

A decorative graphic on the left side of the slide, consisting of a network of white lines and small circles on a blue gradient background, resembling a circuit board or a tree structure.

EVENT DISPLAY REFACTORING

CURRENT STATUS

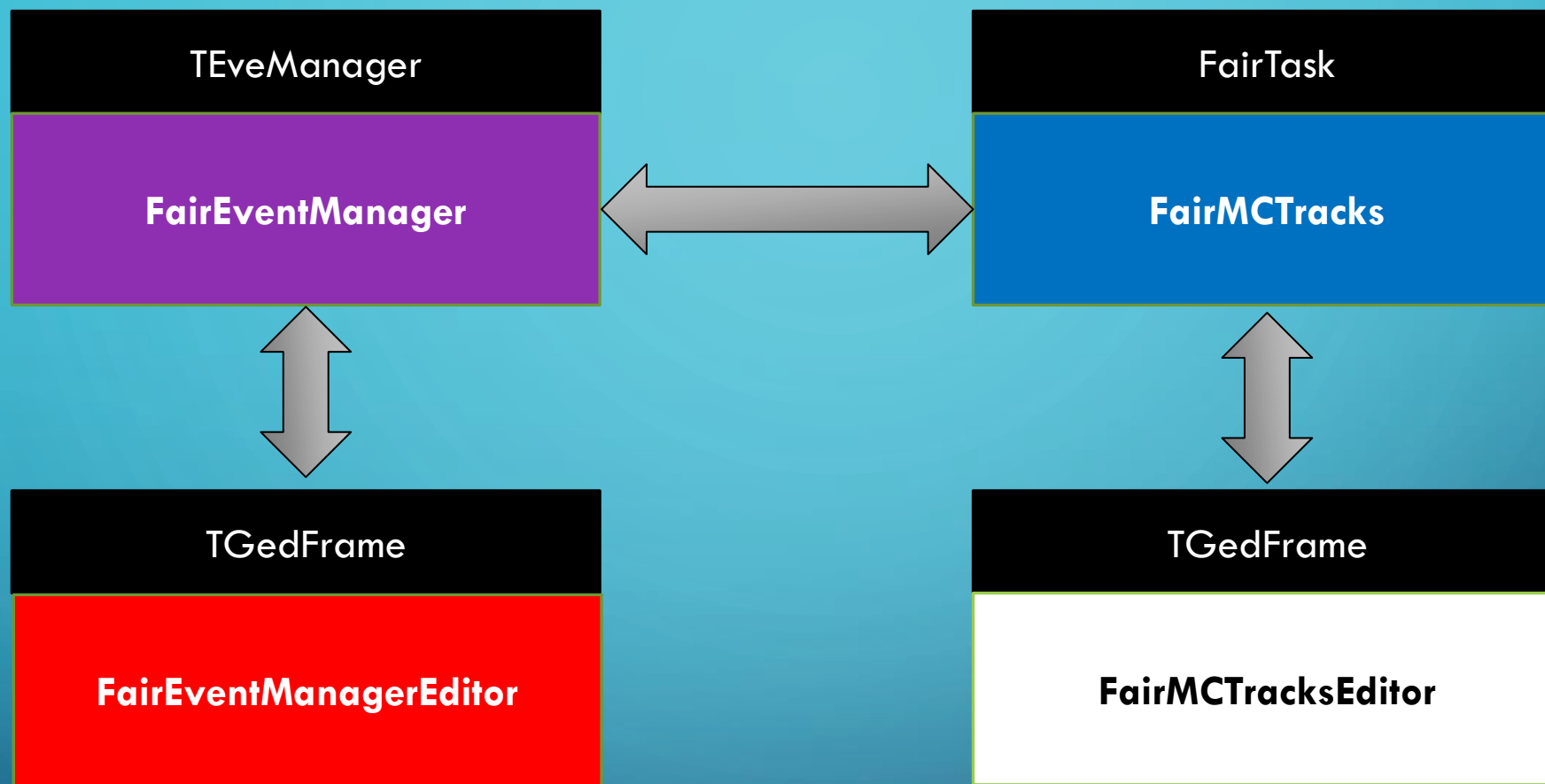
- FairEventManager – holds entire frame, draw detectors
- FairEventManagerEditor – GUI
- Task for drawing tracks/hits

CURRENT STATUS

- Option of selection primary tracks, Energy cut, event number — FairEventManager*

