

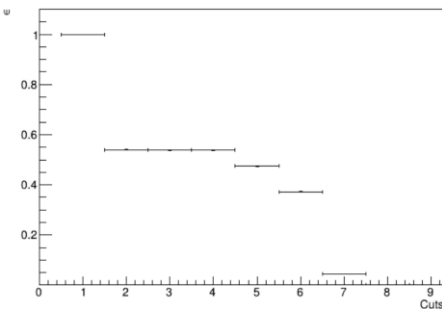
Test for running the ZCharm easyjet framework

Command: ZCharm-ntupler

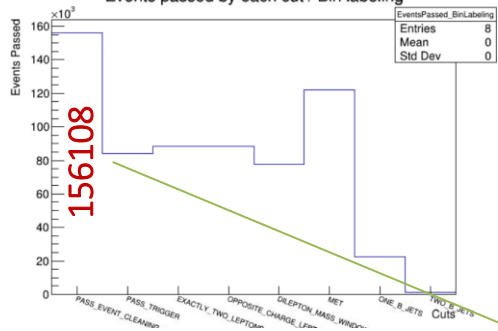
```
/project/etp3/sgoetz/atlasAnalysis/Zcc/testsamples/mc20_13TeV.700324.Sh_2211_Zmumu_maxHTpTV2_CFilterBVeto.deriv.DAOD_PHYS.e8351_s3681_r13167_p5980/DAOD_PHYS.36074740_000051.pool.root.1 --run-config ZCharmAnalysis/RunConfig-ZCharm.yaml --out-file output_PHYS_ZCharm.root --evtMax 200000
```

My Results

StandardCutFlow of ZCharm cuts



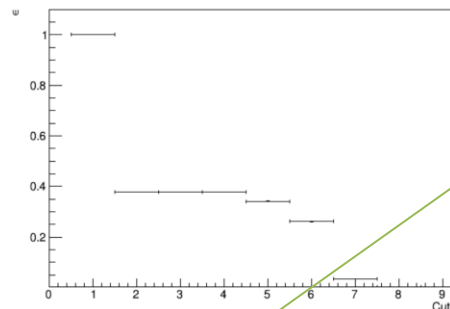
Events passed by each cut / Bin labeling



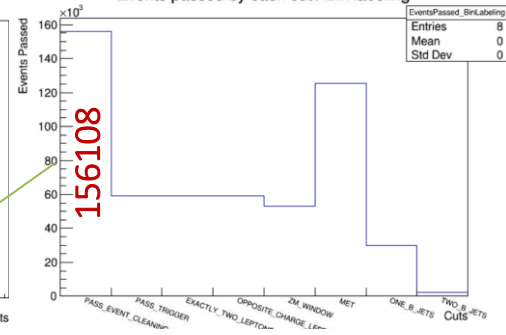
Comparison to

/afs/cern.ch/user/y/yiyu/eos/ZCharm/team_test/for_CxAOD

StandardCutFlow of Z+c(c) cuts



Events passed by each cut / Bin labeling



Equal number of events after the event cleaning

Why are the efficiencies / the events passed by each cut different?

Modification ideas for a better framework comparison

- Set jet cuts in easyjet in [ZCharmSelectorAlg.cxx](#) always to true

```
153     m_bools.at(ZCC::IS_ee) = false;  
154     m_bools.at(ZCC::IS_mm) = false;  
155     m_bools.at(ZCC::IS_em) = false;  
156  
157     m_bools.at(ZCC::pass_trigger_SLT) = false;  
158     m_bools.at(ZCC::pass_trigger_DLT) = false;  
159  
160     m_bools.at(ZCC::PASS_TRIGGER) = false;  
161     m_bools.at(ZCC::EXACTLY_TWO_LEPTONS) = false;  
162     m_bools.at(ZCC::OPPOSITE_CHARGE_LEPTONS) = false;  
163     m_bools.at(ZCC::DILEPTON_MASS_WINDOW) = false;  
164  
165     m_bools.at(ZCC::MET) = false;  
166     m_bools.at(ZCC::ONE_B_JETS) = false;  
167     m_bools.at(ZCC::TWO_B_JETS) = false;
```

