

# Tracking validation update

Lia Lavezzi

2021-04-22

# MC → reconstructed

- Now using *cgem.6.6.5.g*

- **MdcMCHit** collection

```
// mdc mc hit
```

```
Event::MdcMCHitCol::iterator iter_mdc_MC_point = mdc_MC_point_Col->begin();
```

```
Event::MdcMCHit *hit = (*iter mdc_MC_point);
```

```
int digiidx = hit->getDigiIdx();
```

- In general each MC point is associated to a digi
- Some MC points are not associated to a digi? What does it mean?

```
MC --> reconstruction: mdc MC hit no. 20
MdcMCHit :: GetDigiIdx value 19
MC --> reconstruction: mdc MC hit no. 21
MdcMCHit :: GetDigiIdx value 20
MC --> reconstruction: mdc MC hit no. 22
MdcMCHit :: GetDigiIdx value 21
MC --> reconstruction: mdc MC hit no. 23
MdcMCHit :: GetDigiIdx value -9999
MC --> reconstruction: mdc MC hit no. 24
MdcMCHit :: GetDigiIdx value 22
MC --> reconstruction: mdc MC hit no. 25
MdcMCHit :: GetDigiIdx value 23
MC --> reconstruction: mdc MC hit no. 26
MdcMCHit :: GetDigiIdx value 24
MC --> reconstruction: mdc MC hit no. 27
MdcMCHit :: GetDigiIdx value 25
MC --> reconstruction: mdc MC hit no. 28
MdcMCHit :: GetDigiIdx value 26
```

Example of printout

# MC → reconstructed

- Now using *cgem.6.6.5.g*
- **CgemMCHit** collection

```
// cgem mc hit
Event::CgemMcHitCol::iterator iter_cgem_MC_point = cgem_MC_point_Col->begin();
Event::CgemMcHit *hit = (*iter_cgem_MC_point);
vector<int> digiidxvector = hit->GetDigiIdxVec();
vector<int> xclusteridxvector = hit->GetXclusterIdxVec();
vector<int> vclusteridxvector = hit->GetVclusterIdxVec();
TArrayI array = hit->GetIdentifier();
```

- *digiidxvector* always has size = 0 (no digi for CGEM)
- each MC point is associated to a cluster-1d
- What is GetIdentifier?

```
CgemMcHit :: GetDigiIdxVec size 0
CgemMcHit :: GetXclusterIdxVec size 1 at(0) 0
CgemMcHit :: GetVclusterIdxVec size 1 at(0) 1
CgemMcHit :: GetIdentifier size 3
cgem cluster 0 x flag 0
cgem cluster 1 v flag 1
-----
MC --> reconstruction: cgem MC hit no. 1
CgemMcHit :: GetDigiIdxVec size 0
CgemMcHit :: GetXclusterIdxVec size 1 at(0) 2
CgemMcHit :: GetVclusterIdxVec size 1 at(0) 3
CgemMcHit :: GetIdentifier size 2
cgem cluster 2 x flag 0
cgem cluster 3 v flag 1
-----
MC --> reconstruction: cgem MC hit no. 2
CgemMcHit :: GetDigiIdxVec size 0
CgemMcHit :: GetXclusterIdxVec size 1 at(0) 4
CgemMcHit :: GetVclusterIdxVec size 1 at(0) 5
CgemMcHit :: GetIdentifier size 3
cgem cluster 4 x flag 0
cgem cluster 5 v flag 1
```