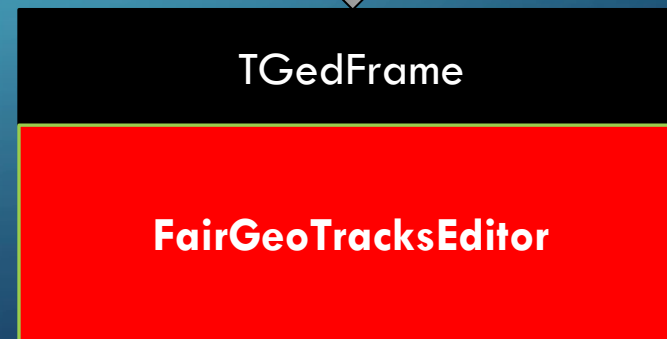
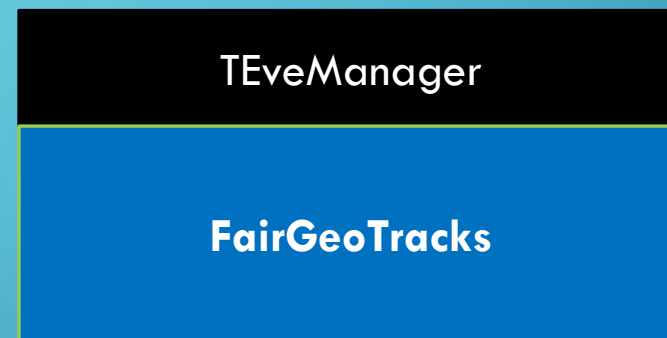
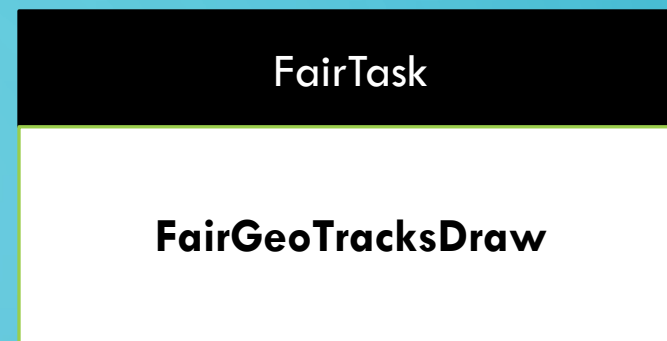
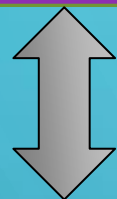
NEW IDEA

- Separation of „Track filters” from EventManager
- 3 classes architecture:
 - FairTask based – added to FairRunAna
 - TGedFrame based – GUI
 - TEveElement based – drawing stuff



DRAW

GUI



Eve Main Window

Browser Eve

Eve Files

- ☒ WindowManager
- ☒ Viewers
- ☒ Scenes
- ☒ FairEventManager
- ☒ FairGeoTracks
- ☒ pi
- ☒ mu
- ☒ nu_mu_bar
- ☒ proton
- ☒ Alpha
- ☒ FairRutherfordPoint
- ☒ RhoPhi (0.0)
- ☒ RhoZ (0.0)

Style KIN

FairGeoTracks [FairGeoTracks]

