Collider Mode. Reduced Magnetic Field.

Student:
Alejandro San Juan López

Supervisors:
Dr. Vadim Kolesnikov
Dr. Ivonne Alicia Maldonado Cervantes
Dr. Viktar Kireyeu

16 July 2024

Parameters used for analysis

Production–Generator

request 28 - 125 kEvents UrQMD BiBi@ 9.2 GeV reduced magnetic field.

Processing time

3:00 hrs approx.

New Class: EnerClass1

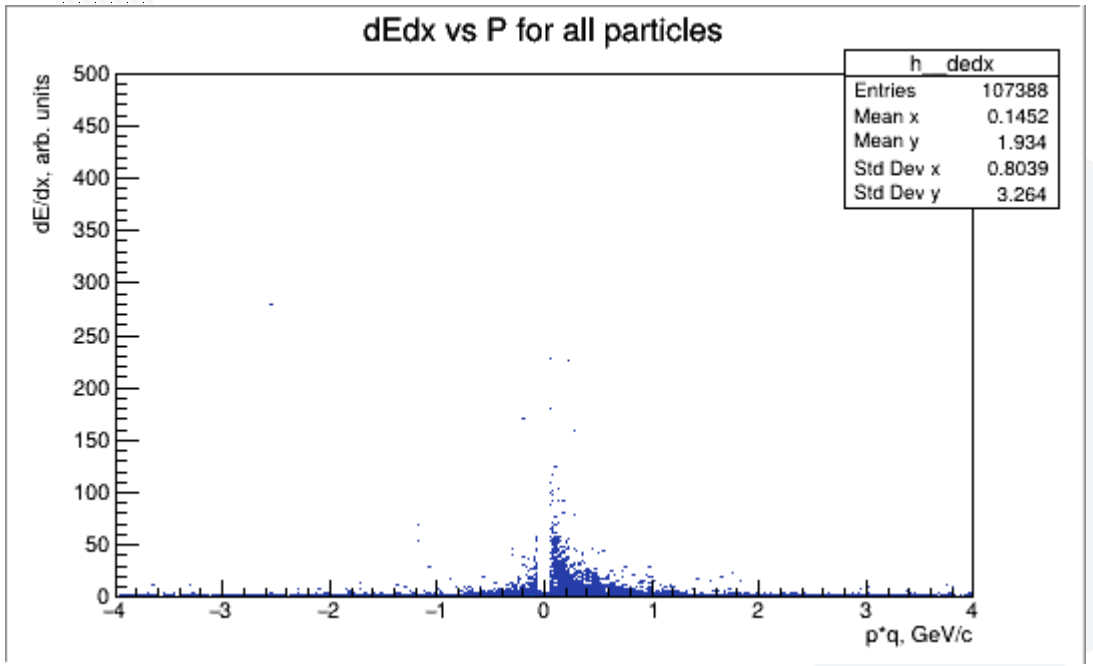
```
[alejandrosj@ncx101 simplept]$ ls
CMakeLists.txt  EnerClass1.cxx  EnerClass1.h  EnerClass1LinkDef.h  macros
```

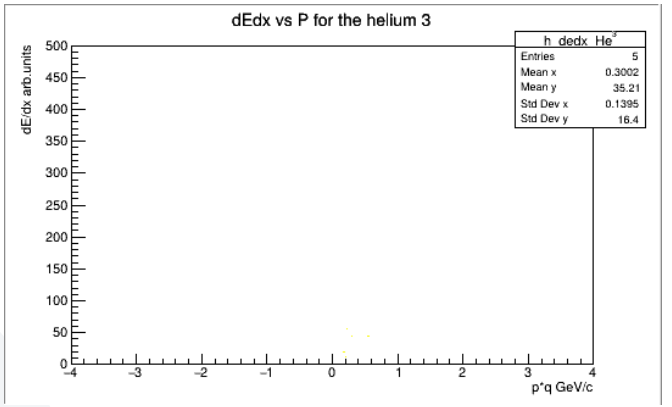
```
//_____
    MpdTpcKalmanTrack *kftrack  = (MpdTpcKalmanTrack *) mKalmanTracks->UncheckedAt(i);
    int   kfcharge = kftrack -> Charge();
    double p       =  kftrack -> Momentum3().Mag() * kfcharge;
    double dedx    =  kftrack -> GetDedx();
    int mcId = kftrack -> GetTrackID();
nding Monte Carlo track
//_____

    MpdMCTrack* mctrack = (MpdMCTrack*) mMCTracks -> At(mcId);

    int   pdg                 = mctrack -> GetPdgCode();
    int   prodId              = mctrack -> GetMotherId();
   // int   current_particle_mc = particle_by_pdg(pdg);
tings file)
    float rapidity_mc         = mctrack -> GetRapidity();
    float pt_mc               = mctrack -> GetPt();
    float p_mc                = mctrack -> GetP();
    float pz_mc               = mctrack -> GetPz();
//_____

    h__dedx -> Fill(p, dedx);

    if (pdg == 1000020030)
    {
        //He3
        h__dedxHe3->Fill(p, dedx);
    }else if (pdg == 1000020040)
    {
        //He4
        h__dedxHe4->Fill(p, dedx);
    }else if (pdg == 1000010030)
```

