News

- mc12 VBFH(125)—>bb and ggH(125)—>bb "filtered" samples are running (AODs are done, D3PDs official production launched on Monday) —> should be available for the new year

- mc11 jobOptions: almost done, still trying to understand with Heather&Giacinto if the filter (4 leading jets pT>20GeV) on ggF sample may cause a bias to our analysis.
  Hopefully, the request will be made before Xmas

- mc12&11 slimming (with on-line b-jets info) done

- run2 trigger studies: some progress in understanding JVF and PU for 14TeV
  —> moving forward with L1 items efficiency estimate wrt selected events

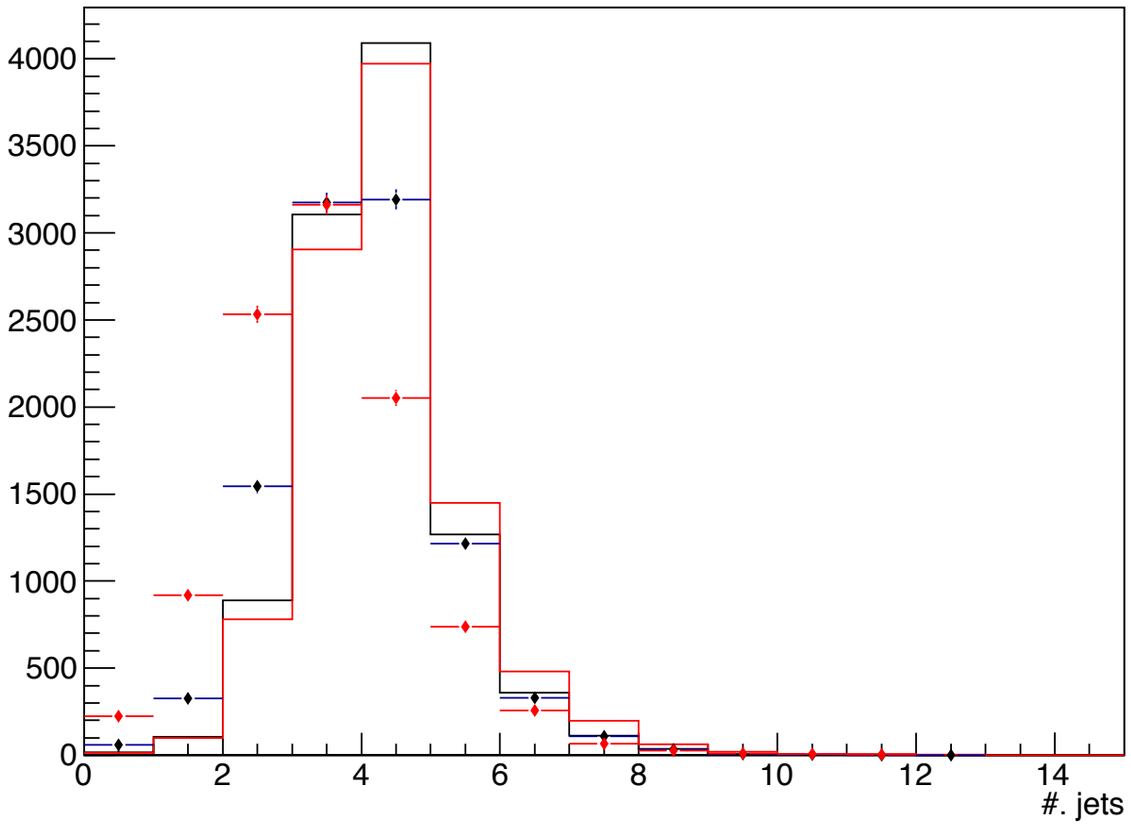
Run2 trigger

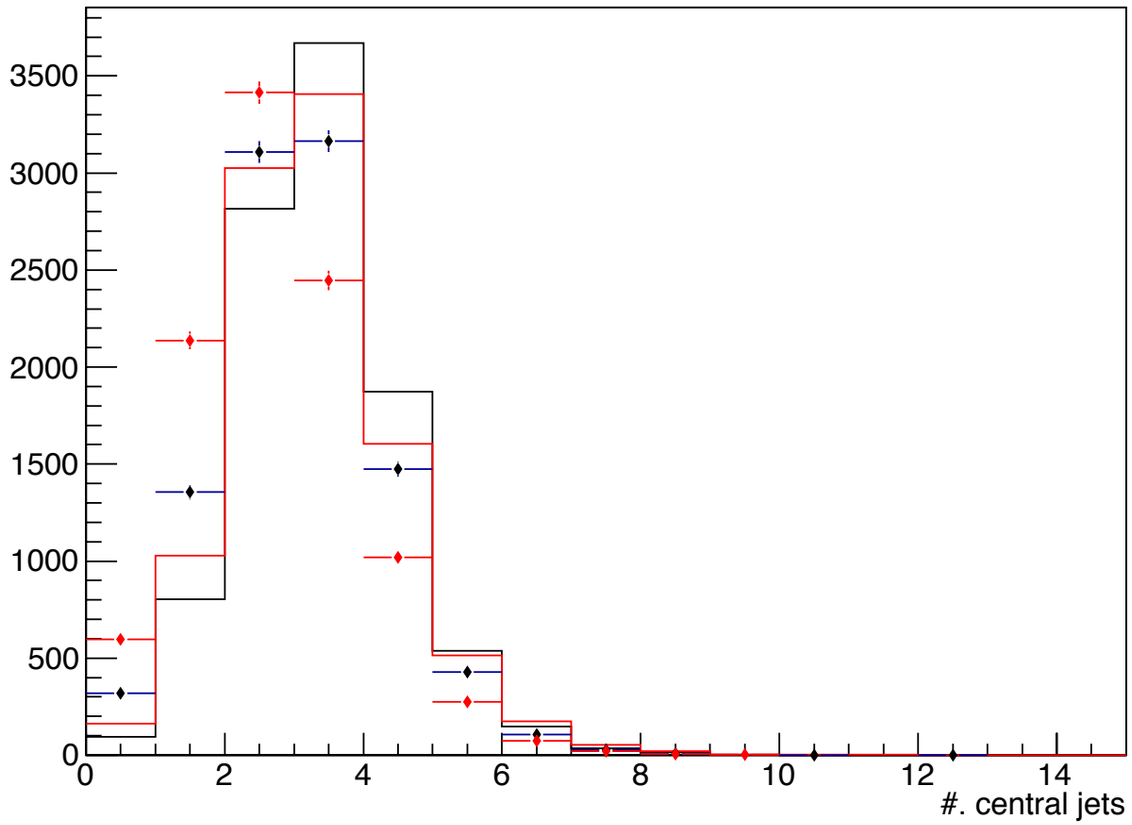
NUMBERS STILL TO BE TAKEN WITH GREAT CARE, PLEASE...

L1 items efficiencies
(passing L1 / selected
—> at the D3PD level, some infos missing, no 14TeV 50 ns sample available)

