TPC

2013 07 12

Set Energy Range

- For **low energy physics**, G4ProductionCutsTable class is used to set range energy range of production cut.
- Eunah's comment

  "Special for low energy physics : this have some trouble at high energy! (proton cannot reach to detector)"
- I gave range of 10 eV ~ 1 GeV.

Set Energy Range

- A01PhysicsList.cc

```
void A01PhysicsList::SetCuts()
{
  //   " G4VUserPhysicsList::SetCutsWithDefault" method sets
  //    the default cut value for all particle types
  //SetCutsWithDefault();
  //G4ProductionCutsTable::GetProductionCutsTable() -> SetEnergyRange(10.*eV, 100.*GeV);
```

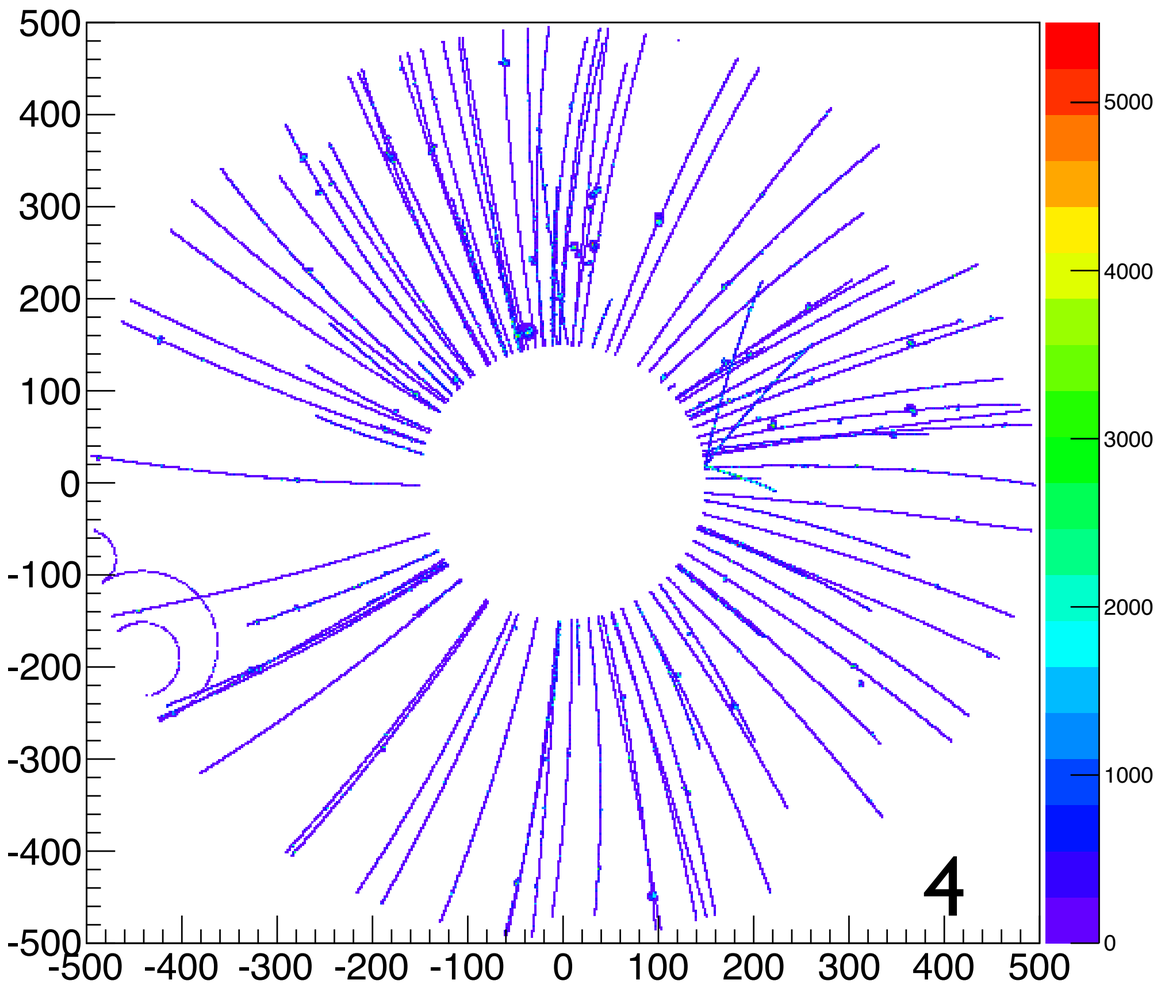
- DMXPhysicsList.cc

```
  //special for low energy physics : this have some trouble at high Energy!
  //(proton cannot reach to detector) by eunah
//  G4double lowlimit= 10.*eV;
//  G4ProductionCutsTable::GetProductionCutsTable()->SetEnergyRange(lowlimit,100.*GeV);
```

