

MC-Information in the MVD-Digitizer

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MvdDigitizer.cxx

MVDDigi

Charge (e-)

PixelIndex,
i= (0,n)

DetectorID

Contributors (saves
number of contrib. tracks)

MaxChargeContribution

DominatingPoint(X,Y)
(coord. of center of track
with highest contribution)

TrackID (of the track with
max charge contribution)

MvdFindHits.cxx

MVDCluster

Cluster(X,Y,Z)
(center of gravity)
Cluster(DX,DY,DZ)
(uncertainty on position, fixed)
DetectorID

ChargeArray[49]
(a 7x7 array of charge)

Contributors[5]

pointArray[49]

MVDHit

Hit(X,Y,Z)
(center of gravity of
cluster)

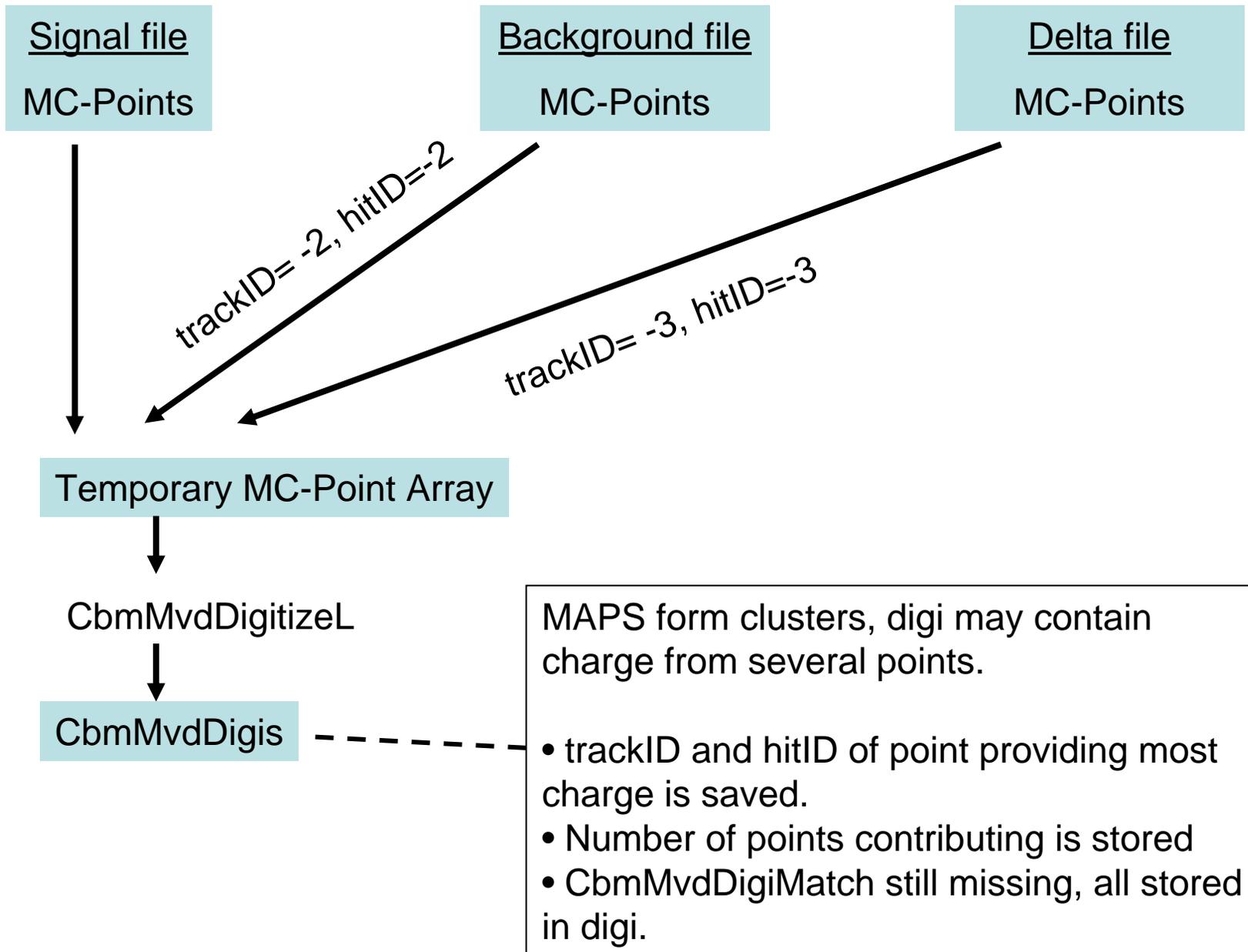
Hit(DX,DY,DZ)
(uncertainty on reco position,
fixed)
DetectorID