	8TeV	cut eff	+/- err	tot eff	+/- err	14TeV(25ns)	cut eff	+/- err	tot eff	+/- err
no cut	10000					10000				
PV	9996	1,00	0,00	1,000	0,000	9993	1,00	0,00	0,999	0,000
LAr	9996	1,00	0,00	1,000	0,000	9993	1,00	0,00	0,999	0,000
EOR	8839	0,88	0,00	0,884	0,003	9993	1,00	0,00	0,999	0,000
JVF	4624	0,52	0,01	0,462	0,005	3955	0,40	0,00	0,396	0,005
4J50	490	0,11	0,00	0,049	0,002	1103	0,11	0,00	0,110	0,003
Btag	268	0,55	0,02	0,027	0,002	377	0,34	0,01	0,038	0,002
VBF	156	0,58	0,03	0,016	0,001	203	0,54	0,03	0,020	0,001
L1_4J10	*99*	*0,63*	*0,04*	*0,010*	*0,001*	*131*	*0,65*	*0,03*	*0,013*	*0,001*
L1_4J15	*93*	*0,60*	*0,04*	*0,009*	*0,001*	*98*	*0,48*	*0,04*	*0,010*	*0,001*
L1_4J20						*73*	*0,36*	*0,03*	*0,007*	*0,001*
L1_2J15_2FJ15						*23*	*0,11*	*0,02*	*0,002*	*0,000*
L1_3J15_FJ15						*100*	*0,49*	*0,04*	*0,010*	*0,001*