Conditions

- IQMD
- 250 MeV
- Soft Model
- Raw data

New Result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-400
-500
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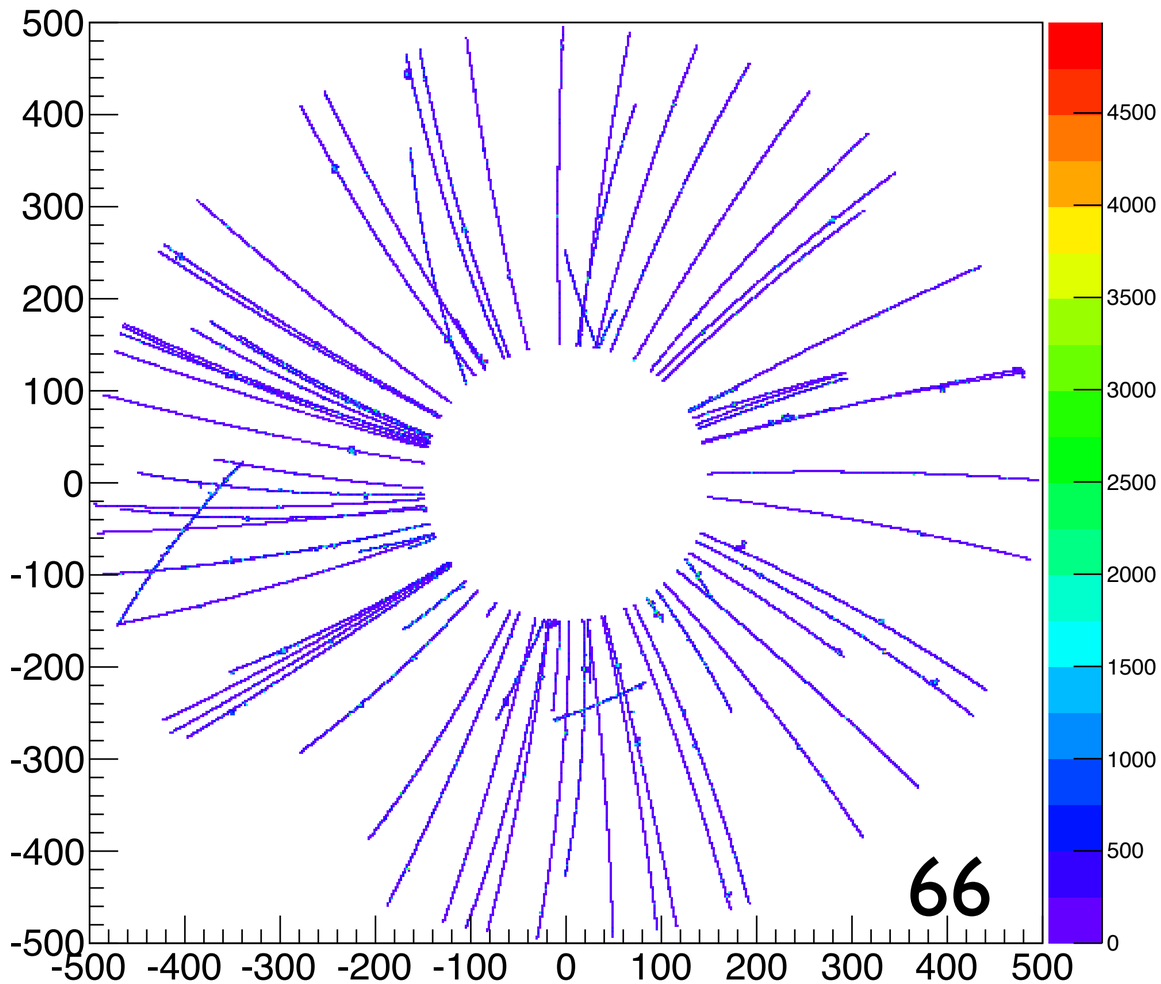
