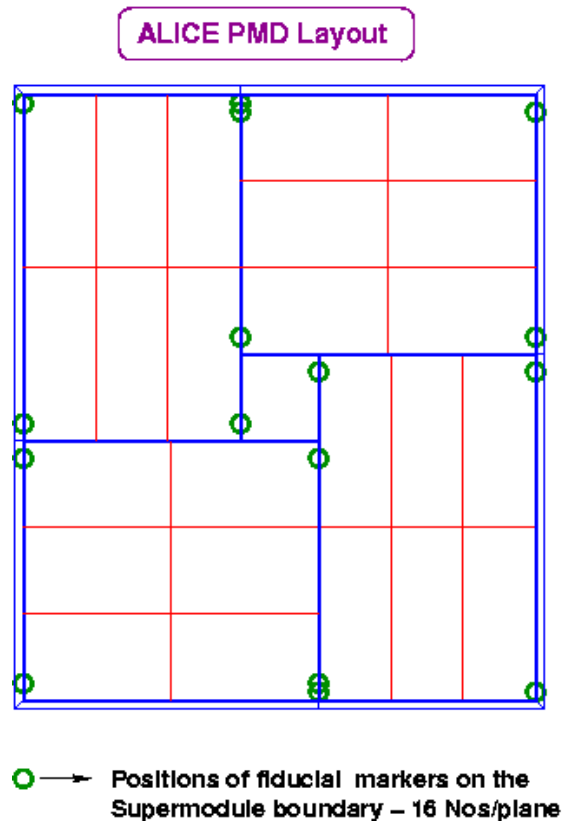
PMD Calibration Data Base

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Outline:

- **Description of the Objects needed for Detector Calibration.**
- **Source of Objects**
- **Procedure to Obtain them**
- **External data base dependencies**
- **Current status and Plan**

PMD Calibration Database



Change in design: All UM's are now SM

Total 48 Unit Modules(UM)

Cell identification No.(Integer)

Cell co-ordinate(x,y,z)(Float)

Alignment Database: Talk by Dr. B. Mohanty

Calibration

Objects needed for calibration:

MEAN, MPV and χ^2 of Landau fit of isolated cell adc.

Source of Calibration Objects: Cell

Each cell will have a gain factor

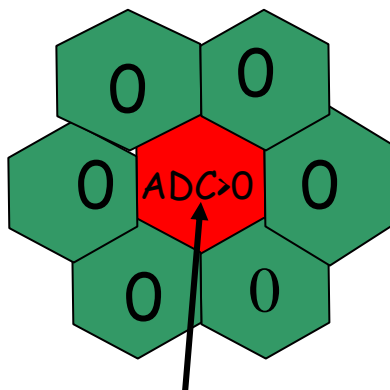
Cell co-ordinates, gain factors and Mean and MPV of each UM will be stored as root objects

Procedure to Obtain isolated Cell:

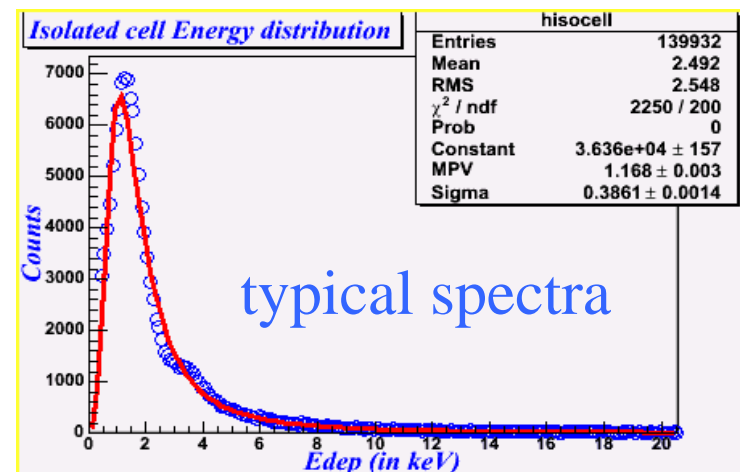
It is important that the response of each cell be uniform through out the detector.

From test beam result we know that charged hadrons typically hit single cell while photons hit more than one cell.

We look for hit cell whose surrounding six neighbors are not hit. These isolated cells are assumed to be hadrons.



isolated cell



For each cell, there will be one gain factor.

**There might be UM to UM gain variation
due to change in operating voltage,**

**However, the UM information kept in root objects
can be accessed to take care of it.**

**These gain factors would be for
a period of runs depending upon statistics**

Our plan:

Develop a code, ALiPmdCalib.cxx and AliPmdCalib.h

Keep UM no., Mean, MPV, χ^2 , cell row, cell column, gain factor as root objects

These root objects can be accessed via CDB Manager within Alice Calibration framework.

Summary

- Simple calibration procedure using isolated cell search.
- A code is to be developed for necessary root objects
- These root objects will be accessed by CDB Manager