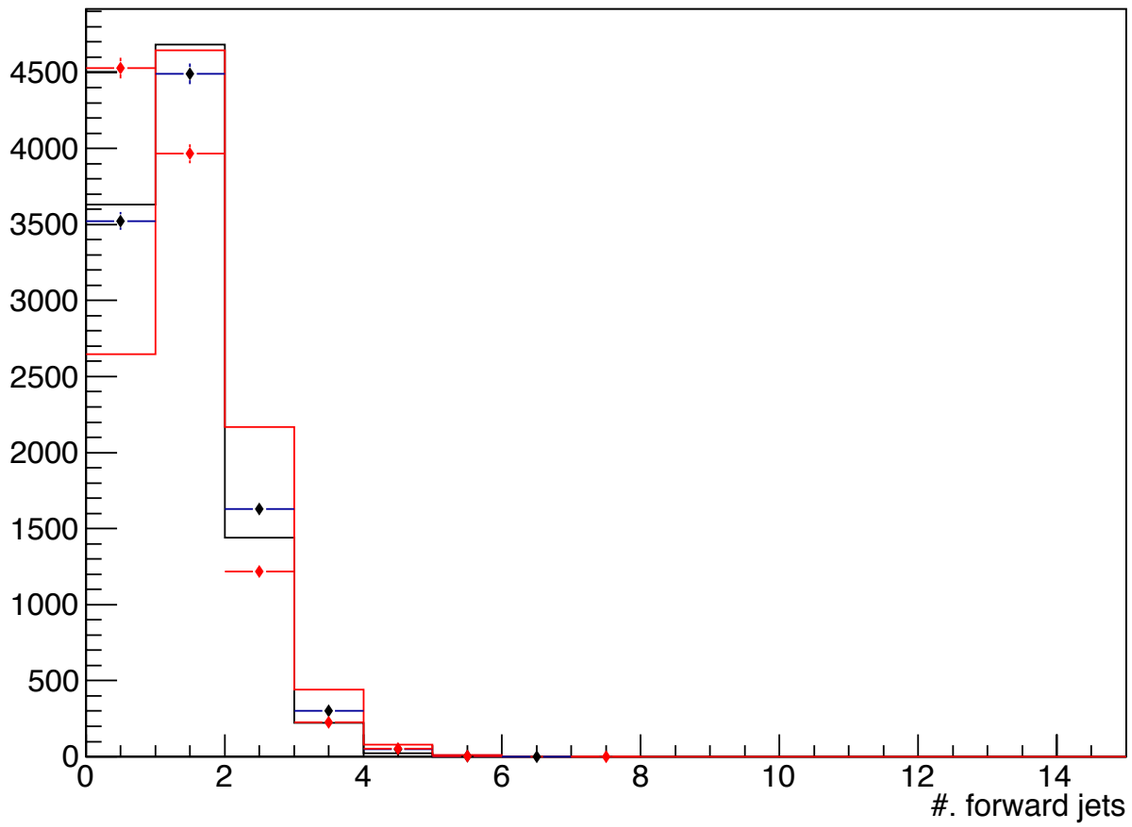
- same cutflow as in 8TeV analysis except for the cut on JVF (now it is: at least 4 jets with (|JVF|>0.5 && pT<50GeV && eta<2.4) || pT>50GeV; original cut: at least 4 jets with |JVF|>0.5) —> not a dramatic change for 8 TeV, really sensitive for 14 TeV
- trigger is not applied
- dedicated jet calibrations used for 8 TeV and 14 TeV (25ns, 80mu)
- VBF is cut-based (mJJ>500, DetaJJ>3)
- grey cells show that @14TeV we do not expect a decrease in the selection efficiency (all the selection without trigger)
- violet cells show that even after requiring L1 4jets items the efficiencies are comparable
- NEXT: play with L1_jet variables to mimic different L1 items