4000
3000
2000
1000
0
4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-400
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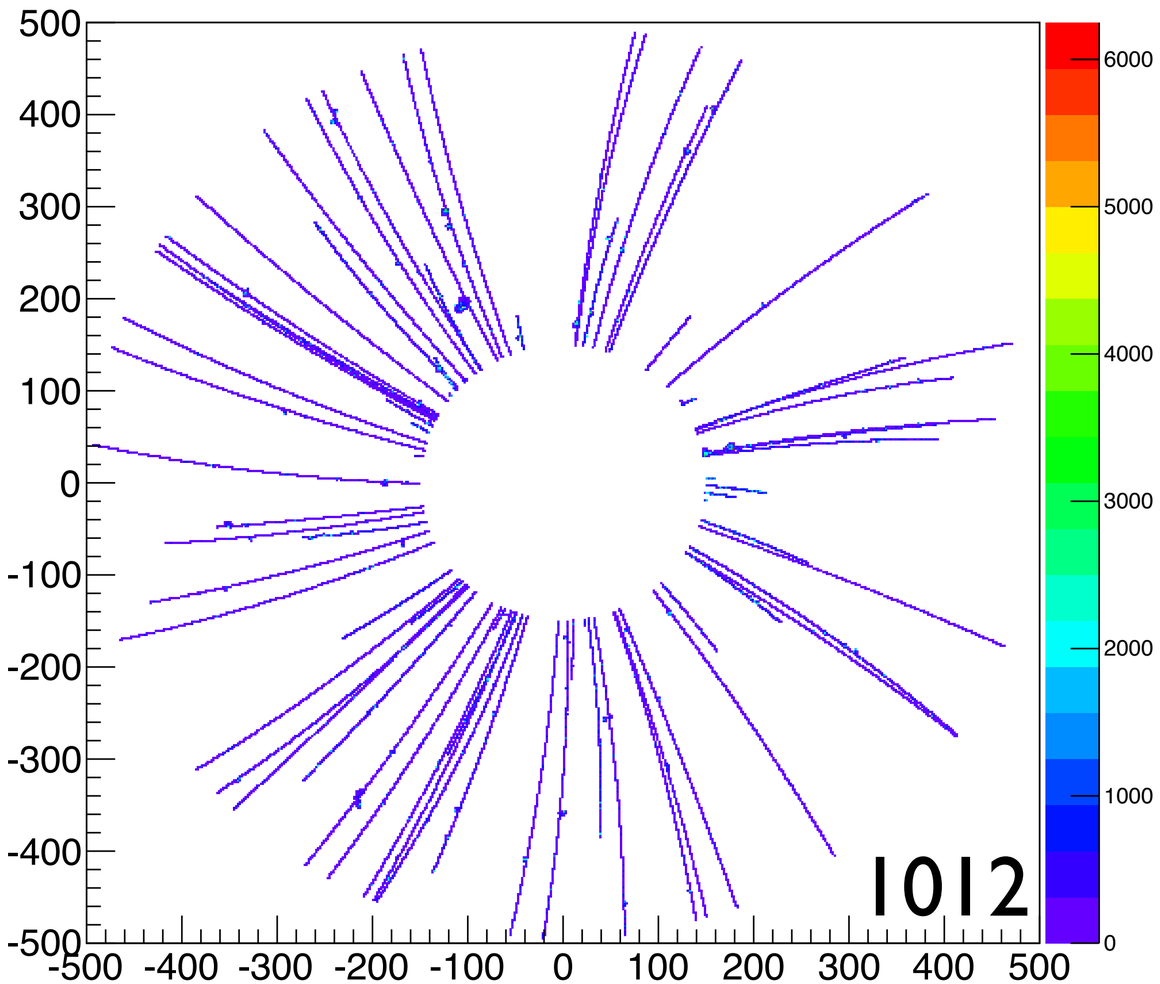
4000
3500
3000
2500
2000
1500
1000
500
0
66