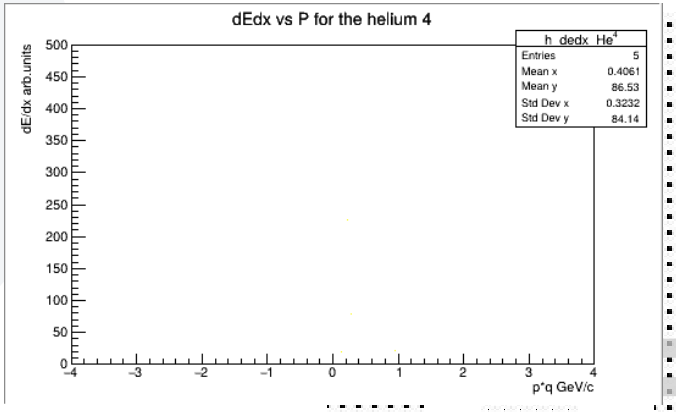
EnerCLass.cxx

Results

For : urqmd-BiBi-09.2GeV-mb-eos0-500-0.reco.root

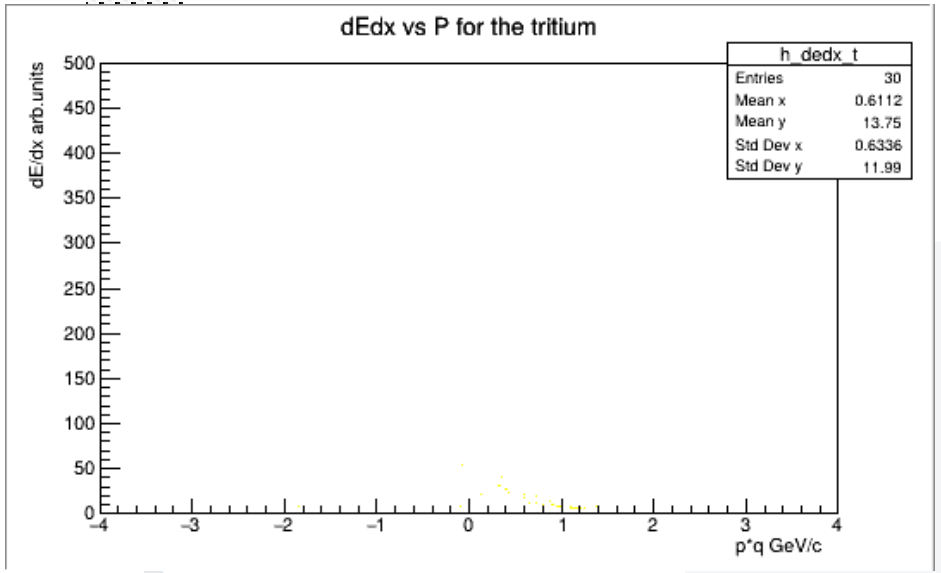


