Table 1: description of the different cuts

Cut 0	INITIAL
Cut 1	OBSV
Cut 2	TRIGGER
Cut 3	$\geq$1 TLEP
Cut 4	MET
Cut 5	ISO
Cut 6	!DILEP
Cut 7	!Z
Cut 8	!CONV
Cut 9	!DIFFZ
Cut 10	!QCD
Cut 11	SI GOOD
Cut 12	TAGGABLE SECVTX
Cut 13	TAGGABLE SECVTX (1 b-jets)
Cut 14	TAGGABLE SECVTX (2 b-jets)
Cut 15	$\geq$1 events with positive (SECVTX)
Cut 16	$\geq$1 events with positive (SECVTX) SF taken randomly into account
Cut 17	$\geq$2 events with positive (SECVTX)
Cut 18	$\geq$1 events with positive BTAG (SECVTX)
Cut 19	$\geq$2 events with positive CTAG (SECVTX)
Cut 20	$\geq$1 events with positive lTAG (SECVTX)
Cut 21	number of positive BTAG (SECVTX) jets
Cut 22	number of positive BTAG (SECVTX) jets associated to b-hadrons
Cut 23	number of positive BTAG (SECVTX) jets associated to c-hadrons
Cut 24	number of positive BTAG (SECVTX) jets associated to l-hadrons
Cut 25	$\geq$1 events with negative (SECVTX)
Cut 26	$\geq$1 events with negative BTAG (SECVTX)
Cut 27	$\geq$1 events with negative CTAG (SECVTX)
Cut 28	number of negative BTAG (SECVTX) jets
Cut 29	number of negative BTAG (SECVTX) jets associated to b-hadrons
Cut 30	number of negative BTAG (SECVTX) jets associated to c-hadrons
Cut 31	$\geq$1 events predicted by the positive mistag matrix (SECVTX)
Cut 32	$\geq$1 events error predicted by the positive mistag matrix (SECVTX)
Cut 33	$\geq$1 events predicted by the negative mistag matrix (SECVTX)
Cut 34	$\geq$1 events error predicted by the negative mistag matrix (SECVTX)
Cut 35	$\geq$1 jets predicted by the negative mistag matrix (SECVTX)
Cut 36	TAGGABLE JP
Cut 37	TAGGABLE + JP (b-jets)
Cut 38	TAGGABLE + JP
Cut 39	TAGGABLE - JP
Cut 40	TAGGABLE + JP (1 b-jets)
Cut 41	TAGGABLE + JP (2 b-jets)
Cut 42	TAGGABLE - JP (1 b-jets)
Cut 43	TAGGABLE - JP (2 b-jets)
Cut 44	$\geq$1 events with positive (JP)
Cut 45	$\geq$1 events with positive (SECVTX) SF taken randomly into account
Cut 46	$\geq$2 events with positive (JP)
Cut 47	$\geq$1 events with positive BTAG (JP)
Cut 48	$\geq$1 events with positive CTAG (JP)
Cut 49	$\geq$1 events with positive lTAG (JP)
Cut 50	number of positive BTAG (JP) jets
Cut 51	number of positive BTAG (JP) jets associated to b-hadrons
Cut 52	number of positive BTAG (JP) jets associated to c-hadron
Cut 53	$\geq$1 events with negative (JP)
Cut 54	$\geq$1 events with negative BTAG (JP)
Cut 55	$\geq$2 events with negative CTAG (JP)
Cut 56	number of negative BTAG (JP) jets
Cut 57	number of negative BTAG (JP) jets associated to b-hadrons
Cut 58	$\geq$1 events with negative BTAG (JP) associated to real c-hadron
Cut 59	$\geq$1 events predicted by the positive mistag matrix (JP)
Cut 60	$\geq$1 events error predicted by the positive mistag matrix (JP)
Cut 61	$\geq$1 events predicted by the negative mistag matrix (JP)
Cut 62	$\geq$1 events error predicted by the negative mistag matrix (JP)
Cut 63	$\geq$1 jets predicted by the negative mistag matrix (JP)
Cut 64	Ht¿200 GeV
Cut 65	Events with at least one b-jet matched
Cut 66	Events with at least two b-jet matched

Table 2: CEM Acceptances for 0,1,2,3 and more jets

Event counts per jet multiplicity						
CH	0-jet	1-jet	2-jet	3-jet	$\geq$4-jet	Total
0	588	10227	55278	129827	490049	685969
1	567	9965	53756	125655	473412	663355
2	567	9965	53756	125655	473412	663355
3	162	3004	13247	19856	25766	62035
4	151	2778	12070	17886	22558	55443
5	151	2745	11602	16405	18162	49065
6	70	1663	8520	15694	18022	43969
7	62	1542	7910	14940	17490	41944
8	62	1538	7882	14878	17400	41760
9	62	1538	7881	14875	17400	41756
10	62	1487	7549	14164	16456	39718
11	62	1487	7549	14164	16456	39718
12	0	1127	6834	13374	15771	37106
13	0	999	3626	6073	5340	16038
14	0	0	2558	6262	9510	18330
15	0	541	3922	8235	10376	23074
16	0	433	3259	7006	8935	19633
17	0	0	741	1955	2969	5665
18	0	538	3864	8061	10123	22586
19	0	2	69	330	622	1023
20	0	1	28	99	110	238
21	0	541	4663	10239	13475	28918
22	0	538	4566	9810	12743	27657
23	0	2	69	330	622	1023
24	0	1	28	99	110	238
25	0	22	128	253	389	792
26	0	22	123	218	286	649
27	0	0	1	14	48	63
28	0	22	129	255	390	796
29	0	22	124	220	287	653
30	0	0	1	14	48	63
31	0	12.4414	97.1656	219.839	299.333	628.779
32	0	768	5148	10648	13165	29729
33	0	2.80592	22.7709	54.4056	74.6169	154.599
34	0	15.6454	30.7911	37.1771	60.7092	144.323
35	0	2.80592	22.7887	54.4629	74.7168	154.774
36	0	1132	6880	13410	15788	37210
37	0	1000	6217	12402	14932	34551
38	0	1028	6512	13036	15545	36121
39	0	705	5252	11646	14808	32411
40	0	925	3685	6493	6191	17294
41	0	0	2189	5314	8153	15656
42	0	606	3392	6548	7550	18096
43	0	0	895	2266	3329	6490
44	0	605	43593	9155	11546	25665
45	0	476	3613	7696	9755	21540
46	0	0	1008	2683	4115	7806
47	0	594	4270	8900	11198	24962
48	0	3	90	436	889	1418
49	0	8	73	276	399	756
50	0	605	5367	11946	15961	33879
51	0	594	5204	11234	14671	31703
52	0	3	90	436	890	1419
53	0	38	350	769	1153	2310
54	0	38	314	584	814	1750
55	0	0	15	75	133	223
56	0	38	352	786	1194	2370
57	0	38	316	592	832	1778
58	0	0	15	75	133	223
59	0	15.6571	173.067	461.343	745.029	1395.1
60	0	nan	nan	nan	nan	nan
61	0	0.666514	11.1655	45.8571	94.0367	151.726
62	0	nan	nan	nan	nan	nan
63	0	0.666514	11.1705	45.9056	94.2626	152.005
64	0	214	2934	8063	11325	22536
65	0	1284	7225	14053	16430	38992
66	0	1284	11289	24040	32610	69223

