

	raw entries	step-by-step eff	overall eff
Init	802291.0	1.00000	1.00000
pT	598010.0	0.74538	0.74538
eta	597114.0	0.99850	0.74426
ID	107882.0	0.18067	0.13447
IP	100382.0	0.93048	0.12512
convVeto and missingHits	94433.0	0.94074	0.11770

Table 1: cutflow of Electron

	raw entries	step-by-step eff	overall eff
Init	594640.0	1.00000	1.00000
pT	375539.0	0.63154	0.63154
eta	375248.0	0.99923	0.63105
ID	270601.0	0.72113	0.45507
IP	178312.0	0.65895	0.29987
ISO	126021.0	0.70674	0.21193

Table 2: cutflow of Muon

1 Signal MC

The file is "2016/mc/tttt/outTree_0.root".

1.1 cutflow of objects

1.2 cutflow of categories

1.3 summary of yields

2 Data

The file is "2016/data/jetHT_2016F/outTree_0.root".

	raw entries	step-by-step eff	overall eff
Init	517609.0	1.00000	1.00000
pT	405314.0	0.78305	0.78305
eta	393812.0	0.97162	0.76083
IP	385986.0	0.98013	0.74571
decayMode	247916.0	0.64229	0.47896
VSjet	143541.0	0.57899	0.27732
VSe	118608.0	0.82630	0.22915
VSmu	25800.0	0.21752	0.04984

Table 3: cutflow of Tau

	raw entries	step-by-step eff	overall eff
Init	4295204.0	1.00000	1.00000
pT	3327166.0	0.77462	0.77462
eta	3065522.0	0.92136	0.71371
ID	3047628.0	0.99416	0.70954
BTag	909393.0	0.29839	0.21172

Table 4: cutflow of Jet

	raw entries	weighted	step-by-step eff	overall eff
Initial	304927.0	2365.892	1.00000	1.00000
METFilter	304927.0	2362.003	0.99836	0.99836
Trigger	304927.0	2180.888	0.92332	0.92180
HT	304927.0	2161.486	0.99110	0.91360
N_{τ}	22018.0	148.966	0.06892	0.06296
N_{lep}	12446.0	80.046	0.53734	0.03383
N_{jet}	7920.0	47.542	0.59394	0.02009
N_{bjet}	7147.0	42.460	0.89311	0.01795

Table 5: cutflow of category 1Tau0L

	raw entries	weighted	step-by-step eff	overall eff
Initial	304927.0	2365.892	1.00000	1.00000
METFilter	304927.0	2362.003	0.99836	0.99836
Trigger	304927.0	2180.888	0.92332	0.92180
HT	304927.0	2161.486	0.99110	0.91360
N_{τ}	22018.0	148.966	0.06892	0.06296
N_{lep}	7761.0	56.057	0.37631	0.02369
N_{jet}	6435.0	46.407	0.82786	0.01962
N_{bjet}	5668.0	42.112	0.90744	0.01780

Table 6: cutflow of category 1Tau1L

	raw entries	weighted	step-by-step eff	overall eff
Initial	304927.0	2365.892	1.00000	1.00000
METFilter	304927.0	2362.003	0.99836	0.99836
Trigger	304927.0	2180.888	0.92332	0.92180
HT	304927.0	2161.486	0.99110	0.91360
N_{τ}	22018.0	148.966	0.06892	0.06296
N_{lep}	1674.0	11.821	0.07935	0.00500
N_{jet}	1617.0	11.331	0.95855	0.00479
N_{bjet}	1396.0	9.986	0.88135	0.00422

Table 7: cutflow of category 1Tau2L

	raw entries	weighted	step-by-step eff	overall eff
Initial	304927.0	2365.892	1.00000	1.00000
METFilter	304927.0	2362.003	0.99836	0.99836
Trigger	304927.0	2180.888	0.92332	0.92180
HT	304927.0	2161.486	0.99110	0.91360
N_{τ}	22018.0	148.966	0.06892	0.06296
N_{lep}	134.0	1.026	0.00689	0.00043
N_{jet}	134.0	1.026	1.00000	0.00043
N_{bjet}	110.0	0.846	0.82453	0.00036

