Quick checking with Silicon Calo framewark

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Status

- Uploded the document of how to run part in Silicon Calo framework
- Quick check of the PHYTIA data created by Silicon Calo framework

How to run the code [edit | edit source]

Main Github link : github

1) git clone the code from the above link.

2) Compile the code in SiliconSeedAna directory

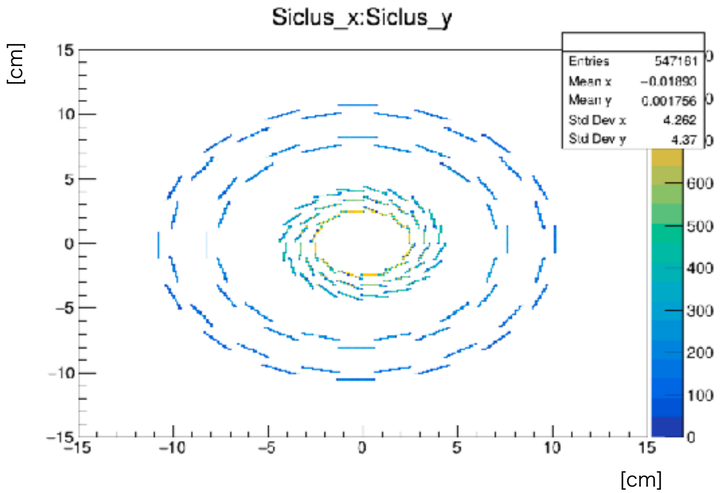
3) Set up SiliconSeedAna library in your setup

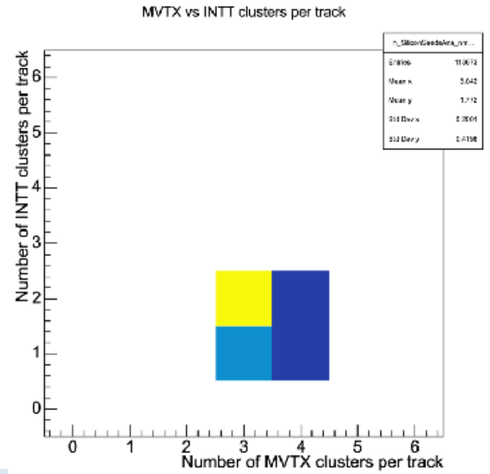
For further details on running the code, check this page

Macro requires several libraries built in coresoftware; please ensure you don't have your private co

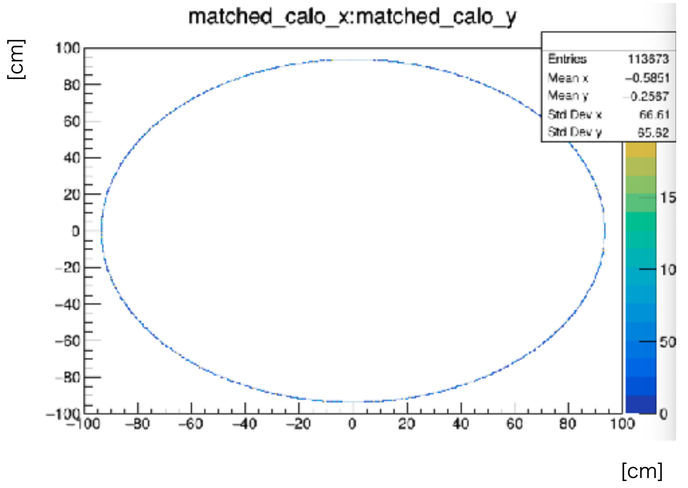
Quick checking the created data

- PHYTIA p+p, b-on, 100K events
- Check of
  - x,y position of clusters of silicon seedings for all events
  - # of clusters of INTT and MVTX in silicon seedings





  - x,y position of clusters of Calorimeter witch matched with silicon seeding tracks



