



WILLIAM & MARY

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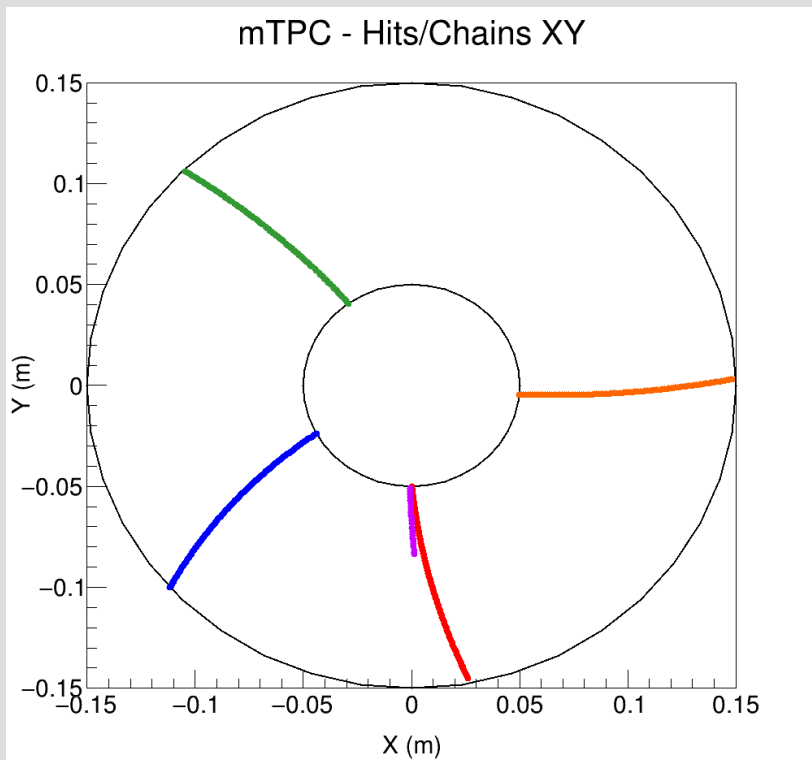
An Event Display for TDIS

Carlos Ayerbe Gayoso

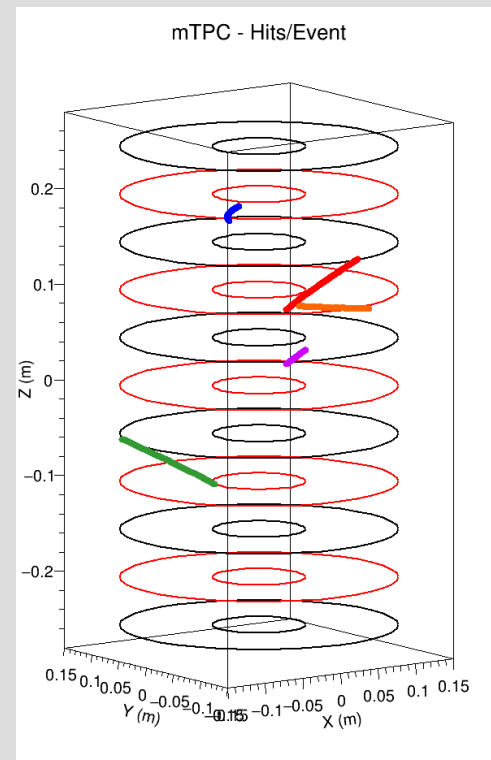
TDIS biweekly Collaboration Meeting
9 July 2022

