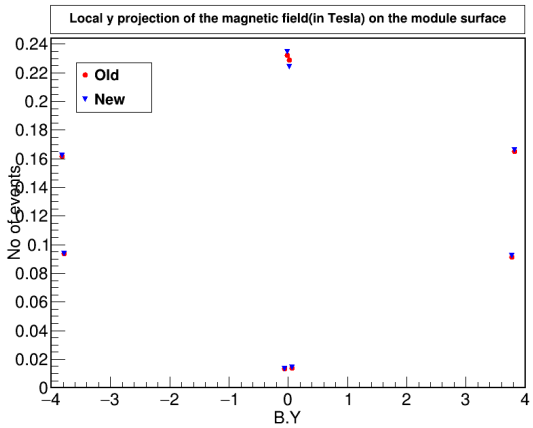
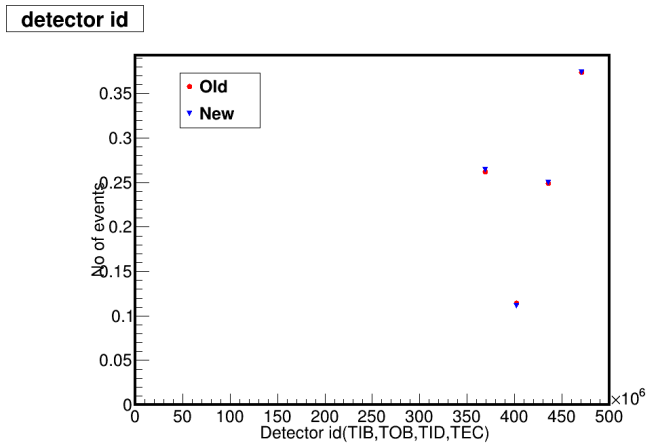
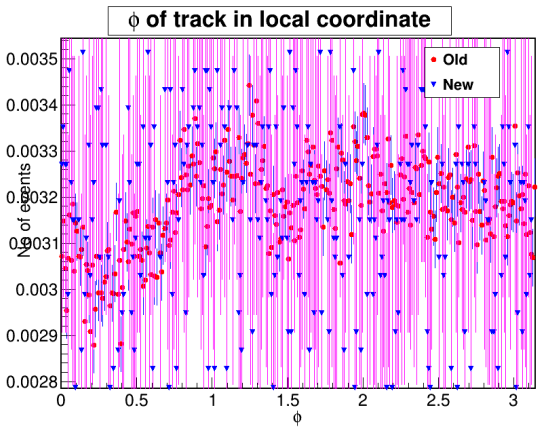
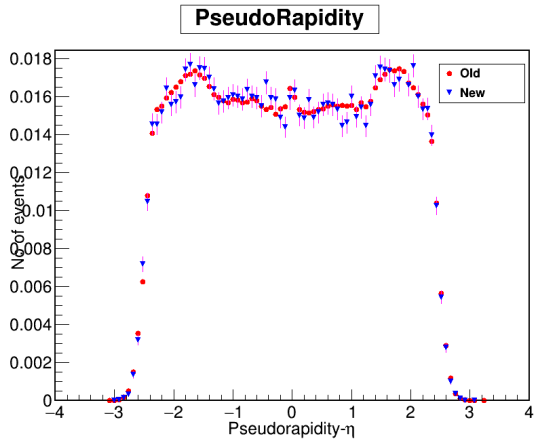
comparison-old and new ntuple

Comparison of data(old and new) points for projection of magnetic field in local y-1, detid-2, local-ϕ-3, pseudorapidity-η-4