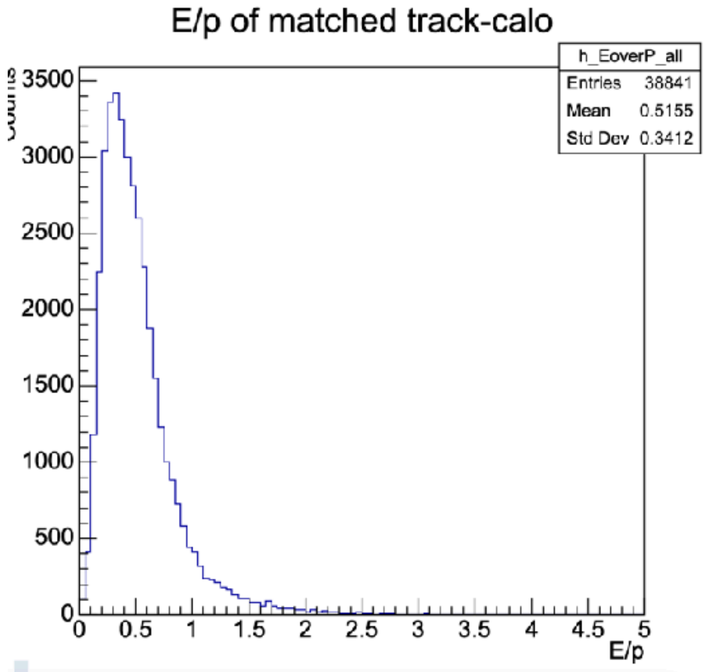
- These looks like the framework is working fine on my setup.

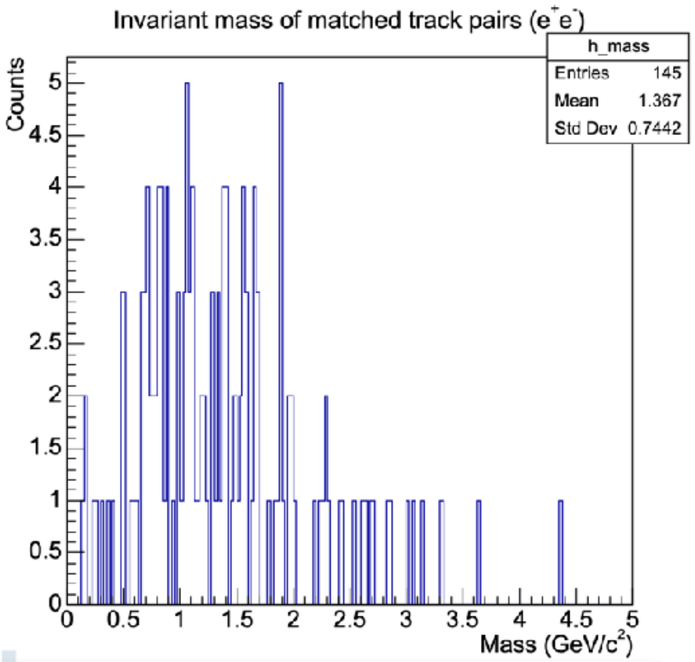
Quick checking mass distribution

- I just used Jaein's macro for quick checking

  /sphenix/user/jaein213/tracking/SiliconSeeding/analysis/DrawMassDis_PHYTIATEST.C

- Check for
  - E/p distribution
  - Pair mass distribution
    - 0.8 < E/p > 1.2
    - Dz < 4cm
    - pt > 0.5GeV
    - nINTT >1 && nMVTX > 2
    - Chi2/ndf < 4
    - Opposite sign