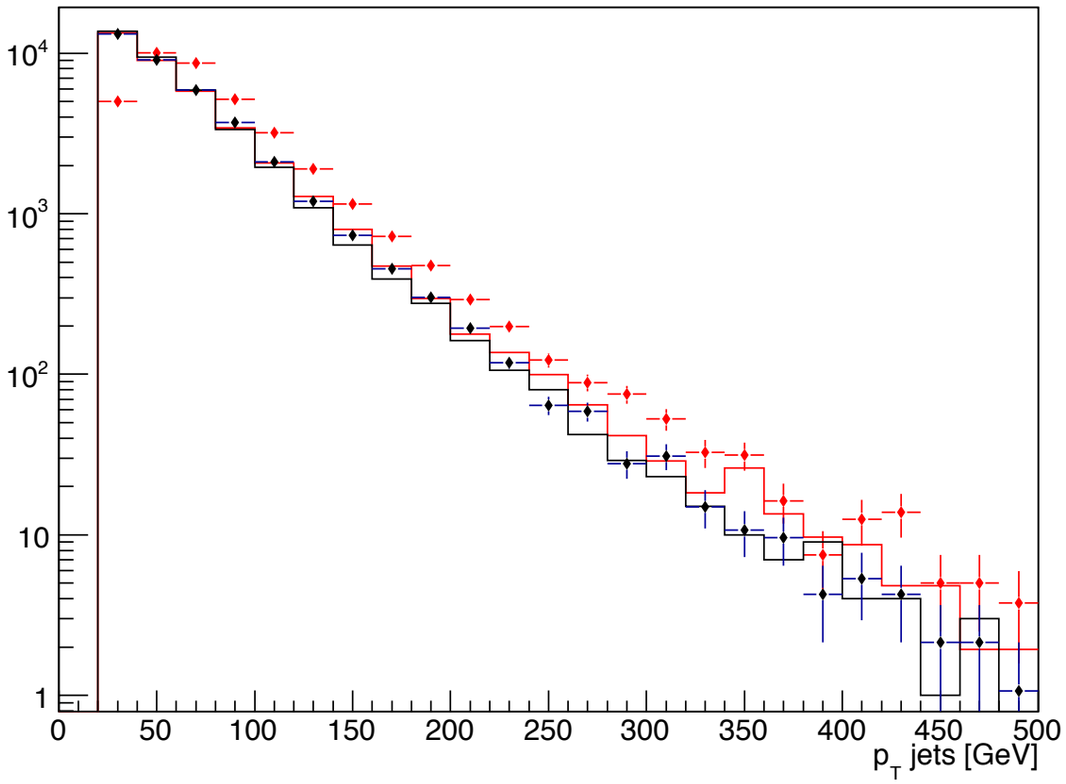


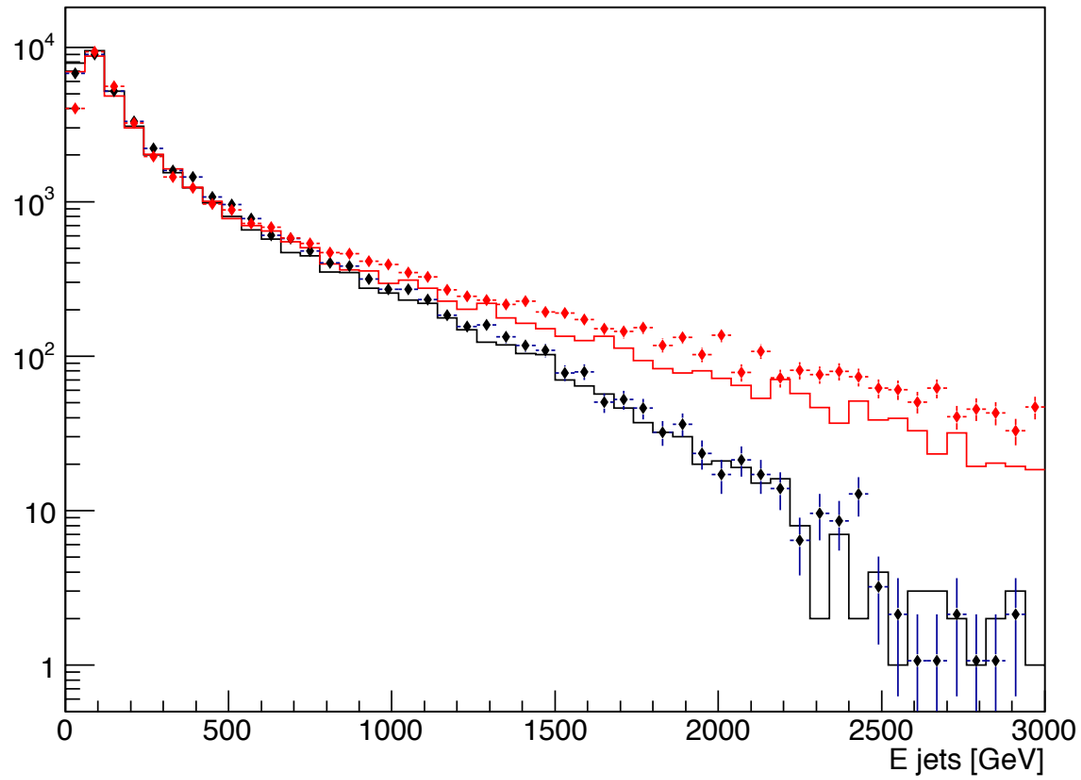