C10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2000
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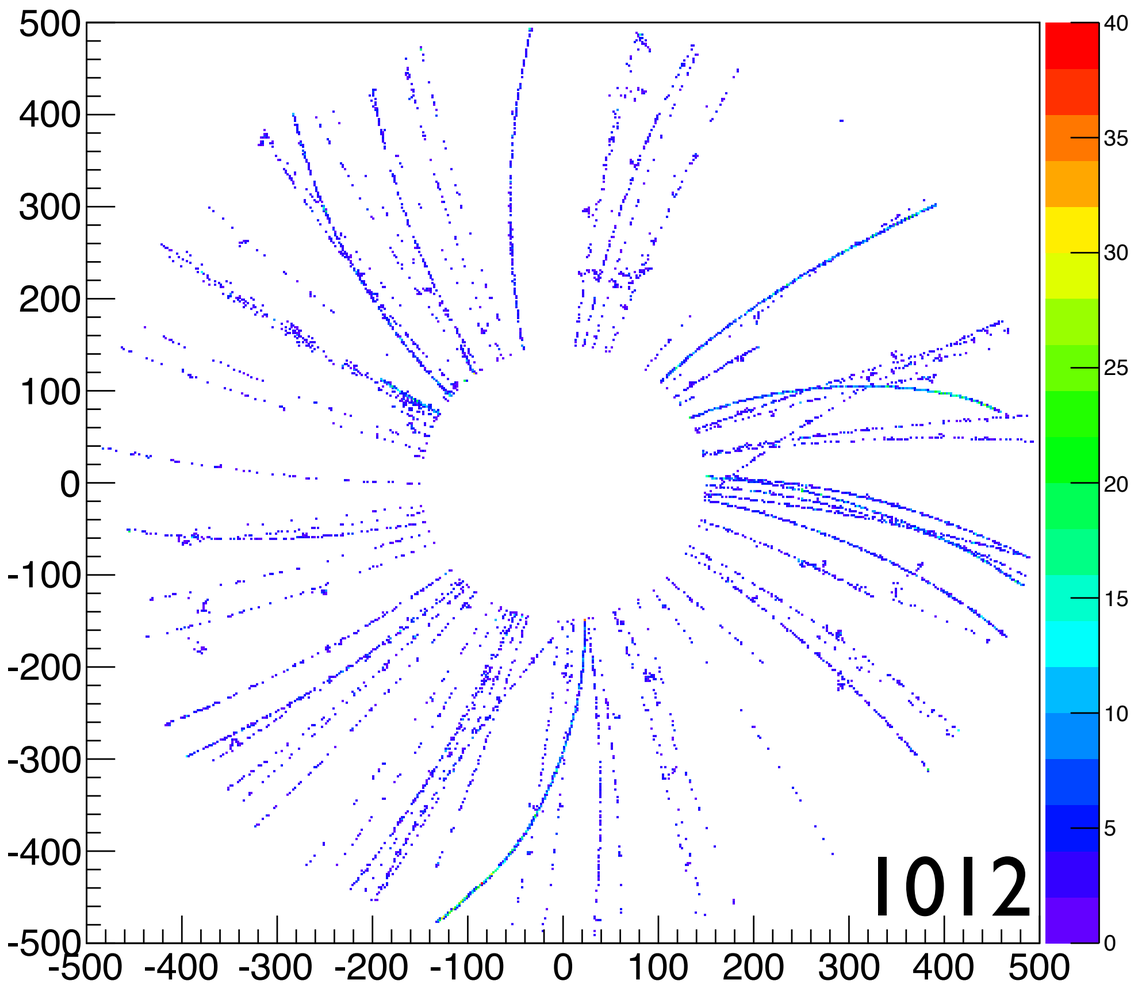
0