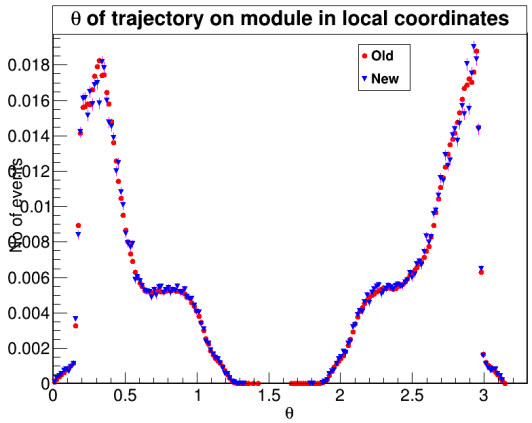


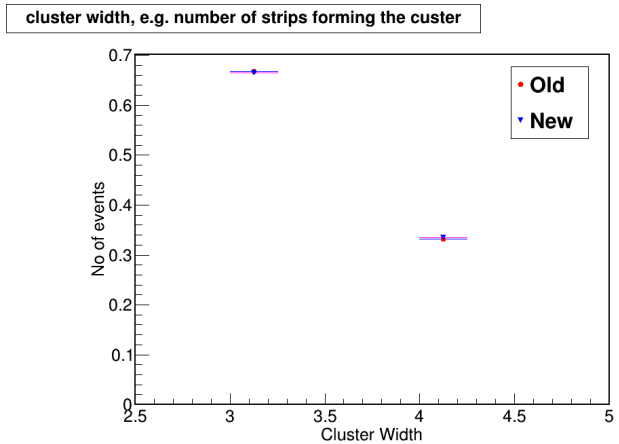




comparison

comparison local theta and culsterwidth





- Ntuples are quiet similar from the variable point of view.
- Though the variables are quiet similar to each other then it is expected to have same kind of plots. But failed.
- Twiki page updates.

Helperclass instruction

extract of detector values

```
#include "DataFormats/SiStripDetId/interface/TIBDetId.h"
#include "DataFormats/SiStripDetId/interface/TOBDetId.h"
#include "DataFormats/SiStripDetId/interface/TIDDetId.h"
#include "DataFormats/SiStripDetId/interface/TECDetId.h"

// the functions are defined inside the APVGain namespace; you can remove it

/** Brief Extract from the DetId the subdetector type.
 * Return an integer which is associated to the subdetector type. The integer
 * coding follows:
 *
 *  3 - TIB
 *  4 - TID
 *  5 - TOB
 *  6 - TEC
 */
int APVGain::subdetectorId(uint32_t det_id) {
    return DetId(det_id).subdetId(); // you can use directly:(det_id >> 25)&0x7;
};


/** Brief Extract the subdetector side from the Det Id
 *  * Return and integer whose coding is
 *   0 - no side description can be applied
 *   1 - for negative side
 *   2 - for positive side
 */
int APVGain::subdetectorSide(uint32_t det_id) {
    int id = APVGain::subdetectorId( det_id );
    if (id==4) return (int)TIDDetId( det_id ).side();
    if (id==6) return (int)TECDetId( det_id ).side();
    return 0;
}

```

Helperclass

TIBDetId.h

```
class TIBDetId;

std::ostream& operator<<(std::ostream& os,const TIBDetId& id);

class TIBDetId : public SiStripDetId {
 public:
  /** Constructor of a null id */
  TIBDetId();
  /** Constructor from a raw value */
  TIBDetId(uint32_t rawid);
  /**Construct from generic DetId */
  TIBDetId(const DetId& id);

  TIBDetId(uint32_t layer,
           uint32_t str_fw_bw,
           uint32_t str_int_ext,
           uint32_t str,
           uint32_t module,
           uint32_t ster) : SiStripDetId(DetId::Tracker,StripSubdetector::TIB){
    id_ |= (layer& layerMask_) << layerStartBit_ |
      (str_fw_bw& str_fw_bwMask_) << str_fw_bwStartBit_ |
      (str_int_ext& str_int_extMask_) << str_int_extStartBit_ |
      (str& strMask_) << strStartBit_ |
      (module& moduleMask_) << moduleStartBit_ |
      (ster& sterMask_) << sterStartBit_ ;
  }


  /// layer id
  unsigned int layer() const{
    return int((id_>>layerStartBit_) & layerMask_);
  }
```

Error

Then I tried simply (my code is makeclass modular)

```
82        cout<<variable11<<"\n";
83        variable12 +=((tsoslocalx->at(m))*(clustercharge->at(m)));
84        variablecharge +=clustercharge->at(m);
85        exact1=(variable11)/(variablecharge);
86        exact2=(variable12)/(variablecharge);
87        exactfinal=pow(exact2,2);
88        sign1 = tsosglobalZofunitlocalY->at(m);
89        angulardrift=sign1*(tsosdriftx->at(m))/(tsosdriftz->at(m));
90      } }
91    unsigned int y_value;
92    y_value=TIBDetId::SiStripDetId().layer();
93    cout<<y_value<<"\n";
94
95        for( float i1=-1.; i1<tsoslocalx;i1=i1+0.0005){LocalX=tsoslocalx->at(i1);hLocalX->Fill(LocalX);}
96      // Calculate the track angle (theta_L) ____________________________________________________
97
98      sign = tsosglobalZofunitlocalY->at(k) < 0 ? -1 : 1;
```

I got this error

and i am getting this,

/afs/cern.ch/user/a/amd/LA/CMSSW_8_0_12/src/LorentzAngle_MD.C:333:34: error: no member named 'layer' in 'SiStripDetId'
y_value=TIBDetId::SiStripDetId().layer();

then I omitted this function layer() and I am having as outpout 0. I want to know how to select these layers and wheels?

```
unsigned int y_value;
y_value=TIBDetId::SiStripDetId();
cout<<y_value<<"\n";
```