Table 3: CMUP Acceptances for 0,1,2,3 and more jets

Event counts per jet multiplicity						
CH	0-jet	1-jet	2-jet	3-jet	≥4-jet	Total
0	588	10227	55278	129827	490049	685969
1	567	9965	53756	125655	473412	663355
2	567	9965	53756	125655	473412	663355
3	146	1942	8411	12279	15193	37971
4	131	1761	7643	10953	13435	33923
5	125	1683	7079	9712	11025	29624
6	69	971	5077	9255	10913	26285
7	60	903	4789	8977	10742	25471
8	60	903	4789	8977	10742	25471
9	60	903	4789	8977	10742	25471
10	60	872	4598	8493	10114	24137
11	60	872	4598	8493	10114	24137
12	0	637	4154	7991	9748	22530
13	0	567	2179	3650	3194	9590
14	0	0	1541	3718	5946	11205
15	0	290	2358	4950	6317	13915
16	0	232	1970	4148	5399	11749
17	0	0	451	1148	1820	3419
18	0	287	2332	4830	6160	13609
19	0	3	28	199	370	600
20	0	0	14	59	77	150
21	0	290	2809	6121	8209	17429
22	0	287	2767	5863	7762	16679
23	0	3	28	199	370	600
24	0	0	14	59	77	150
25	0	8	75	153	236	472
26	0	8	71	129	183	391
27	0	0	2	11	22	35
28	0	8	76	154	238	476
29	0	8	71	129	185	393
30	0	0	2	11	22	35
31	0	6.00965	57.6158	128.786	181.99	374.401
32	0	419	3094	6364	8087	17964
33	0	1.55994	13.5526	31.6632	45.303	92.0788
34	0	9.26374	18.703	22.6936	37.4645	88.1247
35	0	1.55994	13.563	31.697	45.3629	92.1828
36	0	637	4169	8010	9760	22576
37	0	566	3745	7412	9168	20891
38	0	578	3933	7804	9603	21918
39	0	380	3202	6947	9133	19662
40	0	523	2206	3971	3859	10559
41	0	0	1325	3121	4992	9438
42	0	329	2042	3877	4639	10887
43	0	0	558	1325	2086	3969
44	0	337	26154	5444	7077	15473
45	0	267	2160	4562	6021	13010
46	0	0	602	1575	2552	4729
47	0	331	2565	5279	6873	15048
48	0	4	48	297	537	886
49	0	2	44	166	234	446
50	0	337	3217	7082	9824	20460
51	0	331	3125	6618	9051	19125
52	0	4	48	297	537	886
53	0	22	205	490	700	1417
54	0	22	176	382	495	1075
55	0	0	10	35	73	118
56	0	22	208	500	715	1445
57	0	22	179	388	503	1092
58	0	0	10	35	73	118
59	0	9.9843	107.61	273.753	449.541	840.888
60	0	nan	nan	nan	nan	nan
61	0	0.432724	6.72059	26.1355	57.5354	90.8241
62	0	nan	nan	nan	nan	nan
63	0	0.432724	6.72398	26.163	57.6712	90.991
64	0	130	1756	4860	6931	13677
65	0	750	4407	8428	10101	23686
66	0	750	6847	14477	20041	42115

Table 4: CMX Acceptances for 0,1,2,3 and more jets

Event counts per jet multiplicity						
CH	0-jet	1-jet	2-jet	3-jet	$\geq$4-jet	Total
0	588	10227	55278	129827	490049	685969
1	567	9965	53756	125655	473412	663355
2	567	9965	53756	125655	473412	663355
3	58	727	3154	4485	5504	13928
4	51	660	2869	4026	4875	12481
5	50	625	2658	3597	4075	11005
6	31	374	1901	3416	4035	9757
7	27	353	1800	3317	3959	9456
8	27	353	1800	3317	3959	9456
9	27	353	1800	3317	3959	9456
10	27	342	1707	3137	3728	8941
11	27	342	1707	3137	3728	8941
12	0	244	1567	2999	3595	8405
13	0	215	798	1351	1210	3574
14	0	0	622	1434	2207	4263
15	0	119	924	1872	2405	5320
16	0	101	783	1591	2051	4526
17	0	0	187	451	688	1326
18	0	119	913	1827	2352	5211
19	0	0	13	83	142	238
20	0	0	5	24	18	47
21	0	119	1111	2331	3136	6697
22	0	119	1093	2224	2976	6412
23	0	0	13	83	142	238
24	0	0	5	24	18	47
25	0	3	21	49	89	162
26	0	3	21	40	69	133
27	0	0	0	3	9	12
28	0	3	21	49	90	163
29	0	3	21	40	69	133
30	0	0	0	3	9	12
31	0	2.55469	23.1823	51.1511	68.9327	145.821
32	0	163	1203	2404	3019	6789
33	0	0.694752	5.59232	12.0921	16.9418	35.321
34	0	2.8981	7.92939	8.72104	13.437	32.9855
35	0	0.694751	5.59685	12.1049	16.9641	35.3606
36	0	249	1573	3007	3601	8430
37	0	219	1432	2798	3428	7877
38	0	221	1503	2933	3544	8201
39	0	146	1235	2602	3385	7368
40	0	197	834	1447	1442	3920
41	0	0	526	1227	1862	3615
42	0	127	827	1471	1767	4192
43	0	0	209	505	759	1473
44	0	135	994 5	2074	2641	5844
45	0	112	826	1744	2227	4909
46	0	0	238	617	919	1774
47	0	133	974	2010	2559	5676
48	0	0	17	124	203	344
49	0	2	15	85	94	196
50	0	135	1232	2722	3633	7722
51	0	133	1200	2513	3336	7182
52	0	0	17	124	203	344
53	0	9	85	204	274	572
54	0	9	75	160	192	436
55	0	0	2	17	25	44
56	0	9	86	209	282	586
57	0	9	75	163	195	442
58	0	0	2	17	25	44
59	0	3.91888	38.692	103.392	169.094	315.097
60	0	nan	nan	nan	nan	nan
61	0	0.185521	2.40027	9.97139	21.1366	33.6938
62	0	nan	nan	0.977286	nan	nan
63	0	0.185521	2.40103	9.98154	21.1828	33.7509
64	0	36	670	1804	2568	5078
65	0	286	1632	3112	3724	8754
66	0	286	2541	5344	7388	15559

Table 5: PHX Acceptances for 0,1,2,3 and more jets

Event counts per jet multiplicity						
CH	0-jet	1-jet	2-jet	3-jet	$\geq$4-jet	Total
0	588	10227	55278	129827	490049	685969
1	567	9965	53756	125655	473412	663355
2	567	9965	53756	125655	473412	663355
3	54	810	3448	4814	5388	14514
4	44	741	3107	4261	4671	12824
5	44	741	3107	4261	4671	12824
6	19	415	2204	4071	4628	11337
7	19	415	2204	4071	4628	11337
8	19	415	2204	4071	4628	11337
9	19	415	2204	4071	4628	11337
10	19	399	2089	3833	4332	10672
11	19	399	2089	3833	4332	10672
12	0	328	1988	3744	4290	10350
13	0	291	1057	1670	1364	4382
14	0	0	759	1849	2757	5365
15	0	153	1174	2402	2926	6655
16	0	126	979	2030	2502	5637
17	0	0	224	557	881	1662
18	0	152	1156	2348	2861	6517
19	0	1	18	95	168	282
20	0	0	6	28	35	69
21	0	153	1398	2979	3851	8381
22	0	152	1374	2856	3648	8030
23	0	1	18	95	168	282
24	0	0	6	28	35	69
25	0	3	28	75	91	197
26	0	3	27	70	73	173
27	0	0	0	4	9	13
28	0	3	28	76	91	198
29	0	3	27	70	73	173
30	0	0	0	4	9	13
31	0	0	0	0	0	0
32	0	205	1515	3032	3625	8377
33	0	0	0	0	0	0
34	0	0	0	0	0	0
35	0	0	0	0	0	0
36	0	332	1989	3746	4294	10361
37	0	294	1819	3532	4135	9780
38	0	299	1891	3682	4247	10119
39	0	200	1532	3282	4050	9064
40	0	269	1080	1856	1658	4863
41	0	0	647	1543	2338	4528
42	0	178	984	1872	2087	5121
43	0	0	288	650	914	1852
44	0	174	1292 6	2584	3199	7249
45	0	139	1070	2149	2707	6065
46	0	0	284	748	1190	2222
47	0	168	1264	2524	3122	7078
48	0	3	24	122	236	385
49	0	3	25	75	98	201
50	0	174	1576	3374	4483	9607
51	0	168	1527	3177	4149	9021
52	0	3	24	122	236	385
53	0	6	87	237	324	654
54	0	6	78	183	234	501
55	0	0	1	19	42	62
56	0	6	88	239	329	662
57	0	6	78	184	236	504
58	0	0	1	19	42	62
59	0	0	0	0	0	0
60	0	-2147483648	0	-2147482031	-2147483046	-6.44245e+09
61	0	0	0	0	0	0
62	0	-2147483646	-2147483597	-2147483069	-2147483496	-8.58993e+09
63	0	0	0	0	0	0
64	0	45	714	2108	3070	5937
65	0	342	1999	3805	4326	10472
66	0	342	3144	6583	8574	18643

