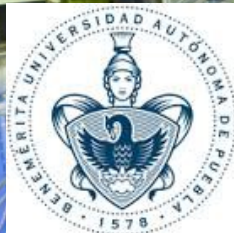


ALICE



Weekly report

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ACO
meeting

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Outline

- The code was written for looking events in chunks with multiplicity and with S_0 selection.
- Some visualizations were found at extreme values:
 - $S_0 < 0.02$, $dN/d\eta > 40$, $N_{ch} > 64$ ($\eta = 1.6$)
 - $S_0 > 0.9$, $dN/d\eta > 40$, $N_{ch} > 64$ ($\eta = 1.6$)

Analysis and run selection

Software: Aliroot:v5-07-20 Aliphysics:vAN-20160204

Event shape classes: (PWGLF/SPECTRA/Spherocity)

Analysis macros: AddTransverseEventShapeTask.C

AliAnaTransverseEventShapeTask.cxx

AliAnaTransverseEventShapeTask.h

LHC15f pass2: (44.6 mill of evts) (after all ev selection)

LHC15g3a3 Monash Tune (43.2 mill of evts) (after all ev selection)

good runs*:

226500, 226495, 226483, 226476, 226472, 226468, 226466,
226452, 226445, 226444, 226225, 226220, 226170, 226062,
225768, 225766, 225763, 225762, 225757, 225753, 225719,
225717, 225716, 225710, 225709, 225708, 225707, 225705,
225587, 225586, 225579, 225578, 225576, 225322, 225315,
225314, 225313, 225310, 225309, 225307, 225305, 225106,
225052, 225051, 225050, 225043, 225041, 225037, 225035,
225031, 225026

(*) <http://twiki.cern.ch/twiki/bin/viewauth/ALICE/PWGLF13TeVanalysis>

Event, track and physics selection

Event Selection

Trigger: KINT7

Rejection of AliESDEvent::IsIncompleteDAQ

Vertex selection

SPD Pile-up rejection

Background rejection

Multivertex Pile-up rejection

low diagonal cut OFO & V0M applied

Vertex conditions for 2015 data (**NEW added**) (this reduce the sample of evts)

<https://twiki.cern.ch/twiki/bin/view/ALICE/PWGPPEvSelRun2pp>

******https://twiki.cern.ch/twiki/bin/view/ALICE/AliceHMTFCodeSnippets#Physics_Selection

Physics Selection

- MinNCrossedRowsTPC = 120; *
- MinRatioCrossedRowsOverFindableClustersTPC=0.8;
- MaxFractionSharedTPCCluster = 0.4;
- Maxchi2perTPCCl=4.;
- Max dcaz ITSTPC=2.0;
- SetDCAToVertex2D(kFALSE);
- SetRequireSigmaToVertex(kFALSE);
- RequireTPCRefit(kTRUE);
- RequireITSRefit(kTRUE);
- AcceptKinkDaughters(kFALSE);
- MaxDCAToVertexXYPtDep("0.0182+0.0350/pt^1.01"); *
- SetMaxChi2TPCConstrainedGlobal(36.);

Track selection taken for each analysis

- So Analysis, Hybrid-track cuts for primary charged particles with $|\eta| < 0.8$ and $0.15 < p_T < 10$ GeV/c.
- $\langle p_T \rangle$ Analysis, Golden-track cuts with $|\eta| < 0.8$ and $0.15 < p_T < 10$ GeV/c.
- Multiplicity:
 - Reference multiplicity selection with $|\eta| < 0.8$

V0M percentil selection

Looking for events with SpheroCity and high Multiplicity

```
Int_t EventRun= fESD->GetRunNumber();
```

To get info

```
TFile *curfile = AliAnalysisManager::GetAnalysisManager()->GetTree()->GetCurrentFile();
```

```
TString fileName = curfile->GetName();
```

```
Int_t fEventInFile = fESD->GetEventNumberInFile();
```

```
while ( fileName.Tokenize(tok,from,"/") ){ N++;
```

```
    if(n==10) chunkname0=tok; }
```

```
chunkname1=chunkname0;
```