1012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25
20
15
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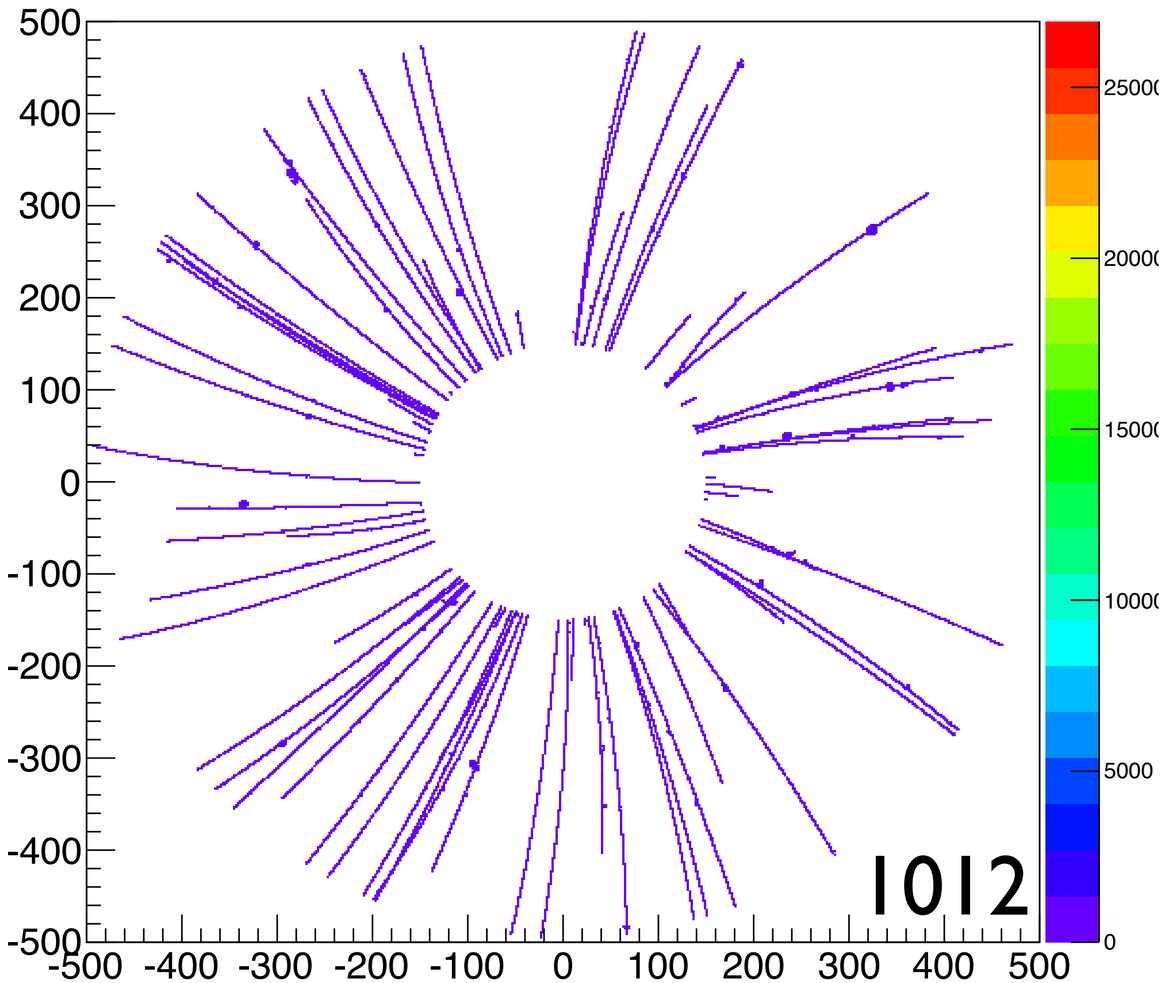
5
0
1012