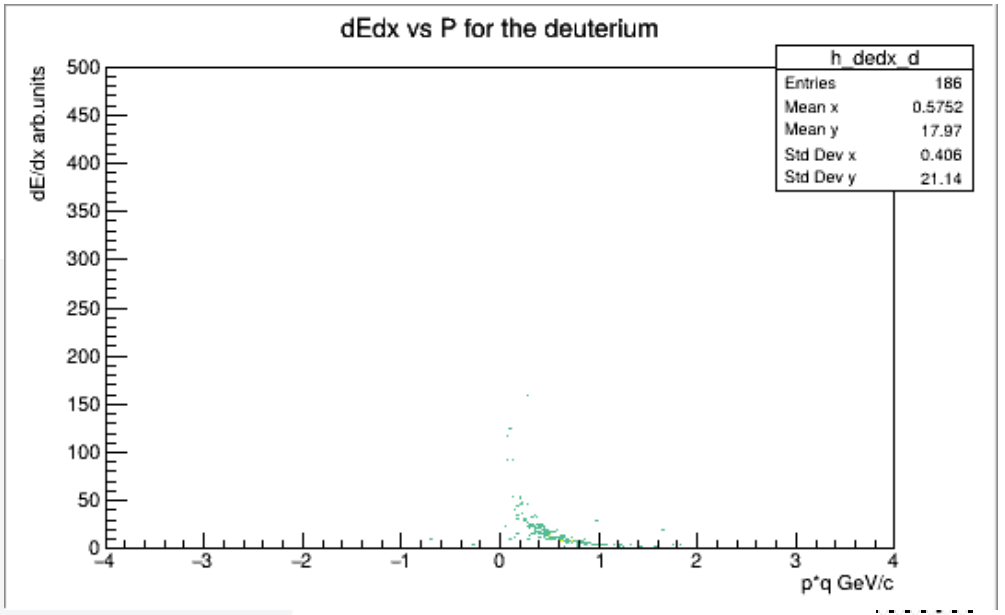




Results

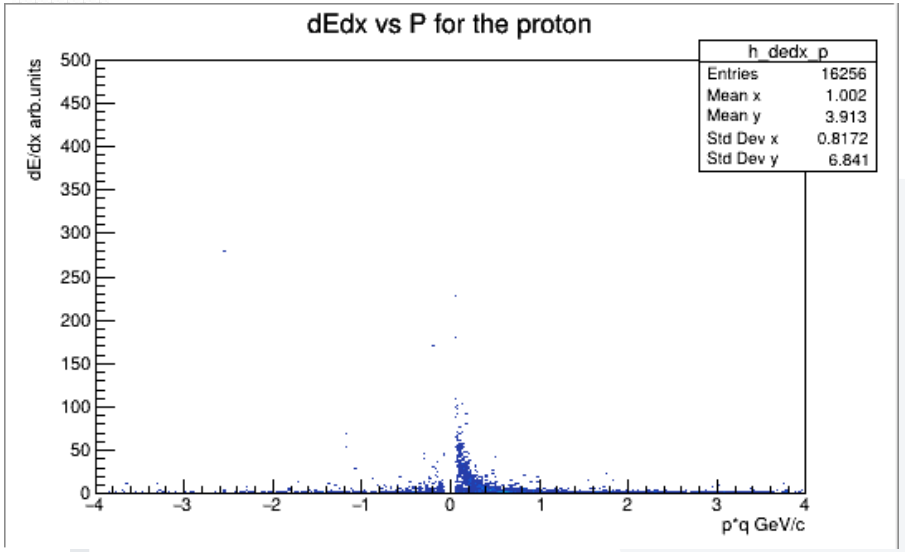
For : urqmd-BiBi-09.2GeV-mb-eos0-500-0.reco.root