To separate the characters

```
while ( chunkname1.Tokenize(tok2,from2,"15000" )){ N2++;
```

```
    if(n2==2) chunkname2=tok2;}
```

```
chunkname=chunkname2;
```

```
Int_t ncarac=strlen(chunkname2);
```

```
Double_t chunknum= atof(chunkname2);
```

```
if(fValES>0){
```

```
    for(Int_t soi=0; soi<Sobins2+1; soi++){
```

```
        if(fValES>=sobinsl[soi] && fValES<sobinsl[soi+1] )
```

To fill for the So mult selection

```
        hSoVsEvntperRun[soi]→Fill(chunknum,fEventInFile,nTracks);
```

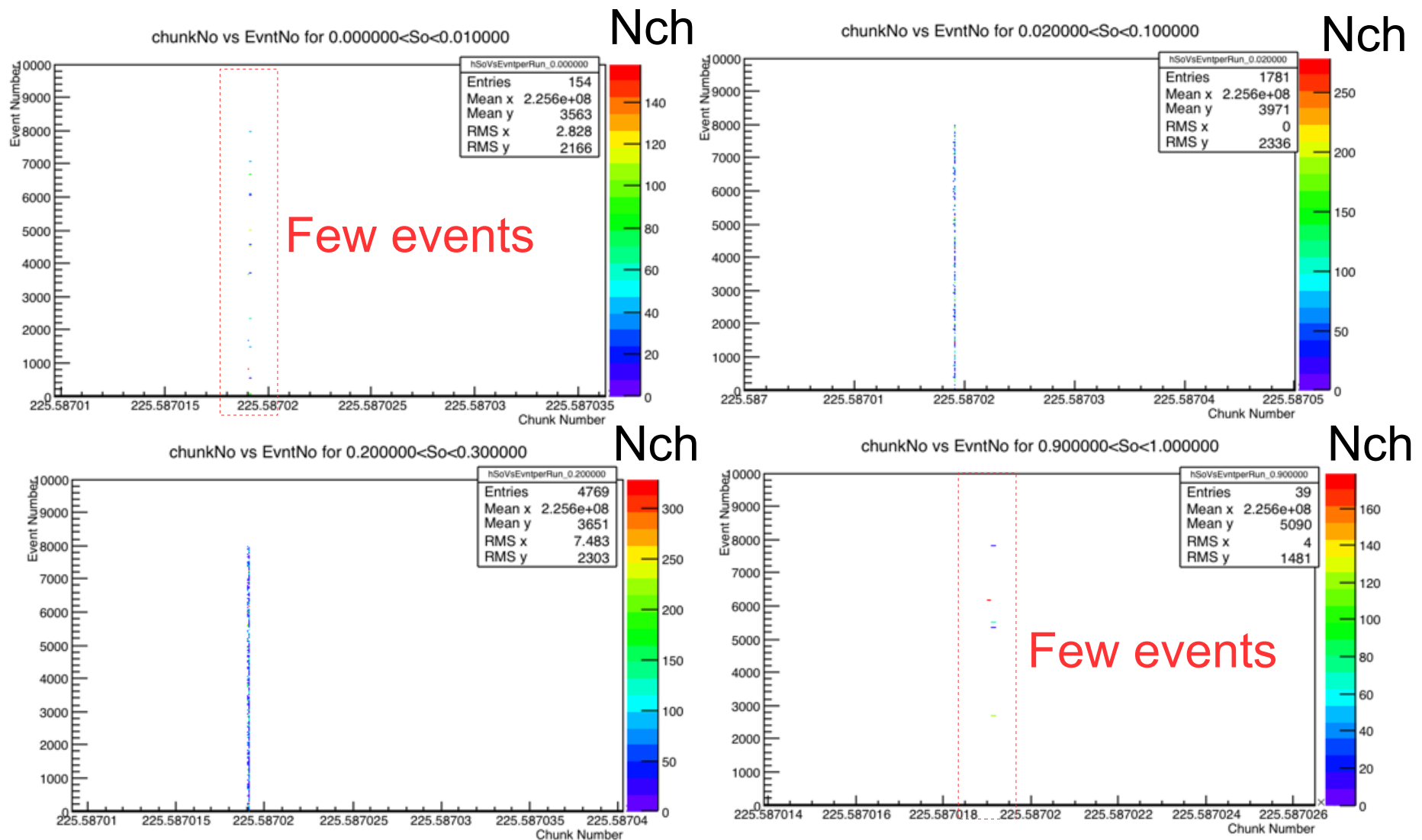
```
    } }
```

Thanks to tips from:

Dr. Antonio,
Dr. Mario,

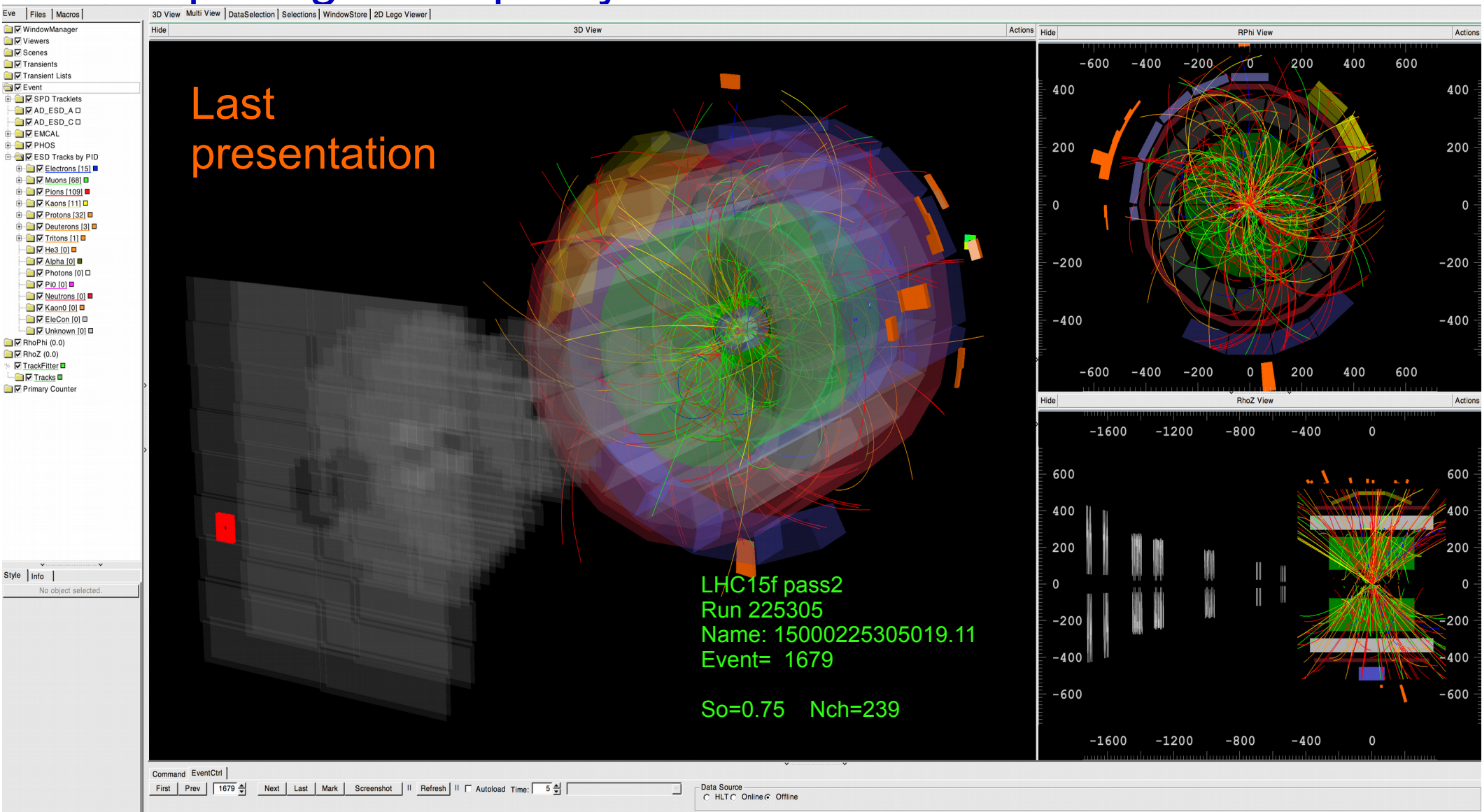
C++ tutorials

Looking for events (locally) with Sphericity