Just an update

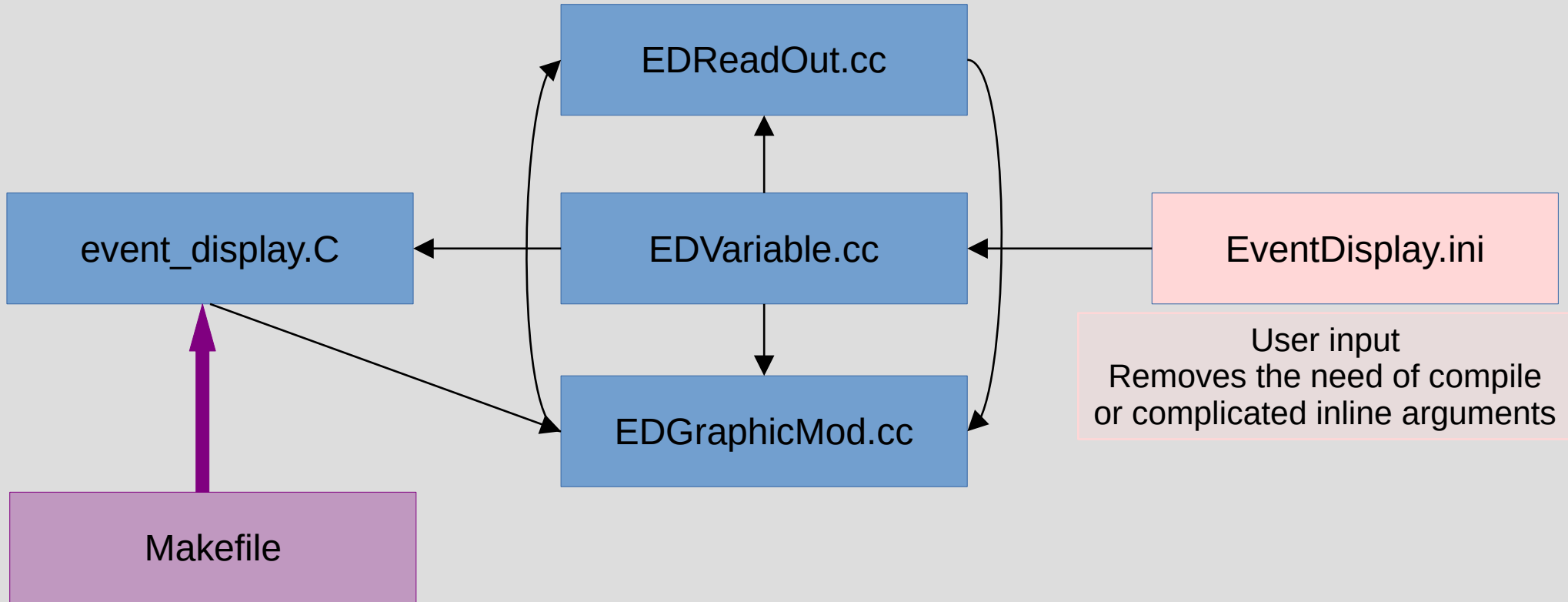
The event display shows the XY projection of the tracks on the mTPC and an interactive 3D version (the user can rotate the box).



The 3D version has been updated showing the HV (red) and the readout surfaces (black)



A new and modular code



Simple way to add different data sources (just ROOT)

- In the EDReadout.cc (hh) module, just need to assign the root branches with the XYZ information to the variables xHits, yHits, zHits.
 - Branches names are different from data to data
 - Right now the code can read g4sbs output and the digitized data converted to ROOT from Rachel's scripts (**TDIS Bi-monthly meeting, 2022 March 31**)
- Adding a different ROOT file (different tree structure), is as simple to add a new method in this module, cloning (kinda) one of the existing methods.

Setting the .ini file

```
# INI file for the Event Display for TDIS.  
# The purpose of this is facilitate the set up  
  
# If a field is indicated as MANDATORY, such field must be filled  
# with a segmentation fault or strage behaviour could of the code.  
  
#MANDATORY  
inputfile ../g4sbsout_EPCEvents_0.root  
  
#inputfile ../merger/TDIS_QE_SuperEvents.root  
#inputfile ../rootfiles/TDIS_QE_10k_20210909.root  
  
# 0 = SBS data. 1= Rachel digidata. DEFAULT 1  
Rootdata 1  
  
#Coordinates printed on screen (0 = none. 1 = verbose. DEFAULT 0)  
Verbose 0  
  
# Number of Events to show. Values are read as integers  
# (1 event by default)  
NoOfEvents 5
```

A simple text file with different options

Name of the file, with path.

Type of data to plot

Output to screen of the XYZ values of each point of each event plotted

Number of events to plot

Future improvements

- Select the event to plot
 - Individual or a range of events
- Add the superevents module for readout
- Add the animated gif option
- Make the readout module even more versatile
 - Allow to set the xHits, yHits, zHits variables de filled by no necessarily by a ROOT file
- Your suggestions...

`https://github.com/ayerbeg/TDIS_mTPC_EventDisplay`