- No peace at mass distribution… we need more statistics

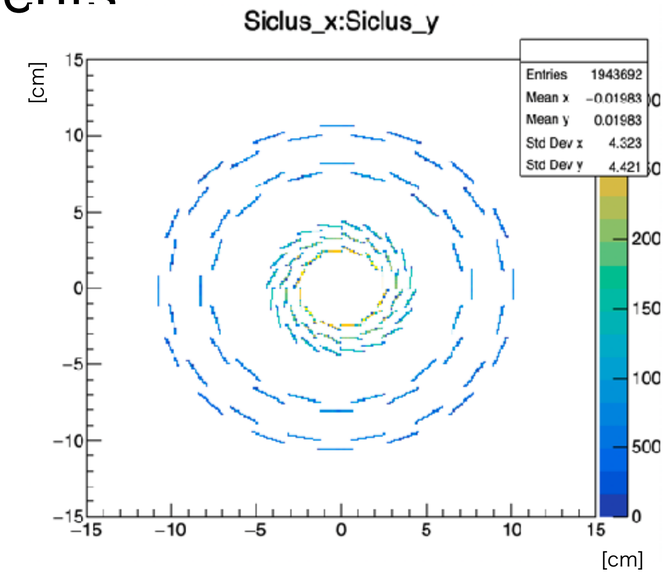
Summary / To Do

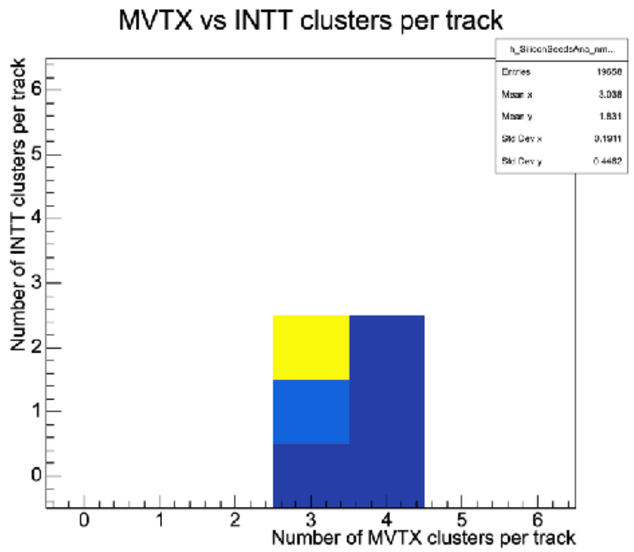
- Making documentation of framework, I upload it to wiki.
- Quick checking PHYTIA data, there are no peak in mass distribution
- I will make PHYTIA data which has more events(~1 million)
  - I am adding vertex information
- I will study with this framework and analysis macro more🔥

Back Up

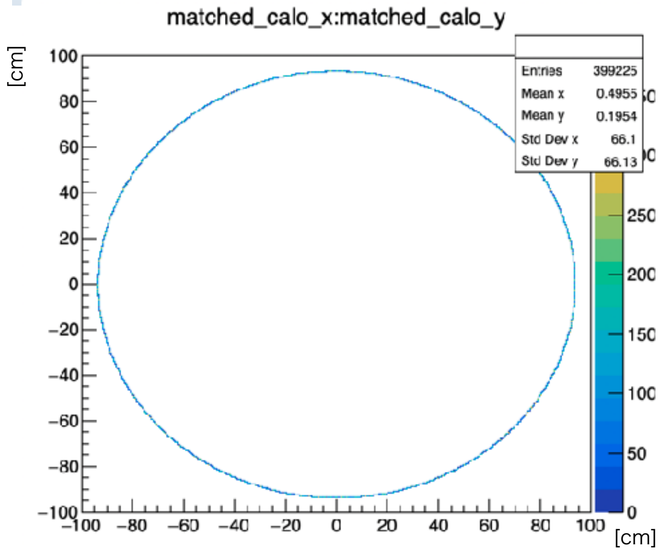
Quick checking the created data

- J/psi single gun simulation, 200K events
- Check of
  - x,y position of clusters of silicon seedings for all events
  - # of clusters of INTT and MVTX in silicon seedings