P10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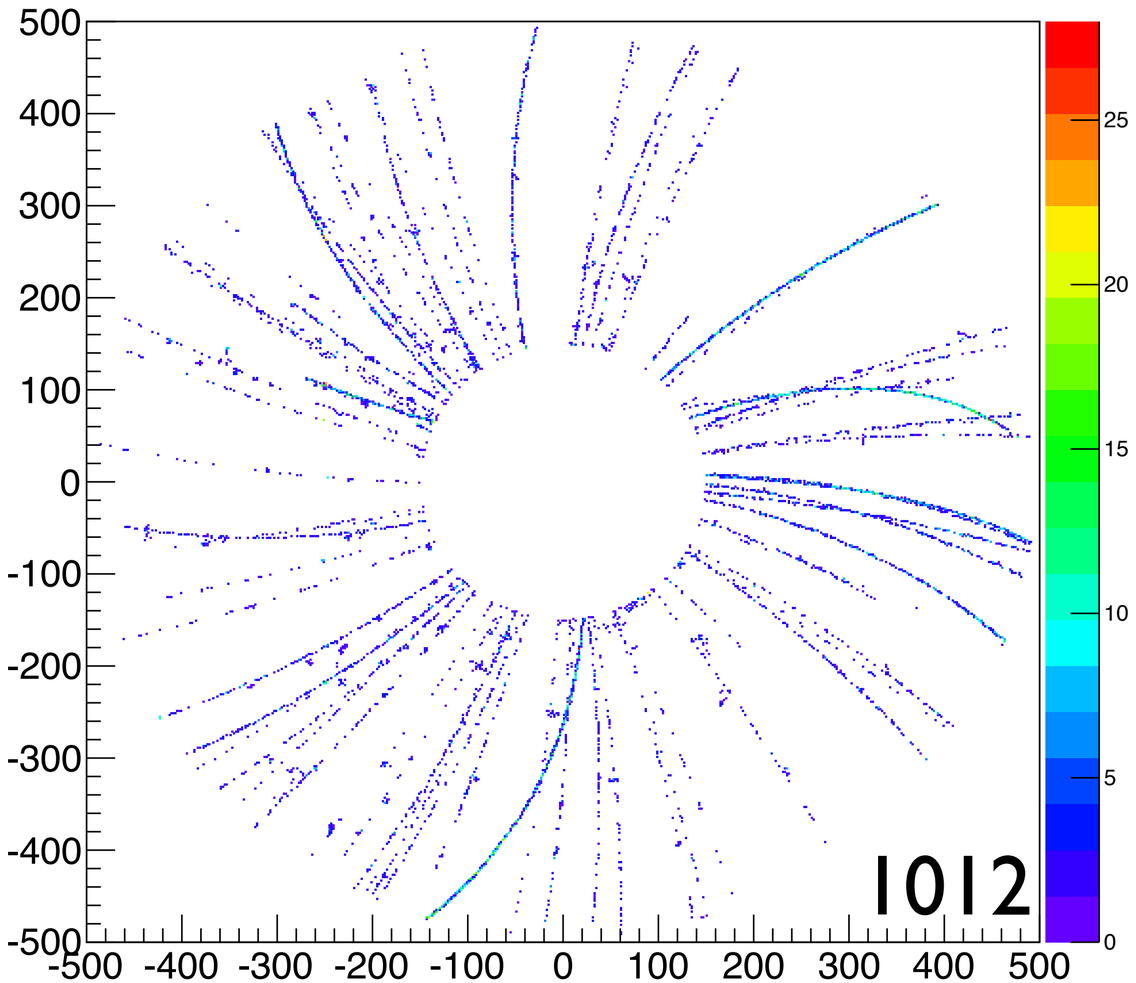
20000
15000
10000
5000
0
1012