and high Multiplicity



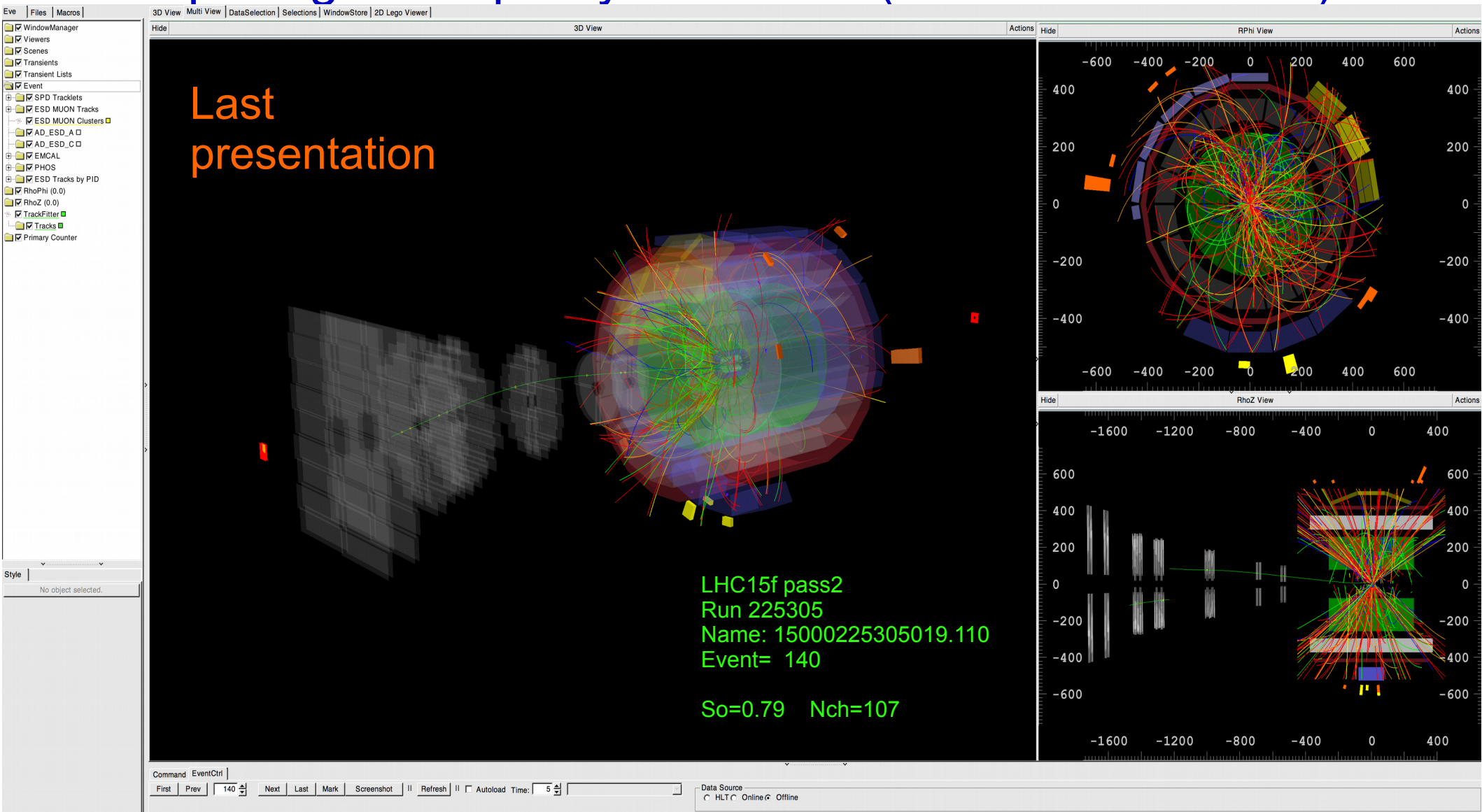
Visualization for events selected (locally) with SpheroCity:

Isotropic high Multiplicity So~0.8



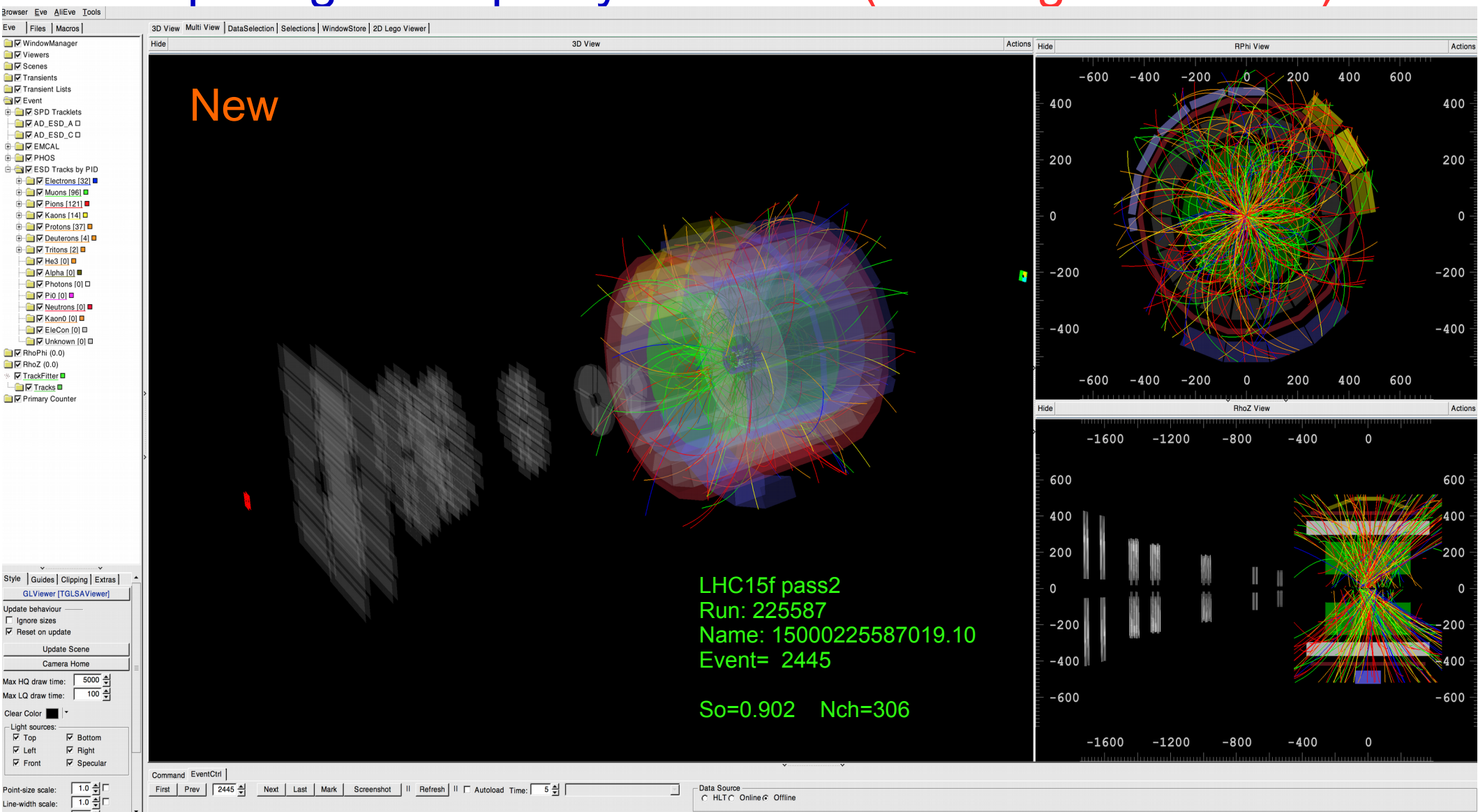
Visualization for events selected (locally) with SpheroCity:

Isotropic high Multiplicity $So \sim 0.8$ (1 mu in muon arm)



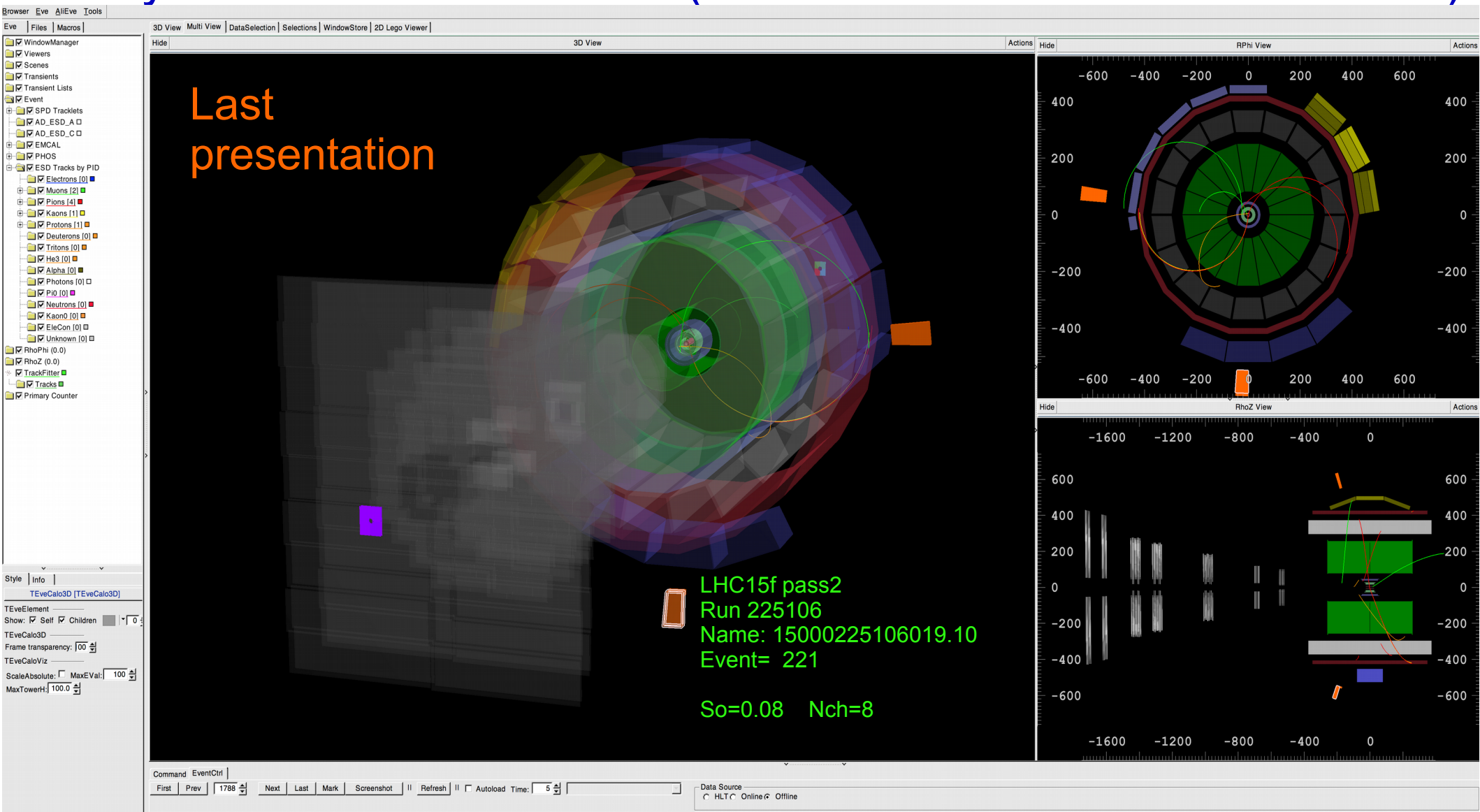
Visualization for events selected (locally) with SpheroCity:

Isotropic high Multiplicity $S_o > 0.9$ (Now high S_o found)