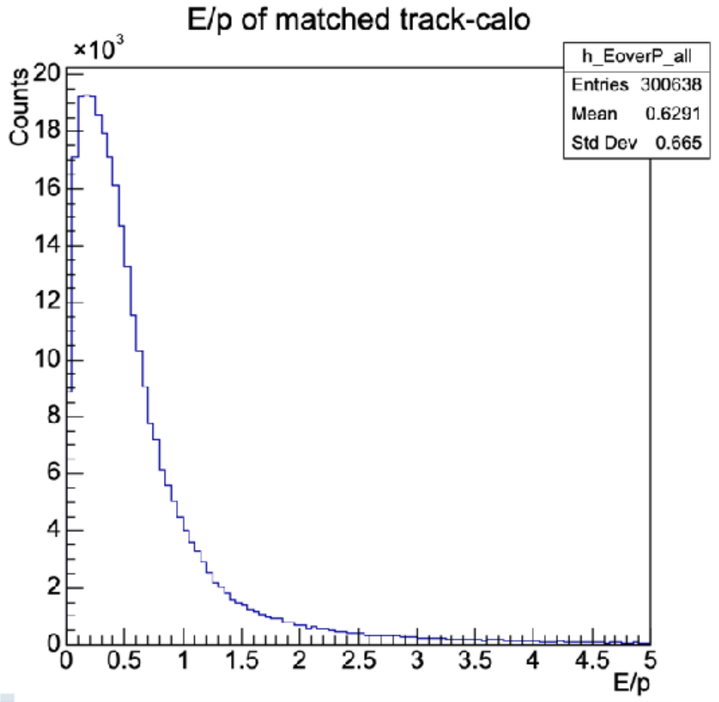
  - x,y position of clusters of Calorimeter witch matched with silicon seeding tracks

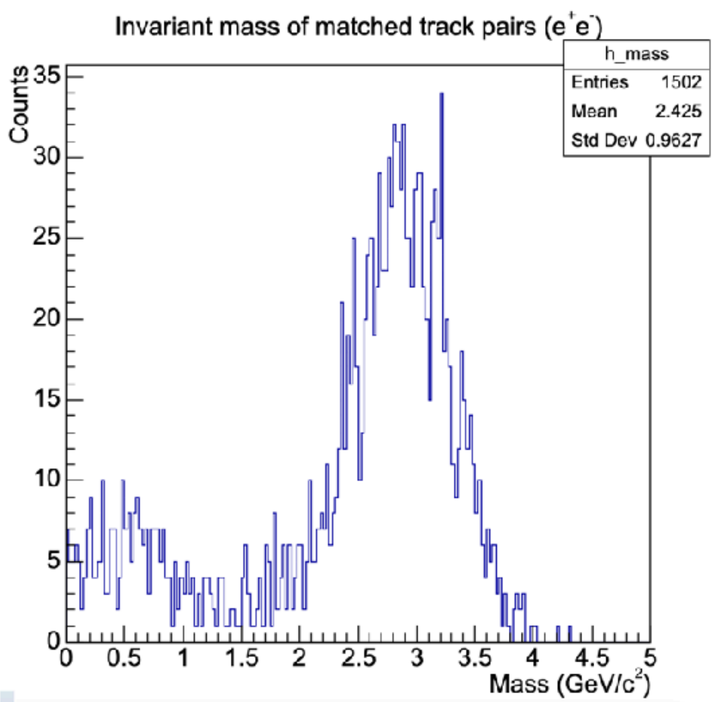


- These looks like the framework is working fine on my setup.

Quick checking of analysis

- J/psi single gun simulation, 200K events
- I just used Jaein's macro for quick checking
  /sphenix/user/jaein213/tracking/SiliconSeeding/analysis/DrawMassDis_JPSI_new.C
- Check for
  - E/p distribution
  - Pair mass distribution
    - 0.8 < E/p > 1.2
    - Dz < 4cm
    - pt > 0.5GeV
    - nINTT >1 && nMVTX > 2
    - Chi2/ndf < 4
    - Opposite sign





- Similar with Jaein and Hachiya san analysis - framework and macro are working fine.