Acceptance for ttbar MC with ≥3jets											
CH	Total	evqqbb	mvqqbb	tvqqbb	evevbb	mvmvbb	tvtvbb	evmvbb	evtvbb	mvtvbb	qqqqbb
0	685969	100269	100668	99804	7945	8005	7939	16029	15808	15742	313760
1	663355	96951	97292	96535	7701	7732	7672	15545	15305	15223	303399
2	663355	96951	97292	96535	7701	7732	7672	15545	15305	15223	303399
3	62035	38322	412	3444	4892	36	502	6358	6383	545	1141
4	55443	34393	367	2963	4518	36	453	5871	5869	501	472
5	49065	30592	101	2363	4216	17	387	5436	5451	427	75
5	34567	27066	82	2101	1688	4	162	1008	2297	84	75
6	33716	27036	62	2096	1422	2	159	595	2226	43	75
7	32430	26444	60	2062	1113	1	145	507	1991	34	73
8	32278	26360	47	2044	1112	1	143	507	1987	33	44
9	32275	26358	47	2044	1112	1	143	507	1986	33	44
10	30620	24979	46	1915	1071	1	136	494	1912	33	33
11	30620	24979	46	1915	1071	1	136	494	1912	33	33
12	29145	23853	43	1823	980	1	128	470	1785	31	31
13	11413	9471	23	724	339	0	58	155	619	12	12
14	15772	12674	15	957	623	1	65	290	1115	19	13
15	18611	15149	27	1150	677	0	81	310	1175	27	15
16	15941	12990	21	983	570	0	69	266	1003	25	14
17	4924	4025	4	305	161	0	18	89	313	6	3
18	18184	14782	26	1115	677	0	79	308	1156	27	14
19	952	867	2	74	0	0	0	3	4	1	1
20	209	140	0	10	0	0	3	1	55	0	0
21	23714	19329	31	1464	838	0	99	400	1501	34	18
22	22553	18322	29	1380	838	0	96	396	1442	33	17
23	952	867	2	74	0	0	0	3	4	1	1
24	209	140	0	10	0	0	3	1	55	0	0
25	642	533	0	38	25	0	1	6	35	1	3
26	504	406	0	31	24	0	1	6	32	1	3
27	62	57	0	5	0	0	0	0	0	0	0
28	645	535	0	38	25	0	1	6	36	1	3
29	507	408	0	31	24	0	1	6	33	1	3
30	62	57	0	5	0	0	0	0	0	0	0
31	519.172	426.381	0.675516	32.0232	18.1107	0.00513172	1.80166	8.03141	30.9455	0.710056	0.487027
32	23813	19424	32	1476	849	1	104	382	1491	29	25
33	129.022	105.948	0.162468	8.20939	4.83853	0.00273693	0.371617	1.9524	7.25072	0.158118	0.128415
34	97.8863	80.8596	0.320195	6.92069	3.1326	0.0013479	0.387132	1.26393	4.80652	0.0547917	0.139556
35	129.18	106.079	0.162607	8.2201	4.8427	0.00273691	0.372128	1.95507	7.25849	0.158406	0.128514
36	29198	23892	44	1827	980	1	128	471	1792	31	32
37	27334	22267	40	1691	964	1	123	449	1743	31	25
38	28581	23424	44	1781	946	1	120	458	1747	31	29
39	26454	21945	40	1671	790	1	100	408	1439	30	30
40	12684	10453	23	802	410	0	67	172	730	16	11
41	13467	10847	14	799	518	1	49	257	954	15	13
42	14098	11490	18	876	493	0	69	220	901	16	15
43	5595	4541	8	344	212	1	9	106	360	9	5
44	20701	16874	30	1257	747	0	91	340	1320	24	18
45	17451	14227	25	1051	626	0	79	289	1117	22	15
46	6798	5493	10	403	261	0	28	118	470	8	7
47	20098	16371	29	1214	744	0	83	338	1280	23	16
48	1325	1225	3	82	2	0	1	2	7	1	2
49	675	458	3	37	13	0	13	4	145	2	0
50	27907	22705	41	1681	1014	0	121	459	1828	33	25
51	25905	21020	35	1562	999	0	107	453	1676	30	23
52	1326	1226	3	82	2	0	1	2	7	1	2
53	1922	1573	0	136	45	0	7	26	131	1	3
54	1398	1144	0	89	40	0	6	22	95	1	1
55	208	187	0	20	0	0	0	0	1	0	0
56	1980	1618	0	141	47	0	7	28	135	1	3
57	1424	1163	0	93	40	0	6	23	97	1	1
58	208	187	0	20	0	0	0	0	1	0	0
59	1206.37	1000.84	1.77739	75.3929	34.7477	0	4.76848	17.1766	69.1731	0.972343	1.52795
60	nan	nan	0.118069	nan	nan	0	0.272471	nan	nan	0.0612641	0.142483
61	139.894	120.396	0.183662	9.31248	2.63987	0.0104511	0.303951	1.60153	5.13233	0.109371	0.20462
62	nan	nan	0.0136034	nan	nan	0.000670671	0.0297061	nan	nan	0.0120341	0.027514
63	140.168	120.635	0.183662	9.3346	2.64297	0.0104511	0.303951	1.60402	5.13894	0.109543	0.205479
64	19388	16034	29	1149	659	0	77	283	1120	19	18
65	30483	24863	44	1903	1068	1	136	493	1909	33	33
66	56650	45794	75	3444	2112	2	270	1033	3803	68	49

Acceptance for ttbar MC with ≥3jets											
CH	Total	evqqbb	mvqqbb	tvqqbb	evevbb	mvmvbb	tvtvbb	evmvbb	evtvbb	mvtvbb	qqqqbb
0	685969	100269	100668	99804	7945	8005	7939	16029	15808	15742	313760
1	663355	96951	97292	96535	7701	7732	7672	15545	15305	15223	303399
2	663355	96951	97292	96535	7701	7732	7672	15545	15305	15223	303399
3	37971	164	23772	1894	10	3209	333	3869	324	3891	505
4	33923	144	21075	1646	9	2929	295	3535	294	3590	406
5	29624	0	18524	1333	0	2740	259	3215	244	3306	3
6	26285	0	18504	1330	0	1541	245	1543	114	3005	3
7	25471	0	18271	1322	0	1337	237	1387	99	2815	3
8	25471	0	18271	1322	0	1337	237	1387	99	2815	3
9	25471	0	18271	1322	0	1337	237	1387	99	2815	3
10	24137	0	17256	1227	0	1295	222	1342	94	2698	3
11	24137	0	17256	1227	0	1295	222	1342	94	2698	3
12	22530	0	16375	1171	0	1137	192	1176	82	2394	3
13	9590	0	6826	482	0	498	94	559	32	1098	1
14	11205	0	8039	600	0	616	90	586	47	1225	2
15	13915	0	10005	729	0	739	124	749	53	1513	3
16	11749	0	8435	620	0	631	105	646	45	1265	2
17	3419	0	2485	172	0	178	30	175	16	363	0
18	13609	0	9740	709	0	736	120	748	52	1501	3
19	600	0	562	34	0	1	0	1	0	2	0
20	150	0	95	7	0	3	6	1	1	37	0
21	17429	0	12573	907	0	917	154	925	69	1881	3
22	16679	0	11916	866	0	913	148	923	68	1842	3
23	600	0	562	34	0	1	0	1	0	2	0
24	150	0	95	7	0	3	6	1	1	37	0
25	472	0	371	22	0	17	5	14	3	40	0
26	391	0	298	20	0	15	4	13	2	39	0
27	35	0	33	2	0	0	0	0	0	0	0
28	476	0	374	23	0	17	5	14	3	40	0
29	393	0	300	20	0	15	4	13	2	39	0
30	35	0	33	2	0	0	0	0	0	0	0
31	374.401	0	275.15	19.3152	0	17.8291	3.20997	18.9753	1.63303	38.2021	0.0863504
32	17964	0	12994	928	0	933	162	947	67	1930	3
33	92.0788	0	68.4456	4.9519	0	4.17586	0.688051	4.47237	0.351675	8.98706	0.006235
34	88.1247	0	57.5714	4.20066	0	6.20749	0.713982	6.31615	0.349111	12.7435	0.0225102
35	92.1828	0	68.5265	4.95723	0	4.17983	0.688589	4.47732	0.352027	8.99511	0.0062379
36	22576	0	16408	1173	0	1142	193	1179	82	2396	3
37	20891	0	14944	1085	0	1121	185	1150	79	2324	3
38	21918	0	15990	1145	0	1097	190	1121	78	2294	3
39	19662	0	14849	1059	0	857	145	892	63	1794	3
40	10559	0	7579	543	0	527	102	591	36	1181	0
41	9438	0	6724	499	0	545	79	507	39	1043	2
42	10887	0	7767	576	0	573	95	635	42	1198	1
43	3969	0	2896	199	0	214	33	180	19	426	2
44	15473	0	11147	806	0	800	142	822	57	1697	2
45	13010	0	9397	676	0	674	112	670	43	1436	2
46	4729	0	3451	256	0	245	41	210	20	504	2
47	15048	0	10808	776	0	798	136	817	56	1655	2
48	886	0	836	47	0	1	0	1	0	1	0
49	446	0	267	34	0	4	10	9	1	121	0
50	20460	0	14812	1075	0	1048	183	1035	77	2226	4
51	19125	0	13707	994	0	1043	173	1025	76	2103	4
52	886	0	836	47	0	1	0	1	0	1	0
53	1417	0	1090	62	0	58	13	60	2	132	0
54	1075	0	796	48	0	56	8	58	2	107	0
55	118	0	116	2	0	0	0	0	0	0	0
56	1445	0	1111	64	0	59	13	61	2	135	0
57	1092	0	808	50	0	56	8	59	2	109	0
58	118	0	116	2	0	0	0	0	0	0	0
59	840.888	0	642.743	47.8671	0	34.6354	5.88705	34.7403	2.57412	72.4415	0
60	nan	0	nan	nan	0	nan	0.511301	nan	0.156704	nan	0
61	90.8241	0	77.2963	5.42526	0	1.36526	0.349322	2.0714	0.16419	4.08413	0.0682806
62	nan	0	nan	nan	0	nan	0.0441733	nan	0.0158736	nan	0.0123019
63	90.991	0	77.4465	5.43651	0	1.3657	0.349724	2.07235	0.164428	4.08679	0.0689159
64	13677	0	10328	722	0	570	85	679	39	1252	2
65	23686	0	16925	1213	0	1272	220	1320	92	2641	3
66	42115	0	30106	2139	0	2274	380	2354	171	4686	5