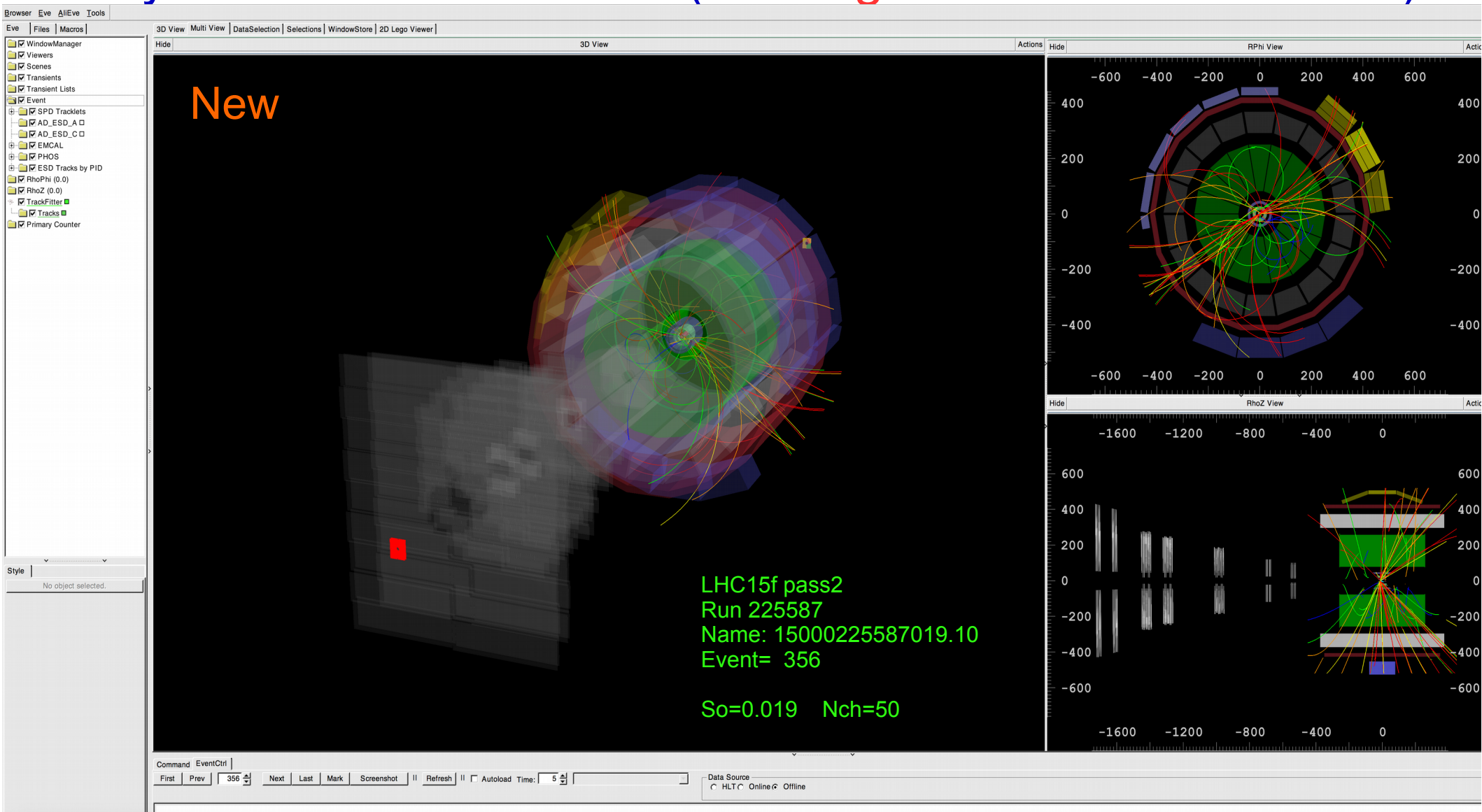
Visualization for events selected (locally) with Sphercity:

Jetty $So < 0.02$ but low mult (last time not HMevent wasfound)