TEveElement

Show: ☒ Self ☒ Children

FairGeoTracksEditor

Swap Tracks

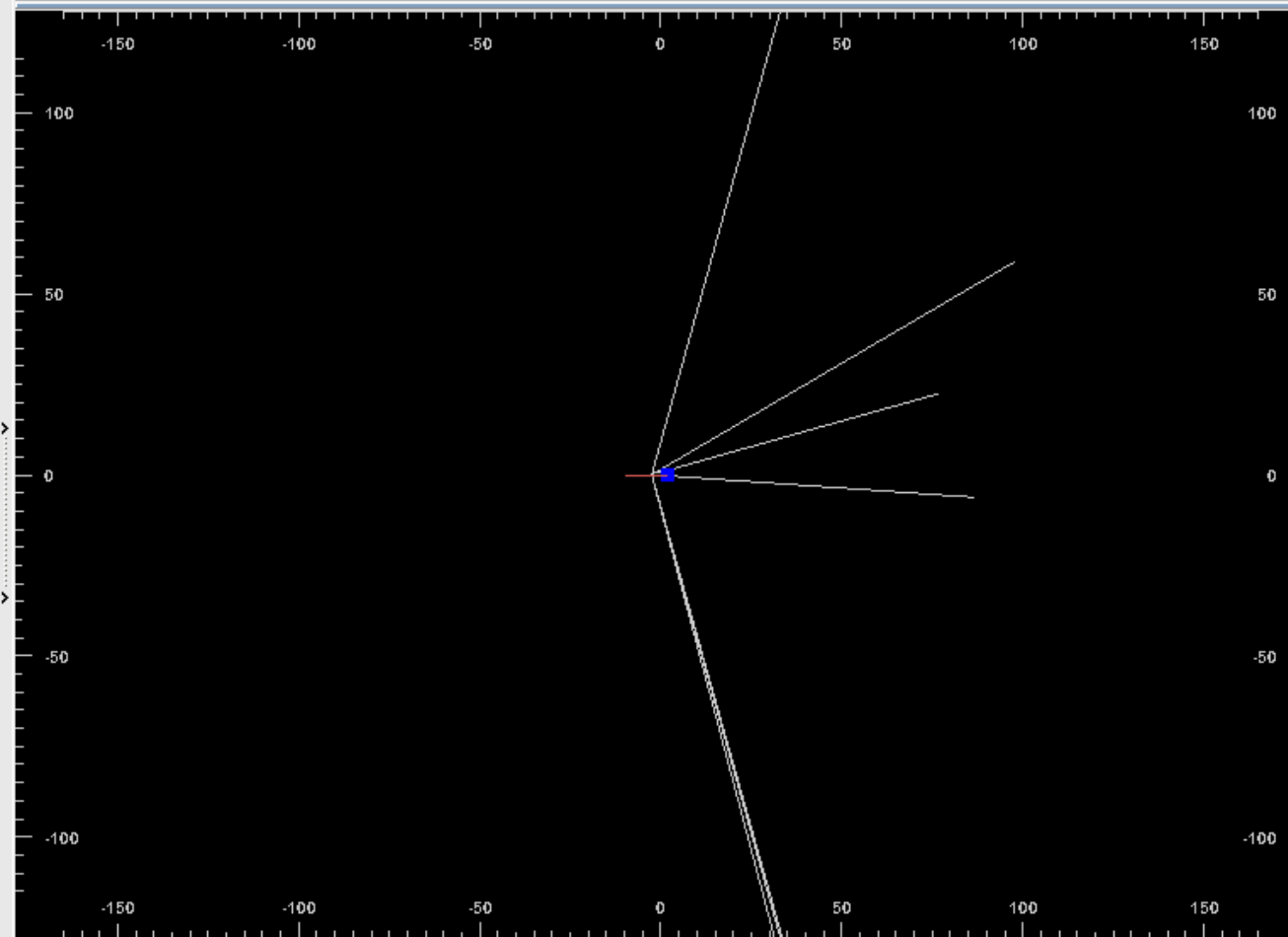
Update

Viewer 1 RPhi View RhoZ View Multi View

Hide

RhoZ View

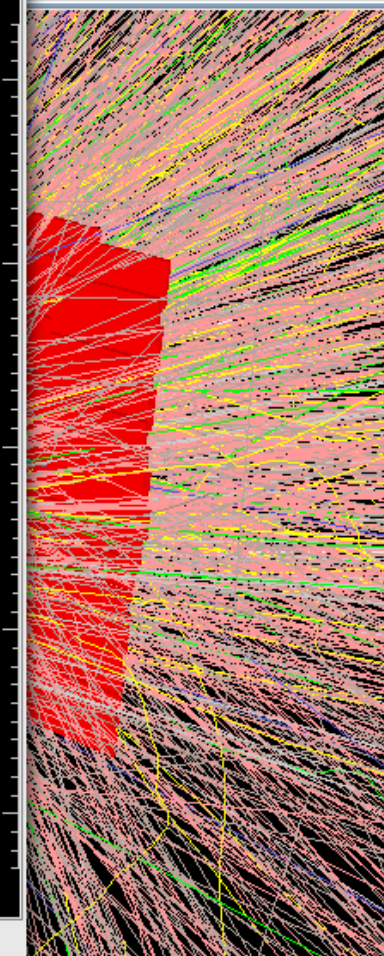
Actions

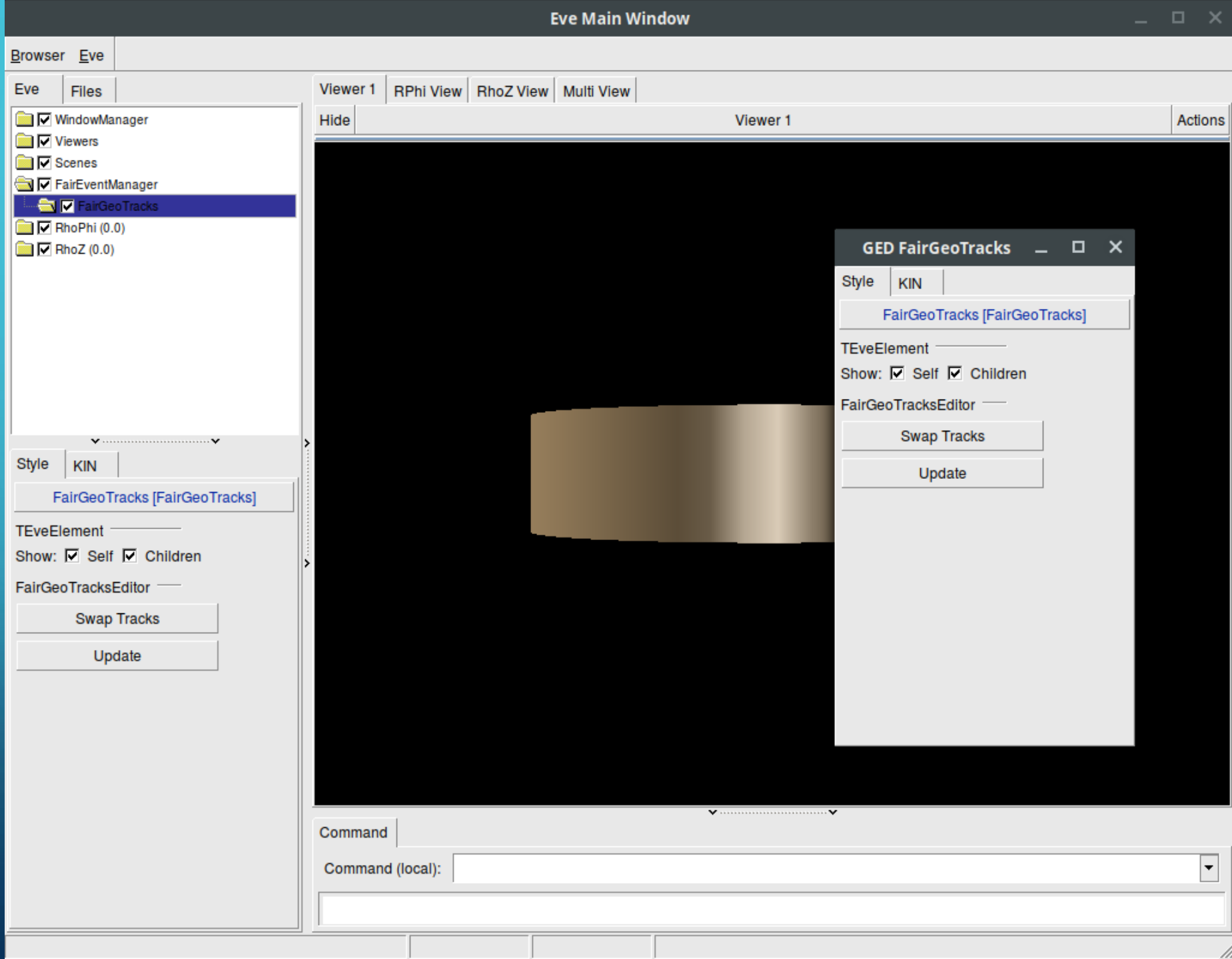


Command

Command (local):

Actions





PROPOSAL OF SELECTION CRITERIA FOR GEO TRACKS

- Primary/secondary
- **Pt cut**
- **Eta cut**
- PDG cut
- Energy Cut
- Charge: charged/positive/negative/neutral
- Colors from separate XML?