Acceptance for ttbar MC with ≥3jets											
CH	Total	evqqbb	mvqqbb	tvqqbb	evevbb	mvmvbb	tvtvbb	evmvbb	evtvbb	mvtvbb	qqqqbb
0	685969	100269	100668	99804	7945	8005	7939	16029	15808	15742	313760
1	663355	96951	97292	96535	7701	7732	7672	15545	15305	15223	303399
2	663355	96951	97292	96535	7701	7732	7672	15545	15305	15223	303399
3	13928	85	8645	690	4	1333	104	1305	103	1467	192
4	12481	78	7695	608	4	1225	91	1185	92	1351	152
5	11005	3	6852	483	0	1148	78	1096	77	1268	0
5	7672	2	6086	434	0	220	27	373	27	503	0
6	7451	1	6082	433	0	120	27	289	21	478	0
7	7276	1	6010	424	0	100	27	254	19	441	0
8	7276	1	6010	424	0	100	27	254	19	441	0
9	7276	1	6010	424	0	100	27	254	19	441	0
10	6865	1	5668	394	0	91	22	243	19	427	0
11	6865	1	5668	394	0	91	22	243	19	427	0
12	6594	1	5454	380	0	86	22	230	18	403	0
13	2561	0	2180	145	0	27	5	63	4	137	0
14	3641	0	2925	213	0	58	15	162	13	255	0
15	4277	0	3497	237	0	63	16	166	11	287	0
16	3642	0	2985	198	0	53	11	143	11	241	0
17	1139	0	920	63	0	14	4	54	4	80	0
18	4179	0	3404	235	0	63	15	166	11	285	0
19	225	0	217	6	0	0	0	2	0	0	0
20	42	0	28	2	0	0	2	0	0	10	0
21	5467	0	4465	302	0	77	20	220	15	368	0
22	5200	0	4220	294	0	77	18	218	15	358	0
23	225	0	217	6	0	0	0	2	0	0	0
24	42	0	28	2	0	0	2	0	0	10	0
25	138	0	121	10	0	0	1	1	0	5	0
26	109	0	95	8	0	0	1	1	0	4	0
27	12	0	12	0	0	0	0	0	0	0	0
28	139	0	122	10	0	0	1	1	0	5	0
29	109	0	95	8	0	0	1	1	0	4	0
30	12	0	12	0	0	0	0	0	0	0	0
31	120.084	0	97.664	6.72528	0	1.59923	0.338536	4.88196	0.386988	8.48785	0
32	5423	0	4466	303	0	74	17	197	13	353	0
33	29.0339	0	24.138	1.50243	0	0.347552	0.0920824	1.2213	0.0797276	1.65276	0
34	22.158	0	17.8123	1.39516	0	0.184542	0.0520067	0.583957	0.0298322	2.10022	0
35	29.069	0	24.168	1.50376	0	0.347887	0.0922908	1.22293	0.0798073	1.65433	0
36	6608	1	5464	380	0	86	22	233	18	404	0
37	6226	0	5129	358	0	85	20	226	18	390	0
38	6477	1	5358	371	0	86	22	227	16	396	0
39	5987	1	5009	354	0	74	17	196	16	320	0
40	2889	0	2425	161	0	38	9	89	8	159	0
41	3089	0	2486	182	0	47	11	131	8	224	0
42	3238	0	2654	200	0	46	10	117	8	203	0
43	1264	0	1031	64	0	12	6	66	8	77	0
44	4715	0	3857	270	0	72	15	168	12	321	0
45	3971	0	3245	9 219	0	59	13	152	12	271	0
46	1536	0	1235	90	0	25	6	61	4	115	0
47	4569	0	3727	267	0	72	14	167	12	310	0
48	327	0	309	14	0	1	0	3	0	0	0
49	179	0	115	9	0	1	4	2	1	47	0
50	6355	0	5177	369	0	97	22	231	16	443	0
51	5849	0	4753	346	0	95	18	226	15	396	0
52	327	0	309	14	0	1	0	3	0	0	0
53	478	0	398	22	0	1	0	24	3	30	0
54	352	0	287	15	0	1	0	22	3	24	0
55	42	0	38	4	0	0	0	0	0	0	0
56	491	0	409	22	0	1	0	25	4	30	0
57	358	0	292	15	0	1	0	22	4	24	0
58	42	0	38	4	0	0	0	0	0	0	0
59	272.486	0	228.293	16.0713	0	4.18591	0.599199	7.35485	0.256816	15.7253	0
60	nan	0	nan	1.08669	0	0.219498	0.0271922	0.474052	0.00892317	nan	0
61	31.108	0	26.9771	1.97259	0	0.376683	0.0457484	0.720484	0.0641282	0.951257	0
62	nan	0	nan	0.222302	0	0.0561205	0.00690997	0.0821509	0.00411719	0.0972116	0
63	31.1644	0	27.0282	1.97583	0	0.376683	0.045949	0.721997	0.0641281	0.951593	0
64	4372	0	3623	240	0	60	13	149	9	278	0
65	6836	1	5639	394	0	91	22	243	19	427	0
66	12732	1	10388	729	0	191	43	484	36	860	0