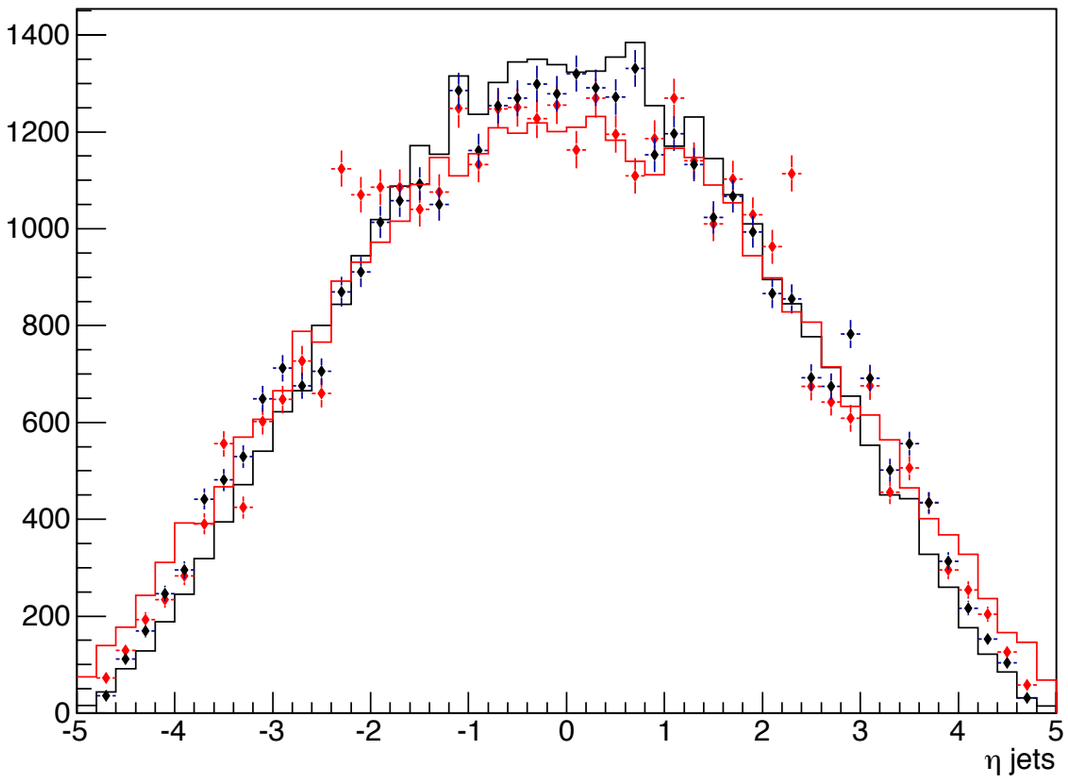
-mc8TeV (10K events)
-mc14TeV (10k events)