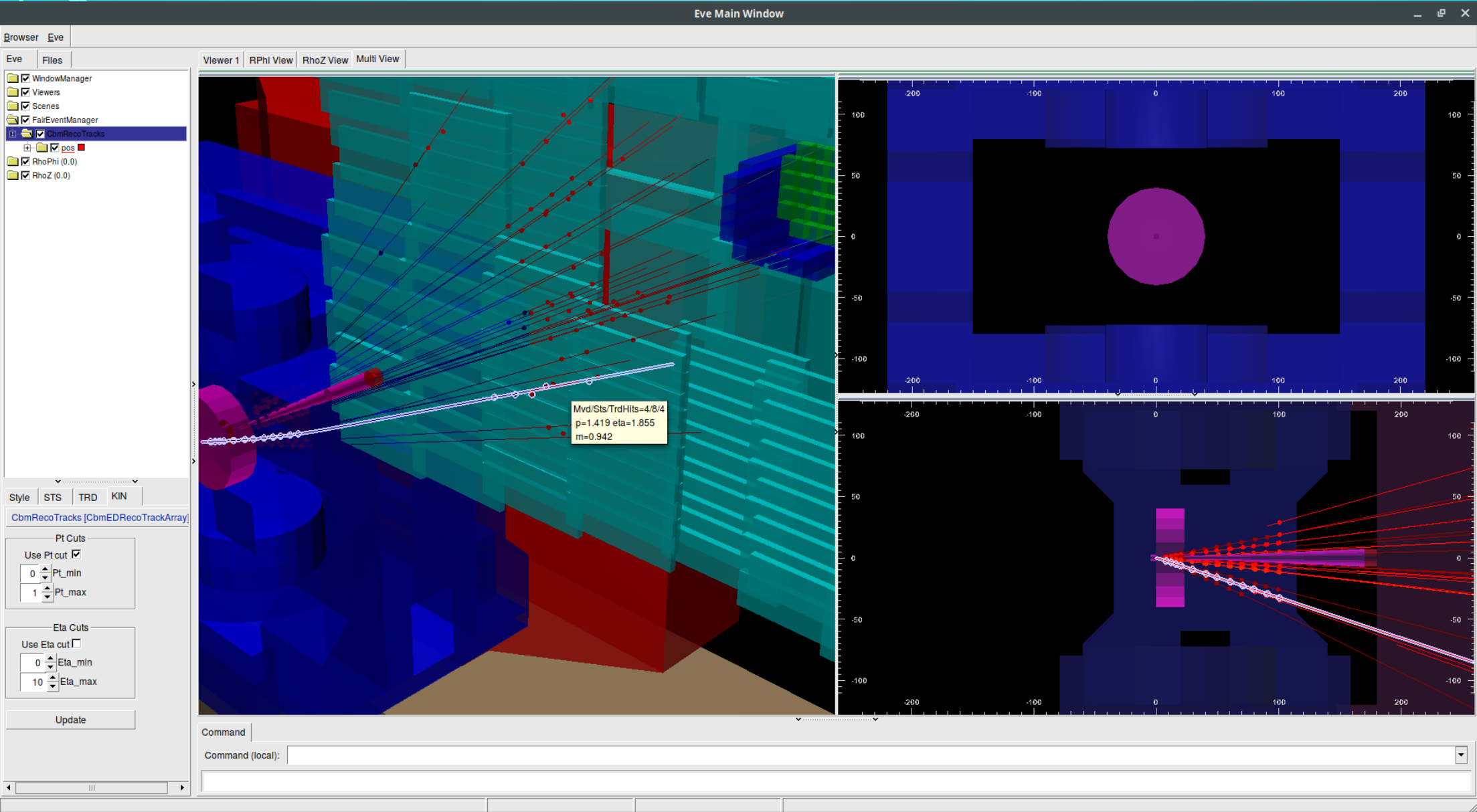
SOME ADDITIONAL IMPROVEMENTS

- FairEveTracks – simpler drawing of tracks
- FairEveRecoTrack – simple drawing of reconstructed track + hits + matched MC track