Acceptance for ttbar MC with ≥3jets											
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0	685969	100269	100668	99804	7945	8005	7939	16029	15808	15742	313760
1	663355	96951	97292	96535	7701	7732	7672	15545	15305	15223	303399
2	663355	96951	97292	96535	7701	7732	7672	15545	15305	15223	303399
3	14514	9158	57	553	1385	3	96	1487	1587	89	99
4	12824	8063	51	467	1263	2	83	1327	1448	80	40
5	12824	8063	51	467	1263	2	83	1327	1448	80	40
5	8932	7134	36	406	455	0	38	229	579	15	40
6	8699	7125	28	403	368	0	38	126	562	9	40
7	8699	7125	28	403	368	0	38	126	562	9	40
8	8699	7125	28	403	368	0	38	126	562	9	40
9	8699	7125	28	403	368	0	38	126	562	9	40
10	8165	6689	26	370	354	0	37	115	538	9	27
11	8165	6689	26	370	354	0	37	115	538	9	27
12	8034	6601	26	366	343	0	35	113	515	8	27
13	3034	2572	10	127	111	0	14	36	152	2	10
14	4606	3676	15	224	225	0	19	74	351	6	16
15	5328	4368	16	241	237	0	23	73	348	6	16
16	4532	3706	13	206	199	0	20	63	305	6	14
17	1438	1173	4	76	63	0	4	23	89	1	5
18	5209	4265	15	235	235	0	22	73	343	6	15
19	263	247	1	11	1	0	0	0	0	0	3
20	63	44	0	4	1	0	3	0	11	0	0
21	6830	5599	20	320	300	0	27	96	440	7	21
22	6504	5308	19	305	298	0	24	96	429	7	18
23	263	247	1	11	1	0	0	0	0	0	3
24	63	44	0	4	1	0	3	0	11	0	0
25	166	136	1	7	7	0	0	5	10	0	0
26	143	114	1	7	7	0	0	5	9	0	0
27	13	13	0	0	0	0	0	0	0	0	0
28	167	137	1	7	7	0	0	5	10	0	0
29	143	114	1	7	7	0	0	5	9	0	0
30	13	13	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0
32	6657	5448	21	298	290	0	29	98	446	7	20
33	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0
36	8040	6605	26	366	343	0	35	113	517	8	27
37	7667	6266	25	355	336	0	34	109	508	8	26
38	7929	6515	25	363	339	0	35	108	509	8	27
39	7332	6122	25	340	276	0	25	100	411	8	25
40	3514	2929	10	153	138	0	19	41	207	3	14
41	3881	3108	14	188	189	0	14	65	287	5	11
42	3959	3246	18	183	166	0	15	56	255	5	15
43	1564	1240	2	83	86	0	7	29	110	3	4
44	5783	4729	19	252	254	0	27	84	392	7	19
45	4856	3951	14	220	214	0	25	70	339	6	17
46	1938	1561	4	95	83	0	7	31	151	1	5
47	5646	4615	18	246	252	0	23	84	383	6	19
48	358	330	1	22	3	0	0	0	0	0	2
49	173	114	0	3	3	0	7	0	45	1	0
50	7857	6404	23	353	337	0	34	116	558	8	24
51	7326	5960	22	328	331	0	27	116	513	7	22
52	358	330	1	22	3	0	0	0	0	0	2
53	561	445	2	30	26	0	7	9	39	0	3
54	417	333	2	21	25	0	3	7	23	0	3
55	61	55	0	5	0	0	0	1	0	0	0
56	568	451	2	30	26	0	7	9	39	0	4
57	420	335	2	21	25	0	3	7	23	0	4
58	61	55	0	5	0	0	0	1	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0
60	-4.29496e+09	-4.29496e+09	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0
62	-4.29497e+09	-4.29497e+09	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0
64	5178	4296	17	226	228	0	13	73	303	4	18
65	8131	6659	26	369	353	0	37	113	538	9	27
66	15157	12253	48	686	705	0	70	241	1088	19	47

Acceptance for ttbar MC with ≥4jets											
CH	Total	evqqbb	mvqqbb	tvqqbb	evevbb	mvmvbb	tvtvbb	evmvbb	evtvbb	mvtvbb	qqqqbb
0	685969	100269	100668	99804	7945	8005	7939	16029	15808	15742	313760
1	663355	96951	97292	96535	7701	7732	7672	15545	15305	15223	303399
2	663355	96951	97292	96535	7701	7732	7672	15545	15305	15223	303399
3	62035	38322	412	3444	4892	36	502	6358	6383	545	1141
4	55443	34393	367	2963	4518	36	453	5871	5869	501	472
5	49065	30592	101	2363	4216	17	387	5436	5451	427	75
5	18162	15879	38	1193	330	0	26	167	446	16	67
6	18022	15868	32	1192	295	0	26	97	432	13	67
7	17490	15487	31	1171	235	0	23	82	385	11	65
8	17400	15439	25	1162	235	0	23	82	385	10	39
9	17400	15439	25	1162	235	0	23	82	385	10	39
10	16456	14608	24	1082	227	0	22	79	375	10	29
11	16456	14608	24	1082	227	0	22	79	375	10	29
12	15771	14011	21	1035	213	0	21	76	358	9	27
13	5340	4761	10	344	76	0	6	21	107	5	10
14	9510	8427	11	621	134	0	14	51	236	4	12
15	10376	9218	16	682	149	0	10	49	231	7	14
16	8935	7931	12	600	126	0	9	43	194	7	13
17	2969	2651	2	206	35	0	3	13	56	1	2
18	10123	8997	16	657	149	0	10	48	226	7	13
19	622	564	0	54	0	0	0	0	3	0	1
20	110	91	0	6	0	0	0	1	12	0	0
21	13475	11987	18	895	184	0	13	62	292	8	16
22	12743	11332	18	835	184	0	13	61	277	8	15
23	622	564	0	54	0	0	0	0	3	0	1
24	110	91	0	6	0	0	0	1	12	0	0
25	389	347	0	26	6	0	0	0	8	0	2
26	286	253	0	20	5	0	0	0	6	0	2
27	48	43	0	5	0	0	0	0	0	0	0
28	390	348	0	26	6	0	0	0	8	0	2
29	287	254	0	20	5	0	0	0	6	0	2
30	48	43	0	5	0	0	0	0	0	0	0
31	299.333	265.957	0.389259	20.1731	4.27182	0	0.291968	1.2457	6.36382	0.192462	0.447687
32	13165	11699	19	852	187	0	15	64	299	7	23
33	74.6169	66.1654	0.0910265	5.22351	1.03033	0	0.0621246	0.290372	1.59635	0.0369083	0.120938
34	60.7092	53.9094	0.0730677	4.4166	0.758054	0	0.058183	0.222588	1.12219	0.0123839	0.136779
35	74.7168	66.2541	0.0911278	5.2311	1.03152	0	0.0621874	0.290692	1.59808	0.0369649	0.121029
36	15788	14023	22	1035	214	0	21	77	359	9	28
37	14932	13256	22	974	212	0	20	73	344	9	22
38	15545	13820	22	1018	205	0	20	76	350	9	25
39	14808	13162	21	976	195	0	20	72	327	9	26
40	6191	5508	10	411	89	0	8	28	123	5	9
41	8153	7231	10	521	113	0	10	43	209	4	12
42	7550	6688	10	499	108	0	11	32	186	4	12
43	3329	2950	5	217	50	0	2	23	75	2	5
44	11546	10287	18	730	164	0	13	52	259	6	17
45	9755	8703	15	605	136	0	13	41	222	5	15
46	4115	3643	6	277	58	0	4	16	102	3	6
47	11198	9984	18	702	163	0	12	51	248	5	15
48	889	818	1	61	2	0	0	0	5	0	2
49	399	328	2	23	3	0	2	1	38	2	0
50	15961	14197	25	1024	225	0	17	68	373	9	23
51	14671	13049	22	940	220	0	15	67	330	7	21
52	890	819	1	61	2	0	0	0	5	0	2
53	1153	1009	0	83	16	0	3	6	34	0	2
54	814	717	0	53	14	0	3	5	22	0	0
55	133	119	0	13	0	0	0	0	1	0	0
56	1194	1044	0	87	17	0	3	6	35	0	2
57	832	732	0	56	14	0	3	5	22	0	0
58	133	119	0	13	0	0	0	0	1	0	0
59	745.029	665.19	1.12718	48.709	8.87468	0	0.867441	2.90066	15.5887	0.338414	1.43325
60	nan	nan	0.0789691	3.98692	0.639765	0	0.0433289	0.226088	nan	0.0123272	0.13949
61	94.0367	84.1487	0.107694	6.23694	0.936261	0	0.0991874	0.493202	1.77	0.056698	0.188001
62	nan	nan	0.00849092	nan	nan	0	0.00803703	0.0501102	nan	0.00616986	0.0264792
63	94.2626	84.3496	0.107694	6.25339	0.937931	0	0.0991874	0.494962	1.77414	0.0568428	0.18886
64	11325	10118	18	707	156	0	12	47	244	6	17
65	16430	14587	24	1078	226	0	22	79	375	10	29
66	32610	28894	48	2110	480	0	47	173	795	19	44