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20
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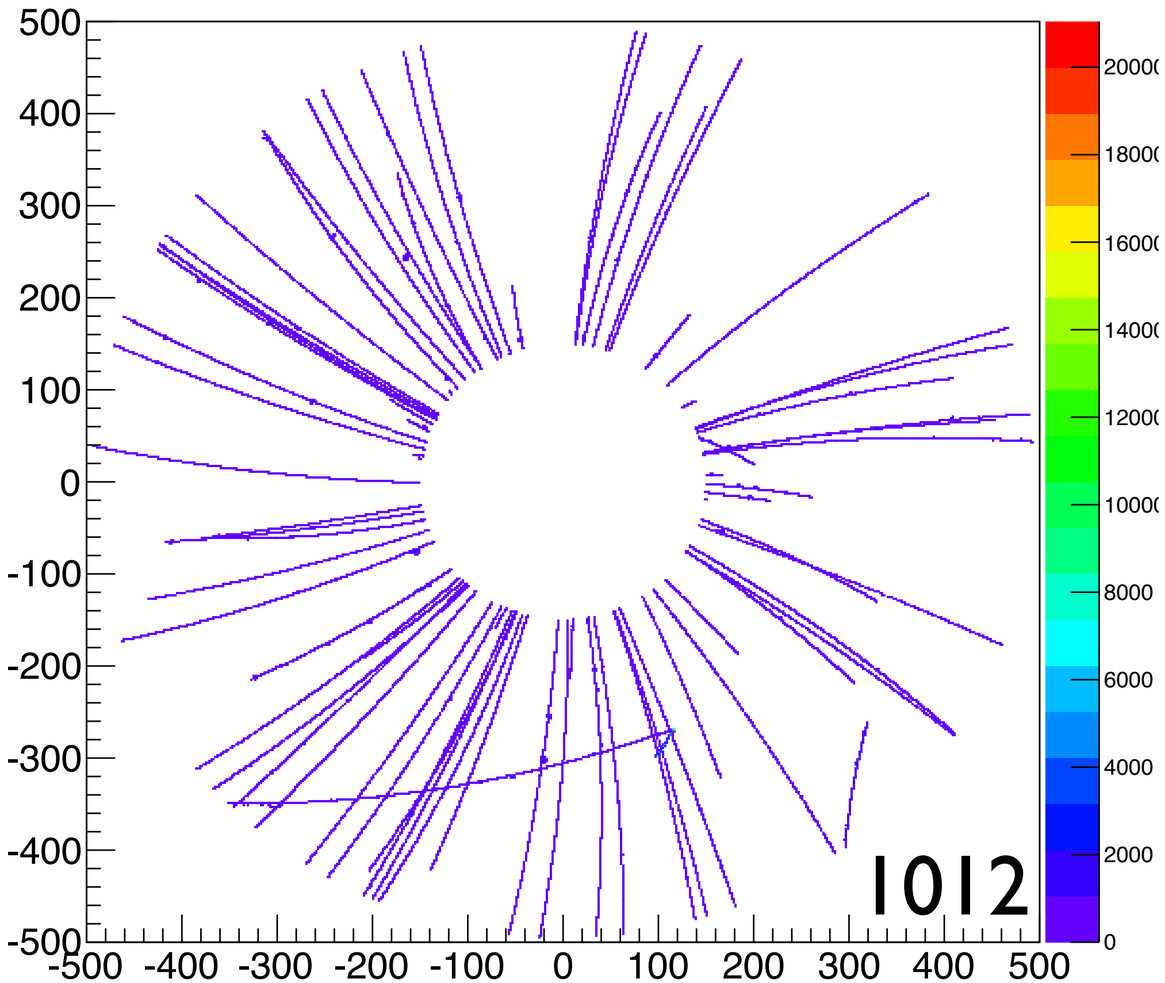
10
5
0
1012