Table 8: cutflow of category 1Tau3L

	raw entries	weighted	step-by-step eff	overall eff
Initial	304927.0	2365.892	1.00000	1.00000
METFilter	304927.0	2362.003	0.99836	0.99836
Trigger	304927.0	2180.888	0.92332	0.92180
HT	304927.0	2161.486	0.99110	0.91360
N_{τ}	678.0	4.320	0.00200	0.00183
N_{lep}	458.0	2.958	0.68471	0.00125
N_{jet}	377.0	2.464	0.83306	0.00104
N_{bjet}	346.0	2.301	0.93364	0.00097

Table 9: cutflow of category 2Tau0L

	raw entries	weighted	step-by-step eff	overall eff
Initial	304927.0	2365.892	1.00000	1.00000
METFilter	304927.0	2362.003	0.99836	0.99836
Trigger	304927.0	2180.888	0.92332	0.92180
HT	304927.0	2161.486	0.99110	0.91360
N_{τ}	678.0	4.320	0.00200	0.00183
N_{lep}	196.0	1.154	0.26708	0.00049
N_{jet}	191.0	1.129	0.97830	0.00048
N_{bjet}	164.0	0.918	0.81313	0.00039

Table 10: cutflow of category 2Tau1L

	raw entries	weighted	step-by-step eff	overall eff
Initial	304927.0	2365.892	1.00000	1.00000
METFilter	304927.0	2362.003	0.99836	0.99836
Trigger	304927.0	2180.888	0.92332	0.92180
HT	304927.0	2161.486	0.99110	0.91360
N_{τ}	678.0	4.320	0.00200	0.00183
N_{lep}	24.0	0.208	0.04821	0.00009
N_{jet}	24.0	0.208	1.00000	0.00009
N_{bjet}	20.0	0.160	0.76606	0.00007

Table 11: cutflow of category 2Tau2L

tttt_test	Nentries	Weighted	sumOfWeight	cross section	Lumi	yield
1Tau0L	7147	42.460	2676.926	11.970	16.500	3.133
1Tau1L	5668	42.112	2676.926	11.970	16.500	3.107
1Tau2L	1396	9.986	2676.926	11.970	16.500	0.737
1Tau3L	110	0.846	2676.926	11.970	16.500	0.062
2Tau0L	346	2.301	2676.926	11.970	16.500	0.170
2Tau1L	164	0.918	2676.926	11.970	16.500	0.068
2Tau2L	20	0.160	2676.926	11.970	16.500	0.012

Table 12: raw entries, weighted entries, sumOfWeight, cross section in categories

2.1 cutflow of objects

2.2 cutflow of categories

2.3 summary of yields

	raw entries	step-by-step eff	overall eff
Init	772627.0	1.00000	1.00000
pT	512314.0	0.66308	0.66308
eta	511250.0	0.99792	0.66170
ID	3405.0	0.00666	0.00441
IP	2334.0	0.68546	0.00302
convVeto and missingHits	2076.0	0.88946	0.00269

Table 13: cutflow of Electron

	raw entries	step-by-step eff	overall eff
Init	598327.0	1.00000	1.00000
pT	315488.0	0.52728	0.52728
eta	314867.0	0.99803	0.52625
ID	39332.0	0.12492	0.06574
IP	17138.0	0.43573	0.02864
ISO	1637.0	0.09552	0.00274

Table 14: cutflow of Muon

	raw entries	step-by-step eff	overall eff
Init	247160.0	1.00000	1.00000
pT	149826.0	0.60619	0.60619
eta	137590.0	0.91833	0.55668
IP	115717.0	0.84103	0.46819
decayMode	30958.0	0.26753	0.12525
VSjet	4944.0	0.15970	0.02000
VSe	4378.0	0.88552	0.01771
VSmu	3249.0	0.74212	0.01315

Table 15: cutflow of Tau

	raw entries	step-by-step eff	overall eff
Init	6884442.0	1.00000	1.00000
pT	4340274.0	0.63045	0.63045
eta	3764512.0	0.86734	0.54681
ID	3754911.0	0.99745	0.54542
BTag	328190.0	0.08740	0.04767

Table 16: cutflow of Jet

	raw entries	weighted	step-by-step eff	overall eff
Initial	254987.0	922507.000	1.00000	1.00000
METFilter	254987.0	911092.000	0.98763	0.98763
Trigger	254987.0	284103.000	0.31183	0.30797
HT	254987.0	254987.000	0.89752	0.27641
N_{τ}	1283.0	1283.000	0.00503	0.00139
N_{lep}	1258.0	1258.000	0.98051	0.00136
N_{jet}	94.0	94.000	0.07472	0.00010
N_{bjet}	24.0	24.000	0.25532	0.00003