Acceptance for ttbar MC with ≥4jets											
CH	Total	evqqbb	mvqqbb	tvqqbb	evevbb	mvmvbb	tvtvbb	evmvbb	evtvbb	mvtvbb	qqqqbb
0	685969	100269	100668	99804	7945	8005	7939	16029	15808	15742	313760
1	663355	96951	97292	96535	7701	7732	7672	15545	15305	15223	303399
2	663355	96951	97292	96535	7701	7732	7672	15545	15305	15223	303399
3	37971	164	23772	1894	10	3209	333	3869	324	3891	505
4	33923	144	21075	1646	9	2929	295	3535	294	3590	406
5	29624	0	18524	1333	0	2740	259	3215	244	3306	3
6	26285	0	18504	1330	0	1541	245	1543	114	3005	3
7	25471	0	18271	1322	0	1337	237	1387	99	2815	3
8	25471	0	18271	1322	0	1337	237	1387	99	2815	3
9	25471	0	18271	1322	0	1337	237	1387	99	2815	3
10	24137	0	17256	1227	0	1295	222	1342	94	2698	3
11	24137	0	17256	1227	0	1295	222	1342	94	2698	3
12	22530	0	16375	1171	0	1137	192	1176	82	2394	3
13	9590	0	6826	482	0	498	94	559	32	1098	1
14	11205	0	8039	600	0	616	90	586	47	1225	2
15	13915	0	10005	729	0	739	124	749	53	1513	3
16	11749	0	8435	620	0	631	105	646	45	1265	2
17	3419	0	2485	172	0	178	30	175	16	363	0
18	13609	0	9740	709	0	736	120	748	52	1501	3
19	600	0	562	34	0	1	0	1	0	2	0
20	150	0	95	7	0	3	6	1	1	37	0
21	17429	0	12573	907	0	917	154	925	69	1881	3
22	16679	0	11916	866	0	913	148	923	68	1842	3
23	600	0	562	34	0	1	0	1	0	2	0
24	150	0	95	7	0	3	6	1	1	37	0
25	472	0	371	22	0	17	5	14	3	40	0
26	391	0	298	20	0	15	4	13	2	39	0
27	35	0	33	2	0	0	0	0	0	0	0
28	476	0	374	23	0	17	5	14	3	40	0
29	393	0	300	20	0	15	4	13	2	39	0
30	35	0	33	2	0	0	0	0	0	0	0
31	374.401	0	275.15	19.3152	0	17.8291	3.20997	18.9753	1.63303	38.2021	0.0863504
32	17964	0	12994	928	0	933	162	947	67	1930	3
33	92.0788	0	68.4456	4.9519	0	4.17586	0.688051	4.47237	0.351675	8.98706	0.006235
34	88.1247	0	57.5714	4.20066	0	6.20749	0.713982	6.31615	0.349111	12.7435	0.0225102
35	92.1828	0	68.5265	4.95723	0	4.17983	0.688589	4.47732	0.352027	8.99511	0.0062379
36	22576	0	16408	1173	0	1142	193	1179	82	2396	3
37	20891	0	14944	1085	0	1121	185	1150	79	2324	3
38	21918	0	15990	1145	0	1097	190	1121	78	2294	3
39	19662	0	14849	1059	0	857	145	892	63	1794	3
40	10559	0	7579	543	0	527	102	591	36	1181	0
41	9438	0	6724	499	0	545	79	507	39	1043	2
42	10887	0	7767	576	0	573	95	635	42	1198	1
43	3969	0	2896	199	0	214	33	180	19	426	2
44	15473	0	11147	806	0	800	142	822	57	1697	2
45	13010	0	9397	676	0	674	112	670	43	1436	2
46	4729	0	3451	256	0	245	41	210	20	504	2
47	15048	0	10808	776	0	798	136	817	56	1655	2
48	886	0	836	47	0	1	0	1	0	1	0
49	446	0	267	34	0	4	10	9	1	121	0
50	20460	0	14812	1075	0	1048	183	1035	77	2226	4
51	19125	0	13707	994	0	1043	173	1025	76	2103	4
52	886	0	836	47	0	1	0	1	0	1	0
53	1417	0	1090	62	0	58	13	60	2	132	0
54	1075	0	796	48	0	56	8	58	2	107	0
55	118	0	116	2	0	0	0	0	0	0	0
56	1445	0	1111	64	0	59	13	61	2	135	0
57	1092	0	808	50	0	56	8	59	2	109	0
58	118	0	116	2	0	0	0	0	0	0	0
59	840.888	0	642.743	47.8671	0	34.6354	5.88705	34.7403	2.57412	72.4415	0
60	nan	0	nan	nan	0	nan	0.511301	nan	0.156704	nan	0
61	90.8241	0	77.2963	5.42526	0	1.36526	0.349322	2.0714	0.16419	4.08413	0.0682806
62	nan	0	nan	nan	0	nan	0.0441733	nan	0.0158736	nan	0.0123019
63	90.991	0	77.4465	5.43651	0	1.3657	0.349724	2.07235	0.164428	4.08679	0.0689159
64	13677	0	10328	722	0	570	85	679	39	1252	2
65	23686	0	16925	1213	0	1272	220	1320	92	2641	3
66	42115	0	30106	2139	0	2274	380	2354	171	4686	5

Acceptance for ttbar MC with ≥4jets											
CH	Total	evqqbb	mvqqbb	tvqqbb	evevbb	mvmvbb	tvtvbb	evmvbb	evtvbb	mvtvbb	qqqqbb
0	685969	100269	100668	99804	7945	8005	7939	16029	15808	15742	313760
1	663355	96951	97292	96535	7701	7732	7672	15545	15305	15223	303399
2	663355	96951	97292	96535	7701	7732	7672	15545	15305	15223	303399
3	13928	85	8645	690	4	1333	104	1305	103	1467	192
4	12481	78	7695	608	4	1225	91	1185	92	1351	152
5	11005	3	6852	483	0	1148	78	1096	77	1268	0
5	4075	0	3609	244	0	36	6	59	4	117	0
6	4035	0	3609	244	0	18	6	46	3	109	0
7	3959	0	3563	238	0	13	6	36	2	101	0
8	3959	0	3563	238	0	13	6	36	2	101	0
9	3959	0	3563	238	0	13	6	36	2	101	0
10	3728	0	3357	220	0	11	5	35	2	98	0
11	3728	0	3357	220	0	11	5	35	2	98	0
12	3595	0	3239	211	0	11	5	35	2	92	0
13	1210	0	1097	70	0	4	2	10	1	26	0
14	2207	0	1979	132	0	7	2	23	1	63	0
15	2405	0	2168	136	0	8	3	25	1	64	0
16	2051	0	1854	113	0	7	1	21	1	54	0
17	688	0	614	43	0	1	1	9	0	20	0
18	2352	0	2116	136	0	8	3	25	1	63	0
19	142	0	138	3	0	0	0	1	0	0	0
20	18	0	17	0	0	0	0	0	0	1	0
21	3136	0	2823	181	0	9	4	34	1	84	0
22	2976	0	2668	178	0	9	4	33	1	83	0
23	142	0	138	3	0	0	0	1	0	0	0
24	18	0	17	0	0	0	0	0	0	1	0
25	89	0	81	5	0	0	0	0	0	3	0
26	69	0	61	5	0	0	0	0	0	3	0
27	9	0	9	0	0	0	0	0	0	0	0
28	90	0	82	5	0	0	0	0	0	3	0
29	69	0	61	5	0	0	0	0	0	3	0
30	9	0	9	0	0	0	0	0	0	0	0
31	68.9327	0	62.2214	4.0658	0	0.163017	0.045945	0.80389	0.00403225	1.62856	0
32	3019	0	2727	167	0	9	3	30	1	82	0
33	16.9418	0	15.4509	0.872305	0	0.0356461	0.00660771	0.206466	0.000504017	0.369326	0
34	13.437	0	12.1625	0.707372	0	0.033436	0.00887477	0.129551	0.00115877	0.394084	0
35	16.9641	0	15.4717	0.873123	0	0.0356577	0.00660973	0.206781	0.000504032	0.369695	0
36	3601	0	3245	211	0	11	5	35	2	92	0
37	3428	0	3089	201	0	11	4	33	2	88	0
38	3544	0	3195	206	0	11	5	34	2	91	0
39	3385	0	3044	208	0	10	4	34	2	83	0
40	1442	0	1308	79	0	8	3	15	1	28	0
41	1862	0	1668	115	0	3	1	17	1	57	0
42	1767	0	1569	120	0	3	4	22	2	47	0
43	759	0	690	39	0	3	0	7	0	20	0
44	2641	0	2375	155	0	9	3	24	1	74	0
45	2227	0	2005	127	0	6	3	23	1	62	0
46	919	0	822	57	0	2	3	9	0	26	0
47	2559	0	2296	154	0	9	3	24	1	72	0
48	203	0	194	8	0	0	0	1	0	0	0
49	94	0	80	3	0	0	2	0	0	9	0
50	3633	0	3262	217	0	11	7	34	1	101	0
51	3336	0	2988	206	0	11	5	33	1	92	0
52	203	0	194	8	0	0	0	1	0	0	0
53	274	0	244	15	0	0	0	4	1	10	0
54	192	0	170	9	0	0	0	3	1	9	0
55	25	0	21	4	0	0	0	0	0	0	0
56	282	0	252	15	0	0	0	4	1	10	0
57	195	0	173	9	0	0	0	3	1	9	0
58	25	0	21	4	0	0	0	0	0	0	0
59	169.094	0	153.484	9.89831	0	0.4357	0.111959	1.22254	0.0496979	3.89167	0
60	nan	0	nan	0.679667	0	0.021562	0.00540048	0.0851676	0.00175679	0.203794	0
61	21.1366	0	19.0321	1.29339	0	0.121729	0.00647432	0.305308	0	0.377599	0
62	nan	0	nan	0.131678	0	0.0154935	0.0043602	0.0257758	0	0.0522863	0
63	21.1828	0	19.0741	1.29623	0	0.121729	0.00647431	0.306429	0	0.377893	0
64	2568	0	2318	147	0	9	3	23	1	67	0
65	3724	0	3353	220	0	11	5	35	2	98	0
66	7388	0	6629	433	0	24	10	79	3	210	0