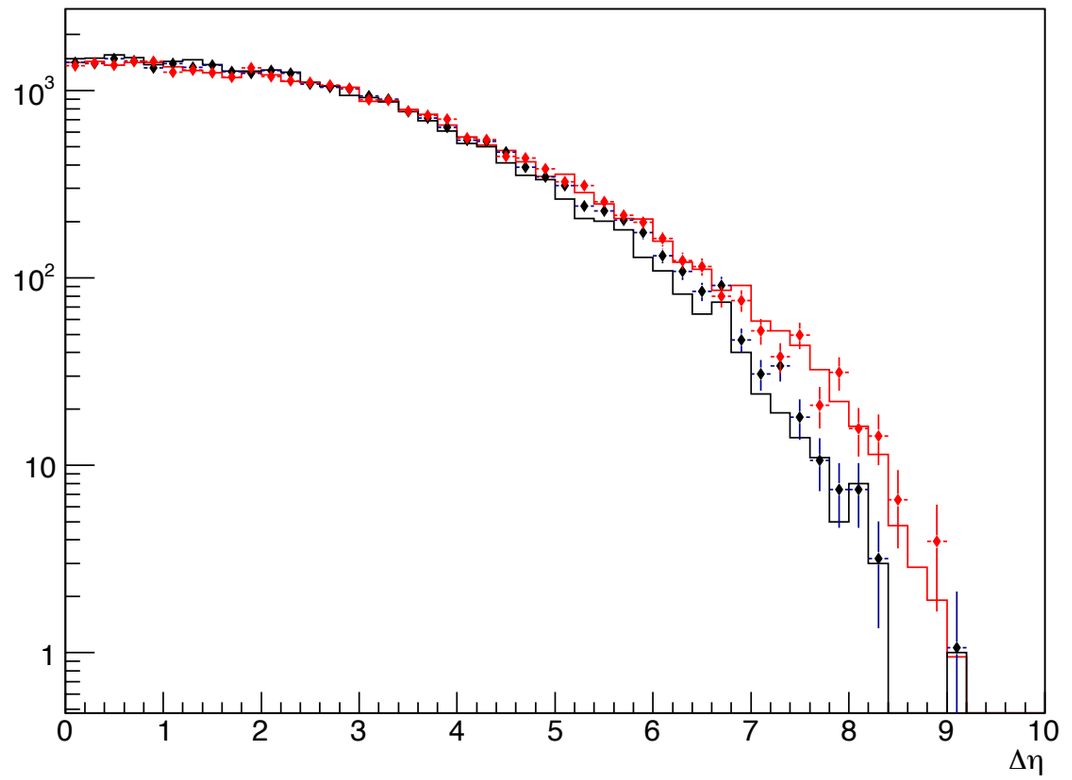
-histograms truth jets (AntiKt4Truth with p_T>20 GeV)
-points reco jets (AntiKt4TopoEM with **|jvtxf|>0.5** and 20<p_T<50 GeV, |eta|<2.4, OR p_T>50GeV)




10^4
10^3
10^2
10
1
0
50
100
150
200
250
300
350
400
450
500
p_T jets [GeV]


10^4
10^3
10^2
10
1
0
500
1000
1500
2000
2500
3000
E jets [GeV]


1400
1200
1000
800
600
400
200
0
-5
-4
-3
-2
-1
0
1
2
3
4
5
η jets


10^3
10^2
10
1
0
1
2
3
4
5
6
7
8
9
10
Δη