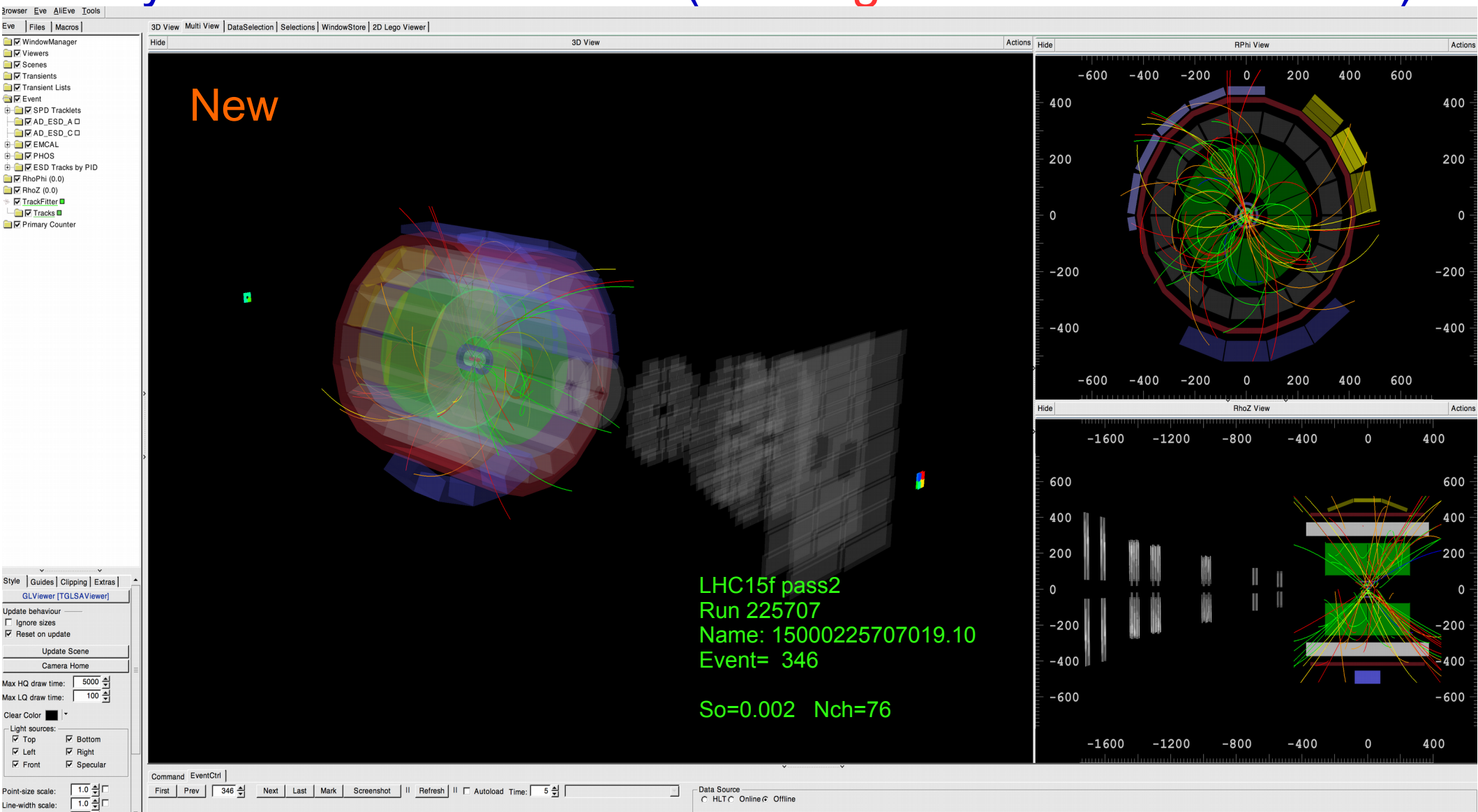
Visualization for events selected (locally) with SpheroCity:

Jetty $So < 0.02$ but low mult (now high mult has been found)



Visualization for events selected (locally) with SpheroCity:

Jetty $So < 0.02$ but low mult (now high mult has been found)



To Do:

- To run the So vs mult selection in grid full mode.
(maybe look other nice visualizations)
- Commit the Task in AliRoot

Thank you!