Acceptance for ttbar MC with ≥4jets											
CH	Total	evqqbb	mvqqbb	tvqqbb	evevbb	mvmvbb	tvtvbb	evmvbb	evtvbb	mvtvbb	qqqqbb
0	685969	100269	100668	99804	7945	8005	7939	16029	15808	15742	313760
1	663355	96951	97292	96535	7701	7732	7672	15545	15305	15223	303399
2	663355	96951	97292	96535	7701	7732	7672	15545	15305	15223	303399
3	14514	9158	57	553	1385	3	96	1487	1587	89	99
4	12824	8063	51	467	1263	2	83	1327	1448	80	40
5	12824	8063	51	467	1263	2	83	1327	1448	80	40
5	4671	4152	18	227	80	0	7	43	107	3	34
6	4628	4150	15	224	70	0	7	24	103	1	34
7	4628	4150	15	224	70	0	7	24	103	1	34
8	4628	4150	15	224	70	0	7	24	103	1	34
9	4628	4150	15	224	70	0	7	24	103	1	34
10	4332	3892	14	207	66	0	6	22	100	1	24
11	4332	3892	14	207	66	0	6	22	100	1	24
12	4290	3855	14	204	65	0	6	22	99	1	24
13	1364	1251	4	54	21	0	1	3	21	0	9
14	2757	2452	10	140	44	0	4	19	73	1	14
15	2926	2643	10	130	45	0	4	14	64	1	15
16	2502	2253	8	116	40	0	3	13	55	1	13
17	881	792	3	42	14	0	2	5	19	0	4
18	2861	2584	10	128	44	0	4	14	62	1	14
19	168	162	0	3	0	0	0	0	0	0	3
20	35	29	0	2	1	0	0	0	3	0	0
21	3851	3476	13	173	59	0	6	19	85	1	19
22	3648	3285	13	168	58	0	6	19	82	1	16
23	168	162	0	3	0	0	0	0	0	0	3
24	35	29	0	2	1	0	0	0	3	0	0
25	91	83	1	2	2	0	0	2	1	0	0
26	73	66	1	2	2	0	0	2	0	0	0
27	9	9	0	0	0	0	0	0	0	0	0
28	91	83	1	2	2	0	0	2	1	0	0
29	73	66	1	2	2	0	0	2	0	0	0
30	9	9	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0
32	3625	3270	12	165	55	0	4	18	82	1	18
33	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0
36	4294	3859	14	204	65	0	6	22	99	1	24
37	4135	3713	14	197	65	0	5	22	95	1	23
38	4247	3816	14	203	64	0	6	22	97	1	24
39	4050	3644	14	196	59	0	6	22	85	1	23
40	1658	1508	3	71	22	0	0	4	37	0	13
41	2338	2083	10	118	39	0	4	18	56	1	9
42	2087	1868	10	100	34	0	4	11	46	1	13
43	914	814	1	49	16	0	1	5	24	0	4
44	3199	2888	12	142	47	0	4	17	71	1	17
45	2707	2436	9	126	38	0	4	15	63	1	15
46	1190	1062	4	58	15	0	2	8	37	0	4
47	3122	2818	12	138	47	0	4	17	69	0	17
48	236	221	0	11	2	0	0	0	0	0	2
49	98	81	0	3	0	0	0	0	13	1	0
50	4483	4034	16	203	62	0	6	26	114	1	21
51	4149	3732	16	189	60	0	6	26	101	0	19
52	236	221	0	11	2	0	0	0	0	0	2
53	324	284	2	18	7	0	3	1	6	0	3
54	234	206	2	11	6	0	2	1	3	0	3
55	42	38	0	4	0	0	0	0	0	0	0
56	329	288	2	18	7	0	3	1	6	0	4
57	236	207	2	11	6	0	2	1	3	0	4
58	42	38	0	4	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0
60	-2.14748e+09	-2.14748e+09	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0
62	-2.14748e+09	-2.14748e+09	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0
64	3070	2774	12	137	46	0	3	16	64	1	17
65	4326	3886	14	207	66	0	6	22	100	1	24
66	8574	7666	28	413	139	0	12	50	222	2	42

- Result for the CEM Acceptances *geq* 3 jets for SECVTX
- Efficiency up to Si Good = $0.0461593 \pm 0.000257629$
- SECVTX simple efficiency = 0.607805 ± 0.00279017
- SECVTX counting method = 0.520607 ± 0.00285495

  –

  $\epsilon_{\mathrm{tagevent}} = epsilon^{\mathrm{event}}_{\mathrm{b-tag}} + epsilon_{\mathrm{other}}\mathrm{event} - (epsilon^{\mathrm{event}}_{\mathrm{b-tag}} * epsilon^{\mathrm{event}}_{\mathrm{other}})nonumberepsilon^{\mathrm{event}}_{\mathrm{b-tag}} = F_{1b}epsilon_{\mathrm{b-tag}}S + F_{2b}(2^{e}psilon_{\mathrm{btag}}S(1 -$

  - fraction of *tbart* events with one b-taggable jets $F_{1b} = 0.374405 \pm 0.00277197$
  - fraction of *tbart* events with two b-taggable jets $F_{2b} = 0.517403 \pm 0.00286205$
  - Efficinecy of b-tag jets per taggable b-jet $\epsilon_{\mathrm{btag}} = 0.525013 \pm 0.0024094$
  - Efficiency of c-tag jet per event $\epsilon_c = 0.0310908 \pm 0.00099187$
  - Effiency of non B tag jet per event $\epsilon_{\mathrm{nonB}} = 0.0068256 \pm 0.000470523$
- $\epsilon^{\mathrm{event}}_{\mathrm{btag}} = 0.493934 \pm$
- $\epsilon^{\mathrm{event}}_{\mathrm{other}} = 0.0307123 \pm$
- $\epsilon_{\mathrm{btag}} = 0.509476 \pm 0.277662$

- Result for the Acceptances *geq* 3 jets for JETPROB
- Efficiency up to Si Good = $0.0461593 \pm 0.000257629$
- SECVTX simple efficiency = 0.676061 ± 0.00267437
- SECVTX counting method = 0.569922 ± 0.0028293