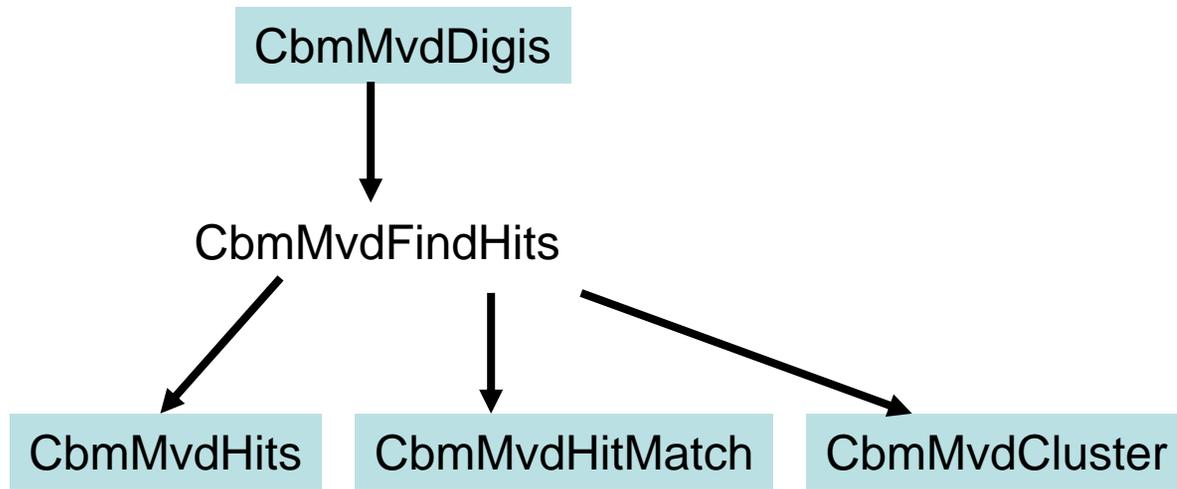
MVDHitMatch

trackID

pointID

Contributors





Hit information like from detector (interpreted, center of charge...)

Information redundant with CbmMvdCluster. Kept for compatibility reasons

Some debug information in hit-producer style.

Kept mostly for compatibility reasons

Hit information like from detector (interpreted and not interpreted).

May be used for cluster shape analysis.

Contains some debug information needed for cluster shape analysis. (No CbmMvdClusterMatch yet)

CbmMvdHitMatch

trackID is filled for points from input file (background or delta electron file => -2, -3)
From today, point index is filled in latest version (needs testing with June10). **Not for background, delta electron file**

CbmMvdCluster

Contains x,y position of up to 5 points contributing to the cluster independent of source (copy of data, **also for background and delta electrons, but no link to the hits!**)

pointArray[49]

-1	2	2	2	-1	-1	-1
2	2	2	2	-1	-1	-1
2	2	2	1	0	0	-1
2	2	1	1	1	-1	-1
-1	-1	1	1	1	3	3
-1	-1	-1	3	3	3	3
-1	-1	-1	-1	3	3	3

x0 x1 x2 x3 x4

fPointX[5]

y0 y1 y2 y3 y4

fPointY[5]



find x/y position of dominator in fPointX[3], fPointY[3]

number of cells filled: fContributors (Warning, might be bigger 5!)

CbmMvdCluster

Contains x,y position of up to 5 points contributing to the cluster independent of source (copy of data, no link to the hits!)

pointArray[49]

-1	2	2	2	-1	-1	-1
2	2	2	2	-1	-1	-1
2	2	2	1	-1	-1	-1
2	2	1	1	1	-1	-1
-1	-1	1	1	1	3	3
-1	-1	-1	3	3	3	3
-1	-1	-1	-1	3	3	3

x0	x1	x2	x3	x4
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 fPointX[5]

y0	y1	y2	y3	y4
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 fPointY[5]

find x/y position of dominator in fPointX[3], fPointY[3]

Code proposal:

```
CbmMvdCluster* cluster= clusterArray->At(somewhere)
```

```
Float* pointArray= cluster->GetPointArray();
```

```
Short_t index=pointArray[pixelOfInterest];
```

```
Float_t xDominatingPoint= cluster->GetPointX();
```

```
Float_t yDominatingPoint= cluster->GetPointY();
```