FAIREVETRACK VS TEVETRACK

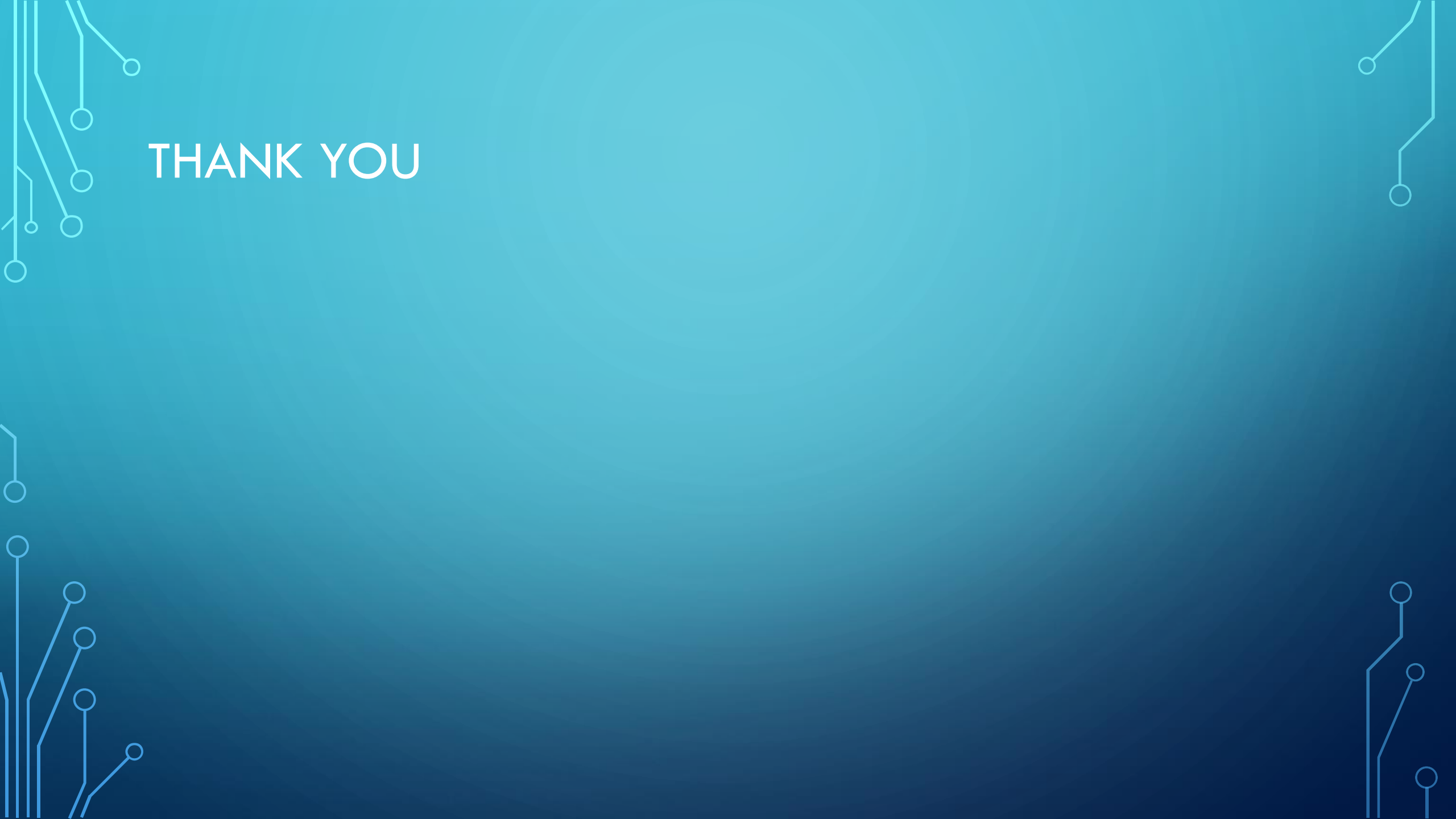
```
for (Int_t n=0; n<Np; n++) {  
    point=tr->GetPoint(n);  
    track->SetPoint(n,point[0],point[1],point[2]);  
    TEveVector pos= TEveVector(point[0], point[1],point[2]);  
    TEvePathMark* path = new TEvePathMark();  
    path->fV=pos ;  
    path->fTime= point[3];  
    if(n==0) {  
        TEveVector Mom= TEveVector(P->Px(), P->Py(),P->Pz());  
        path->fP=Mom;  
    }  
}
```

```
track->SetFirstPoint(mom, pos);  
for(int i=1;i<tr->GetNpoints();i++){  
    tr->GetPoint(i, x, y, z, t);  
    pos.SetXYZ(x,y,z);  
    track->SetNextPoint(pos);  
}
```



SUMMARY

- New classes simplify drawing tracks (reconstructed and MC), this can be done „now”
- Redesign of ED mean:
 - Clean separation of „Event Display logic”
 - Clean separation of GUI
 - Breaking the backward compatibility



THANK YOU