Summary table of generated signal and background events for 100 000 generated t-tbar-jet background events

	inclusive	boosted	t-tbar-2muons background				t-tbar-j bkg
			Bkg_1	Bkg_2	Bkg_3	Bkg_4	
MadGraph generation	lhapdf id 303400 (NNPDF NLO) pT > 20 for alp MT=172 top mass	lhapdf id 303400 (NNPDF NLO) pT > 20 for alp pT > 40 for top MT=172 top mass	lhapdf id 303400 (NNFDF NLO) MT=172 top mass pT > **10** GeV for charged leptons eta < 2.5 for charged leptons DeltaR > 0.4 between leptons	pT > **5.0** for charged leptons eta < 2.5 for charged leptons DeltaR > 0.4 between leptons	pT > 5.0 for charged leptons eta < **3.5** for charged leptons DeltaR > **0.2** between leptons	pT > 5.0 for charged leptons eta < 3.5 for charged leptons DeltaR > 0.2 between leptons	pT > 40 GeV for jet eta < 5 for jet lhapdf id 303400 (NNPDF NLO) MT=172 top mass
# events	100 000	100 000	100 000	100 000	100 000	100 000	100 000
Pythia	-	-	-	-	-	-	On tops and jet Gives the .hepmc file
MadAnalysis	-	-	-	-	-	-	Looking for top ancestors and counts muons and muon pairs Adds event if (top and antitop found) and number of muons>=2
#events	-	-	-	-	-	-	2436 rows in muon_data.txt
Data_Exploration script reading from file	Reading from .lhe file	Reading from .lhe file	Reading from .lhe file	Reading from .lhe file	Reading from .lhe file	Reading from .lhe file	Reading from muon_data.txt file Checks again if we have 1 t, 1 t~, 1 mu, 1 mu~ Reduced number of events because some events have 0 muons from the jet
# events	100 000	100 000	100 000	100 000	100 000	100 000	1952
# expected events	for ma=1GeV: 1.3845e+4	for ma=1GeV: 1.2353e+2	2.5681e+3	2.8248e+3	3.013e+3	3.3144e+3	7.5796e+5
Cross-sections	for ma=1GeV: 0.0923017	for ma=1GeV: 0.0008235391	0.017120891	0.01883237	0.02008674	0.022096	258.866665
integrated luminosity	150 fm-1						

Summary table of generated signal and background events for 50 000 t-tbar-jet background events, comparing number of events with muons and electrons

	inclusive	boosted	t-tbar-2muons background				t-tbar-j bkg	t-tbar-j bkg same sample looking for electrons
			Bkg_1	Bkg_2	Bkg_3	Bkg_4		
MadGraph generation	lhapdf id 303400 (NNPDF NLO) pT > 20 for alp MT=172 top mass	lhapdf id 303400 (NNPDF NLO) pT > 20 for alp pT > 40 for top MT=172 top mass	lhapdf id 303400 (NNFDF NLO) MT=172 top mass pT > **10** GeV for charged leptons eta < 2.5 for charged leptons DeltaR > 0.4 between leptons	pT > **5.0** for charged leptons eta < 2.5 for charged leptons DeltaR > 0.4 between leptons	pT > 5.0 for charged leptons eta < **3.5** for charged leptons DeltaR > **0.2** between leptons	pT > 5.0 for charged leptons eta < 3.5 for charged leptons DeltaR > 0.2 between leptons	pT > 40 GeV for jet eta < 5 for jet lhapdf id 303400 (NNPDF NLO) MT=172 top mass	same as for t-tbar-j
# events	100 000	100 000	100 000	100 000	100 000	100 000	50 000	50 000
Pythia	-	-	-	-	-	-	On tops and jet Gives the .hepmc file	On tops and jet Gives the .hepmc file
MadAnalysis	-	-	-	-	-	-	Looking for top ancestors and counts muons and muon pairs Adds event if (top and antitop found) and number of muons>=2	Looking for top ancestors and counts electrons and electron pairs Adds event if (top and antitop found) and number of electrons>=2
#events	-	-	-	-	-	-	1223 rows in muon_data.txt	32422 rows in electron_data.txt
Data_Exploration script reading from file	Reading from .lhe file	Reading from .lhe file	Reading from .lhe file	Reading from .lhe file	Reading from .lhe file	Reading from .lhe file	Reading from muon_data.txt file Checks again if we have 1 t, 1 t~, 1 mu, 1 mu~ Some events have 0 muons	Reading from electron_data.txt file Checks again if we have 1 t, 1 t~, 1 e, 1 e~ Some events have 0 electrons
# events	100 000	100 000	100 000	100 000	100 000	100 000	948	32171
# expected events	for ma=1GeV: 1.3845e+4	for ma=1GeV: 1.2353e+2	2.5681e+3	2.8248e+3	3.013e+3	3.3144e+3	7.3668e+5	2.5e+7
Cross-sections	for ma=1GeV: 0.0923017	for ma=1GeV: 0.0008235391	0.017120891	0.01883237	0.02008674	0.022096	259.029465	259.029465
integrated luminosity	150 fm-1							