  –

  $$\epsilon_{\rm tagevent} = \epsilon^{\rm event}_{\rm b-tag} + \epsilon_{\rm other}{\rm event} - (\epsilon^{\rm event}_{\rm b-tag} * epsilon^{\rm event}_{\rm other}) nonumber \epsilon^{\rm event}_{\rm b-tag} = F_{1b}\epsilon_{\rm b-tag}S + F_{2b}(2^{\epsilon}_{\rm btag}S(1-\epsilon_{\rm btag}S) + (\epsilon_{\rm btag}S)^2)$$

  – fraction of *tbart* events with one b-taggable jets $F_{1b} = 0.416101 \pm 0.00282319$
  – fraction of *tbart* events with two b-taggable jets $F_{2b} = 0.441787 \pm 0.00284431$
  – Efficinecy of b-tag jets per taggable b-jet $\epsilon_{\rm btag} = 0.653869 \pm 0.00239012$
  – Efficiency of c-tag jet per event $\epsilon_c = 0.0432724 \pm 0.00116278$
  – Effiency of non B tag jet per event $\epsilon_{\rm nonB} = 0.0220444 \pm 0.000839086$
- $\epsilon^{\rm event}_{\rm btag} = 0.551818 \pm$
- $\epsilon^{\rm event}_{\rm other} = 0.0529066 \pm$
- $\epsilon_{\rm btag} = 0.57553 \pm 0.355079$

- Result for the CMUP Acceptances *geq* 3 jets for SECVTX
- Efficiency up to Si Good = $0.0363862 \pm 0.000229904$
- SECVTX simple efficiency = 0.576501 ± 0.00318042
- SECVTX counting method = 0.486763 ± 0.00321719

  –

  $$nonumber\epsilon_{\text{tagevent}} = \epsilon^{\text{event}}_{\text{b-tag}} + \epsilon_{\text{other}}\text{event} - (\epsilon^{\text{event}}_{\text{b-tag}} * epsilon^{\text{event}}_{\text{other}})nonumber\epsilon^{\text{event}}_{\text{b-tag}} = F_{1b}\epsilon_{\text{b-tag}}S + F_{2b}(2^{\epsilon}_{\text{btag}}S(1-\epsilon_{\text{btag}}S) + (\epsilon_{\text{btag}}S)^2)\,(1)$$

  - fraction of *tbart* events with one b-taggable jets $F_{1b} = 0.404881 \pm 0.00318948$
  - fraction of *tbart* events with two b-taggable jets $F_{2b} = 0.473064 \pm 0.00324409$
  - Efficinecy of b-tag jets per taggable b-jet $\epsilon_{\text{btag}} = 0.521219 \pm 0.00279257$
  - Efficiency of c-tag jet per event $\epsilon_c = 0.0248581 \pm 0.00100214$
  - Effiency of non B tag jet per event $\epsilon_{\text{nonB}} = 0.00621453 \pm 0.000505835$
- $\epsilon^{\text{event}}_{\text{btag}} = 0.474583 \pm$
- $\epsilon^{\text{event}}_{\text{other}} = 0.0251688 \pm$
- $\epsilon_{\text{btag}} = 0.487808 \pm 0.267079$

- Result for the CMUP AIcceptances geq 3 jets for JETPROB
- Efficiency up to Si Good = $0.0363862 \pm 0.000229904$
- SECVTX simple efficiency = 0.641049 ± 0.0030876
- SECVTX counting method = 0.539007 ± 0.00320851

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  $$nonumber\epsilon_{\text{tagevent}} = \epsilon^{\text{event}}_{\text{b-tag}} + \epsilon_{\text{other}}\text{event} - (\epsilon^{\text{event}}_{\text{b-tag}} * epsilon^{\text{event}}_{\text{other}})nonumber\epsilon^{\text{event}}_{\text{b-tag}} = F_{1b}\epsilon_{\text{b-tag}}S + F_{2b}(2^{\epsilon}_{\text{btag}}S(1-\epsilon_{\text{btag}}S) + (\epsilon_{\text{btag}}S)^2) \quad (2)$$

  - fraction of $tbart$ events with one b-taggable jets $F_{1b} = 0.445791 \pm 0.00322966$
  - fraction of $tbart$ events with two b-taggable jets $F_{2b} = 0.398463 \pm 0.00318111$
  - Efficinecy of b-tag jets per taggable b-jet $\epsilon_{\text{btag}} = 0.649737 \pm 0.00278057$
  - Efficiency of c-tag jet per event $\epsilon_c = 0.0367071 \pm 0.00121035$
  - Effiency of non B tag jet per event $\epsilon_{\text{nonB}} = 0.0184779 \pm 0.000866831$

- $\epsilon^{\text{event}}_{\text{btag}} = 0.531268 \pm$
- $\epsilon^{\text{event}}_{\text{other}} = 0.0446998 \pm$
- $\epsilon_{\text{btag}} = 0.55222 \pm 0.347132$

- Result for the CMX Acceptances geq 3 jets for SECVTX
- Efficiency up to Si Good = $0.0103489 \pm 0.000124255$
- SECVTX simple efficiency = 0.623015 ± 0.00584913
- SECVTX counting method = 0.530517 ± 0.00602337

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  $\epsilon_{\text{tagevent}} = \epsilon^{\text{event}}_{\text{b-tag}} + \epsilon_{\text{other}}\text{event} - (\epsilon^{\text{event}}_{\text{b-tag}} * epsilon^{\text{event}}_{\text{other}})\epsilon^{\text{event}}_{\text{b-tag}} = F_{1b}\epsilon_{\text{b-tag}}S + F_{2b}(2^{\epsilon}_{\text{btag}}S(1-\epsilon_{\text{btag}}S) + (\epsilon_{\text{btag}}S)^2)$

  - fraction of $tbart$ events with one b-taggable jets $F_{1b} = 0.374634 \pm 0.00585423$
  - fraction of $tbart$ events with two b-taggable jets $F_{2b} = 0.532621 \pm 0.00603452$
  - Efficinecy of b-tag jets per taggable b-jet $\epsilon_{\text{btag}} = 0.528294 \pm 0.00503164$
  - Efficiency of c-tag jet per event $\epsilon_c = 0.0327749 \pm 0.00214889$
  - Effiency of non B tag jet per event $\epsilon_{\text{nonB}} = 0.00611799 \pm 0.000941134$
- $\epsilon^{\text{event}}_{\text{btag}} = 0.506584 \pm$
- $\epsilon^{\text{event}}_{\text{other}} = 0.0315033 \pm$
- $\epsilon_{\text{btag}} = 0.522128 \pm 0.284856$

- Result for the CMX Acceptances *geq* 3 jets for JETPROB
- Efficiency up to Si Good = $0.0103489 \pm 0.000124255$
- SECVTX simple efficiency = 0.686817 ± 0.00559757

  Result for the Acceptances *geq* 3 jets for JETPROB
- Efficiency up to Si Good = $0.0103489 \pm 0.000124255$
- SECVTX simple efficiency = 0.686817 ± 0.00559757
- SECVTX counting method = 0.578441 ± 0.00595989

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  $\epsilon_{\text{tagevent}} = \epsilon^{\text{event}}_{\text{b-tag}} + \epsilon_{\text{other}}\text{event} - (\epsilon^{\text{event}}_{\text{b-tag}} * epsilon^{\text{event}}_{\text{other}})\epsilon^{\text{event}}_{\text{b-tag}} = F_{1b}\epsilon_{\text{b-tag}}S + F_{2b}(2^{\epsilon}_{\text{btag}}S(1-\epsilon_{\text{btag}}S) + (\epsilon_{\text{btag}}S)^2)$

  – fraction of *tbart* events with one b-taggable jets $F_{1b} = 0.422616 \pm 0.00597454$
  – fraction of *tbart* events with two b-taggable jets $F_{2b} = 0.451872 \pm 0.00601932$
  – Efficinecy of b-tag jets per taggable b-jet $\epsilon_{\text{btag}} = 0.645087 \pm 0.00502503$
  – Efficiency of c-tag jet per event $\epsilon_c = 0.0476329 \pm 0.00257061$
  – Effiency of non B tag jet per event $\epsilon_{\text{nonB}} = 0.0260743 \pm 0.00192331$
- $\epsilon^{\text{event}}_{\text{btag}} = 0.556904 \pm$
- $\epsilon^{\text{event}}_{\text{other}} = 0.0597028 \pm$
- $\epsilon_{\text{btag}} = 0.583358 \pm 0.353539$