Ne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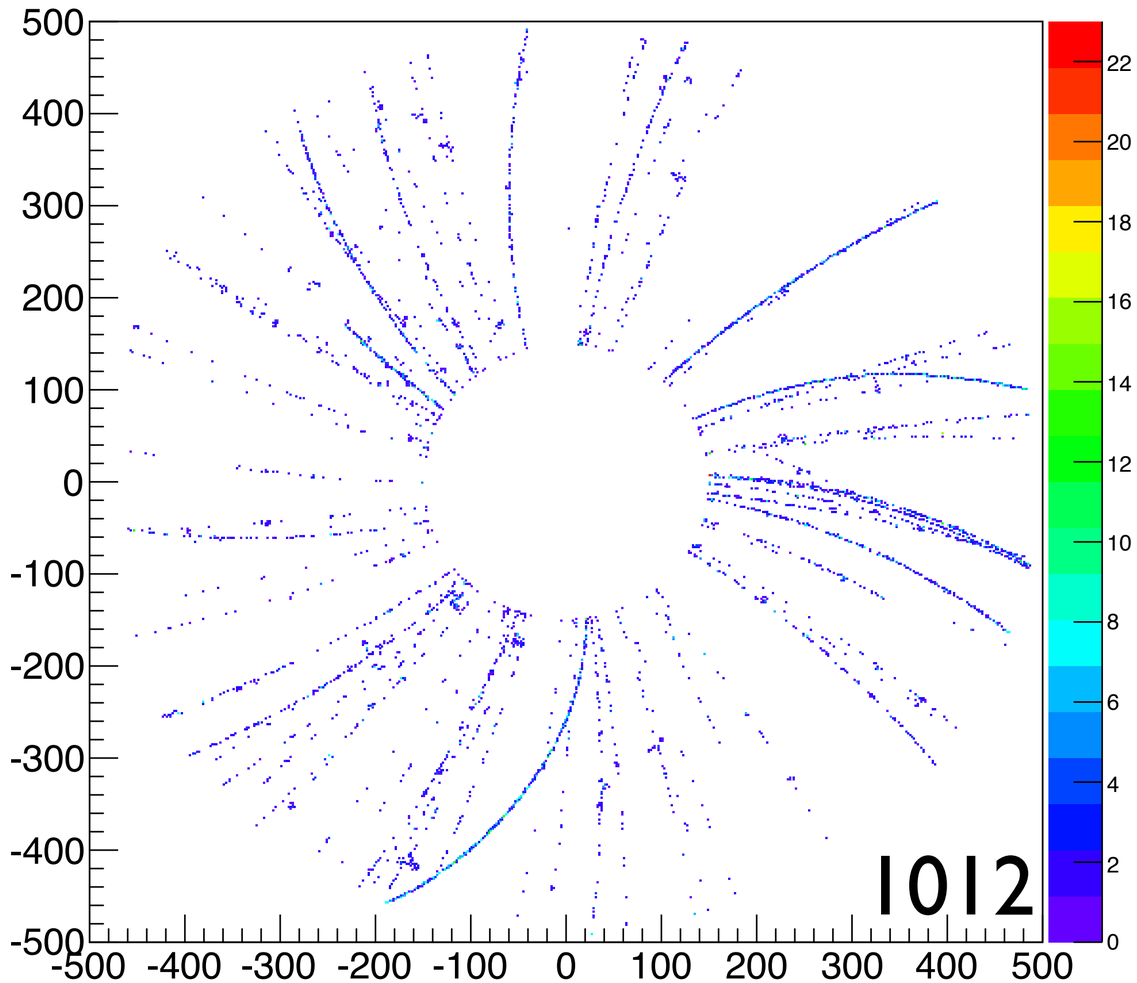
1200
1000
8000
6000
4000
2000
0
1012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22
20
18
16
14
12
10
8
6
4
2
0
1012

Summary

- Many differences!
  - Continuous vs Discontinuous
  - Different tracks
  - Curve
- Not sure if we can consider all these energy deposits as ionization.
- Digitization result for triple gem is not completed yet.
- I’m working on Kalman Filter!
  Sorry I don’t have any results for today.

BACK UP

Single Gem - C10