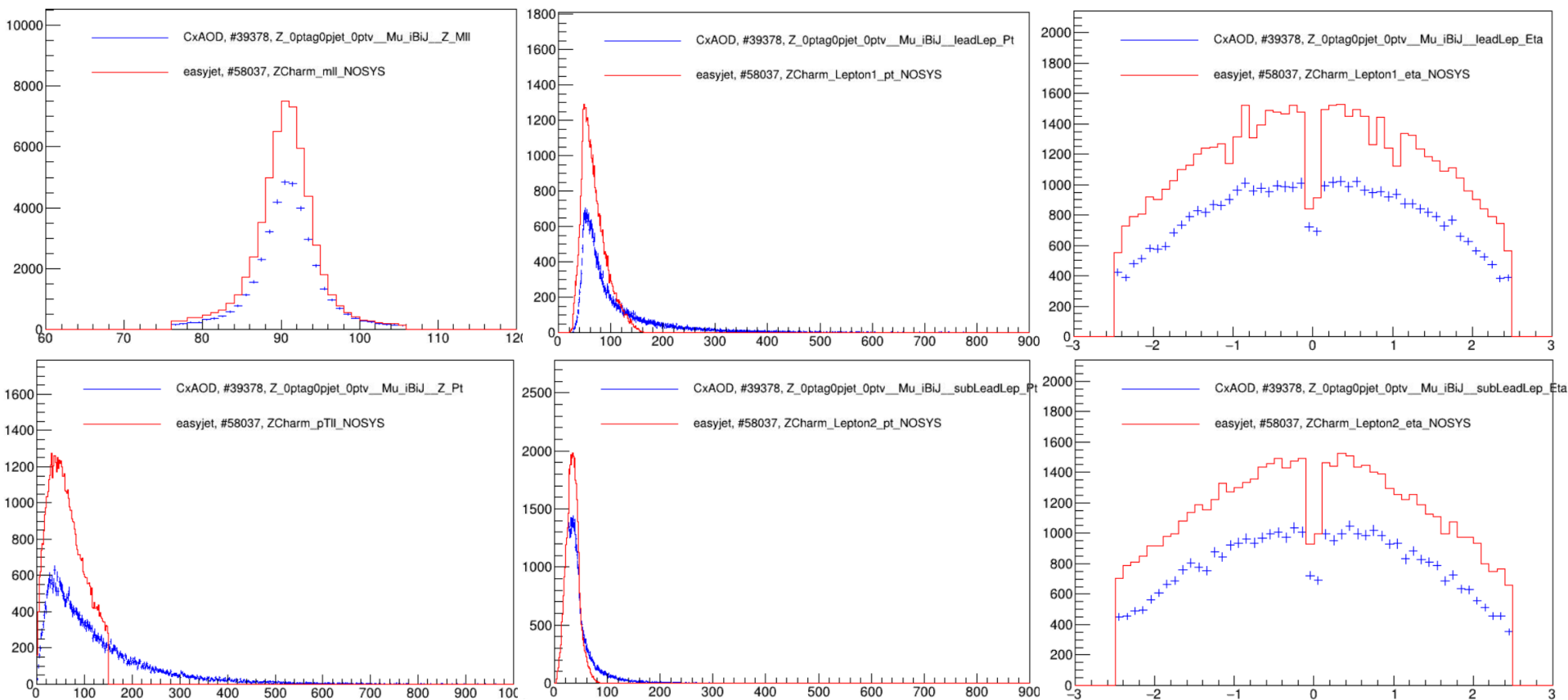
In the CxAOD framework, we don't obtain reasonable numbers for the tagging yet so, we need the histograms already after the MET cut

- Set `m_weight` in the CxAOD framework [before the histogram filling](#) to 1.0

Postprocessing the minitree from easyjet currently seems not to provide a correct value for the number of weights so we could fill for the comparison the histograms in CxAOD with a weight of 1.0

Comparison of distributions

The large difference is unexpected compared to the much better comparable number of events from the cutflow after the MET cut (see Zcc meeting on 26/2/2024) => Slide 1 might explain this



Cuts applied in the CxAODMaker