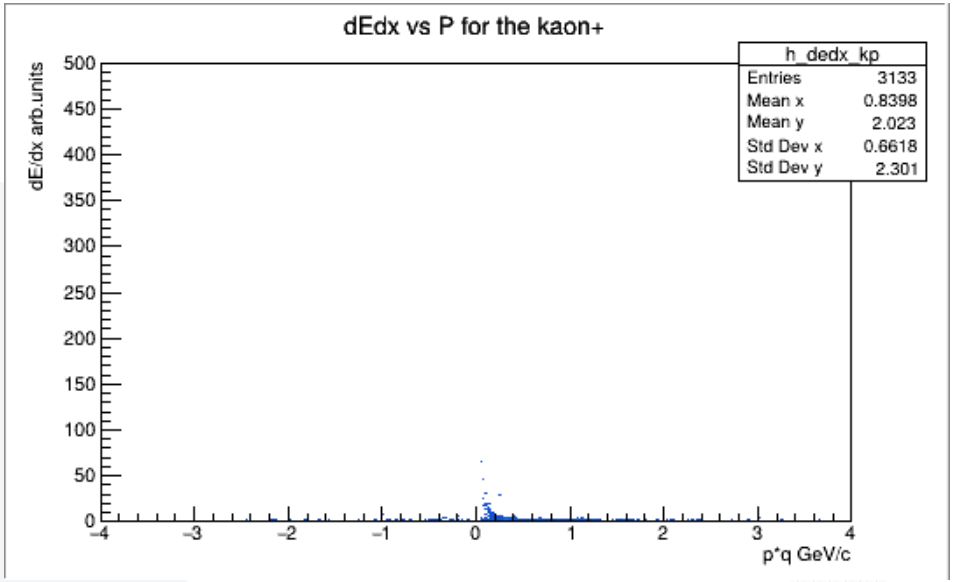




Results

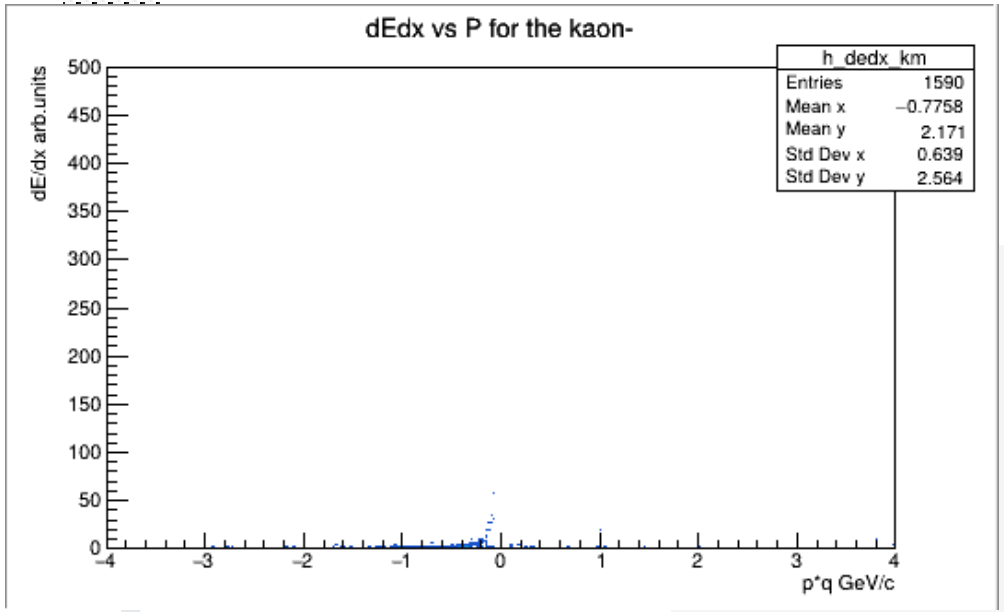
For : urqmd-BiBi-09.2GeV-mb-eos0-500-0.reco.root

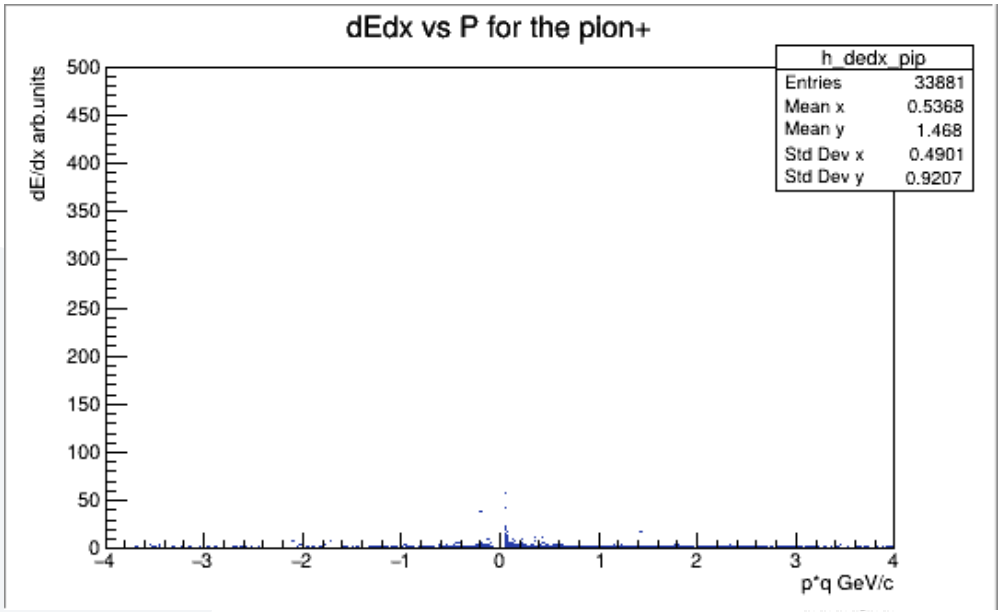




Results

For : urqmd-BiBi-09.2GeV-mb-eos0-500-0.reco.root





Results

For : urqmd-BiBi-09.2GeV-mb-eos0-500-0.reco.root