Table 17: cutflow of category 1Tau0L

	raw entries	weighted	step-by-step eff	overall eff
Initial	254987.0	922507.000	1.00000	1.00000
METFilter	254987.0	911092.000	0.98763	0.98763
Trigger	254987.0	284103.000	0.31183	0.30797
HT	254987.0	254987.000	0.89752	0.27641
N_{τ}	1283.0	1283.000	0.00503	0.00139
N_{lep}	25.0	25.000	0.01949	0.00003
N_{jet}	7.0	7.000	0.28000	0.00001
N_{bjet}	3.0	3.000	0.42857	0.00000

Table 18: cutflow of category 1Tau1L

	raw entries	weighted	step-by-step eff	overall eff
Initial	254987.0	922507.000	1.00000	1.00000
METFilter	254987.0	911092.000	0.98763	0.98763
Trigger	254987.0	284103.000	0.31183	0.30797
HT	254987.0	254987.000	0.89752	0.27641
N_{τ}	1283.0	1283.000	0.00503	0.00139
N_{lep}	0.0	0.000	0.00000	0.00000
N_{jet}	0.0	0.000	-nan	0.00000
N_{bjet}	0.0	0.000	-nan	0.00000

Table 19: cutflow of category 1Tau2L

	raw entries	weighted	step-by-step eff	overall eff
Initial	254987.0	922507.000	1.00000	1.00000
METFilter	254987.0	911092.000	0.98763	0.98763
Trigger	254987.0	284103.000	0.31183	0.30797
HT	254987.0	254987.000	0.89752	0.27641
N_{τ}	1283.0	1283.000	0.00503	0.00139
N_{lep}	0.0	0.000	0.00000	0.00000
N_{jet}	0.0	0.000	-nan	0.00000
N_{bjet}	0.0	0.000	-nan	0.00000

Table 20: cutflow of category 1Tau3L

	raw entries	weighted	step-by-step eff	overall eff
Initial	254987.0	922507.000	1.00000	1.00000
METFilter	254987.0	911092.000	0.98763	0.98763
Trigger	254987.0	284103.000	0.31183	0.30797
HT	254987.0	254987.000	0.89752	0.27641
N_{τ}	5.0	5.000	0.00002	0.00001
N_{lep}	5.0	5.000	1.00000	0.00001
N_{jet}	0.0	0.000	0.00000	0.00000
N_{bjet}	0.0	0.000	-nan	0.00000

Table 21: cutflow of category 2Tau0L

	raw entries	weighted	step-by-step eff	overall eff
Initial	254987.0	922507.000	1.00000	1.00000
METFilter	254987.0	911092.000	0.98763	0.98763
Trigger	254987.0	284103.000	0.31183	0.30797
HT	254987.0	254987.000	0.89752	0.27641
N_{τ}	5.0	5.000	0.00002	0.00001
N_{lep}	0.0	0.000	0.00000	0.00000
N_{jet}	0.0	0.000	-nan	0.00000
N_{bjet}	0.0	0.000	-nan	0.00000

Table 22: cutflow of category 2Tau1L

	raw entries	weighted	step-by-step eff	overall eff
Initial	254987.0	922507.000	1.00000	1.00000
METFilter	254987.0	911092.000	0.98763	0.98763
Trigger	254987.0	284103.000	0.31183	0.30797
HT	254987.0	254987.000	0.89752	0.27641
N_{τ}	5.0	5.000	0.00002	0.00001
N_{lep}	0.0	0.000	0.00000	0.00000
N_{jet}	0.0	0.000	-nan	0.00000
N_{bjet}	0.0	0.000	-nan	0.00000

Table 23: cutflow of category 2Tau2L

jetHT_2016F_test	Nentries	Weighted	sumOfWeight	cross section	Lumi	yield
1Tau0L	24	24.000	922507.000	1.000	16.500	0.000
1Tau1L	3	3.000	922507.000	1.000	16.500	0.000
1Tau2L	0	0.000	922507.000	1.000	16.500	0.000
1Tau3L	0	0.000	922507.000	1.000	16.500	0.000
2Tau0L	0	0.000	922507.000	1.000	16.500	0.000
2Tau1L	0	0.000	922507.000	1.000	16.500	0.000
2Tau2L	0	0.000	922507.000	1.000	16.500	0.000

Table 24: raw entries, weighted entries, sumOfWeight, cross section in categories