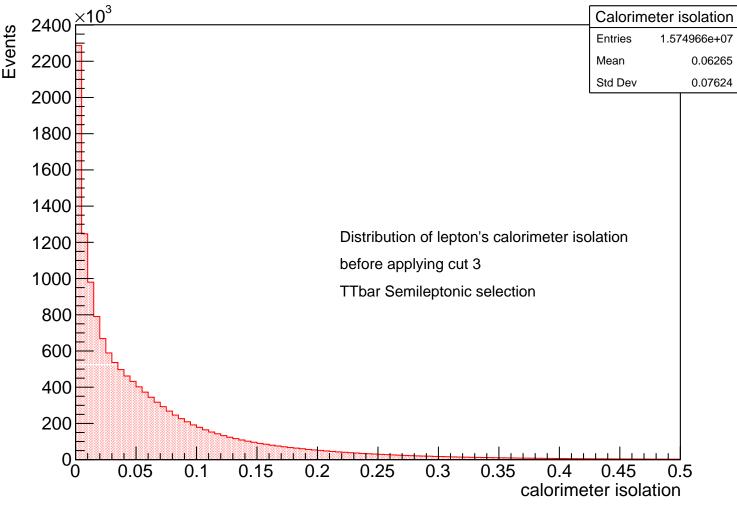
Cutflow ×10⁶ Cutflow Events Entries 4.102267e+07 Mean 1.935 14 Std Dev 0.8183 12 10 8 Number of events passing each cut 6 TTbar semileptonic selection 4 2 10 Cut

Leptons pT Distribution $\times 10^3$ Leptons pT 1000 **Entries** 1.574966e+07 Mean 36.85 Std Dev 12.72 800 600 Distribution of lepton's pT before applying cut 3 400 TTbar Semileptonic selection 200 0 20 120 40 60 80 100 pT [GeV]

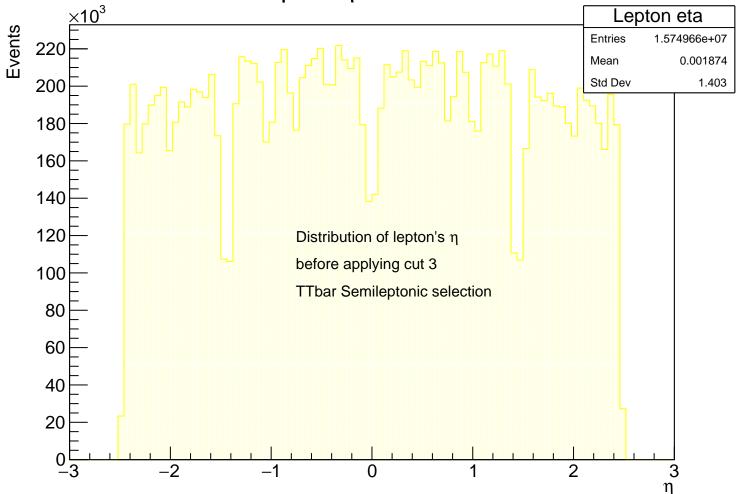
Track Isolation Distribution $\times 10^3$ Track isolation Entries 1.574966e+07 10000 Mean 0.03879 Std Dev 0.0822 8000 6000 Distribution of lepton's track isolation before applying cut 3 TTbar Semileptonic selection 4000 2000 0, 0.05 0.15 0.2 0.25 0.3 0.35 0.45 0.1 0.4

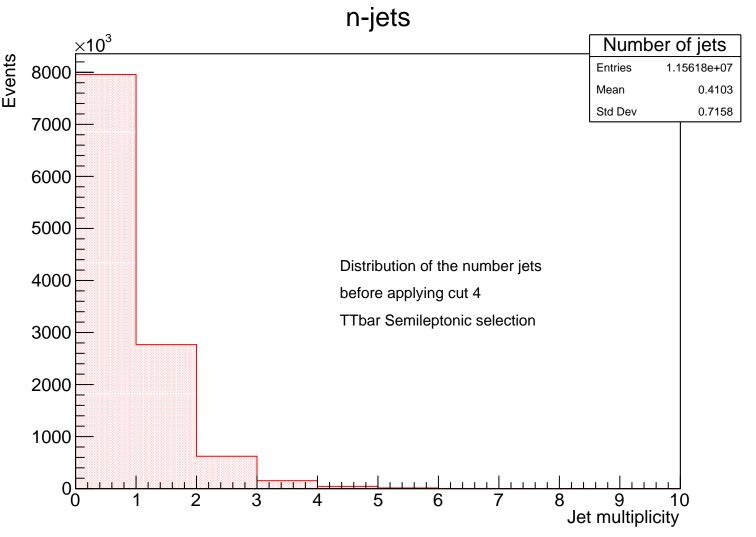
track isolation

Calorimeter Isolation Distribution

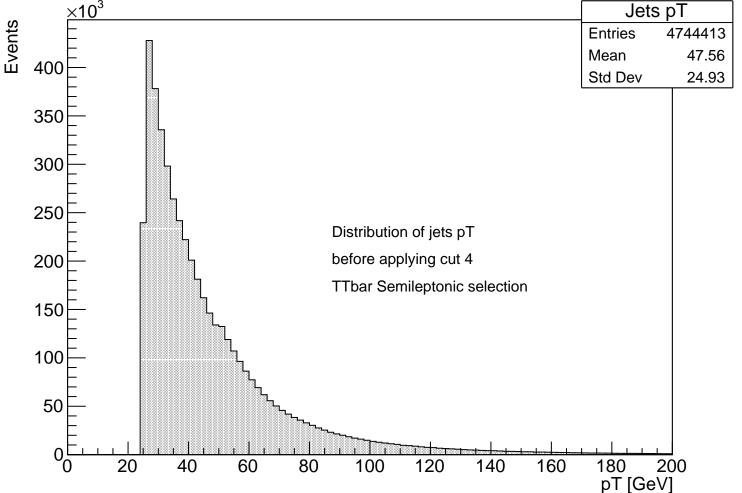


Lepton η Distribution

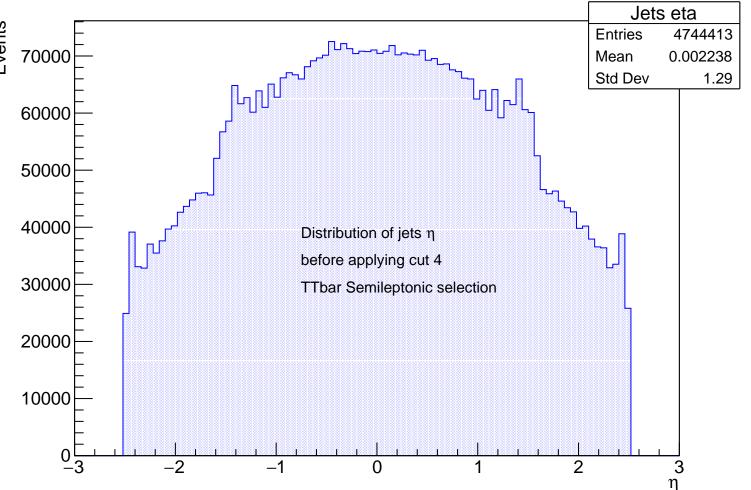




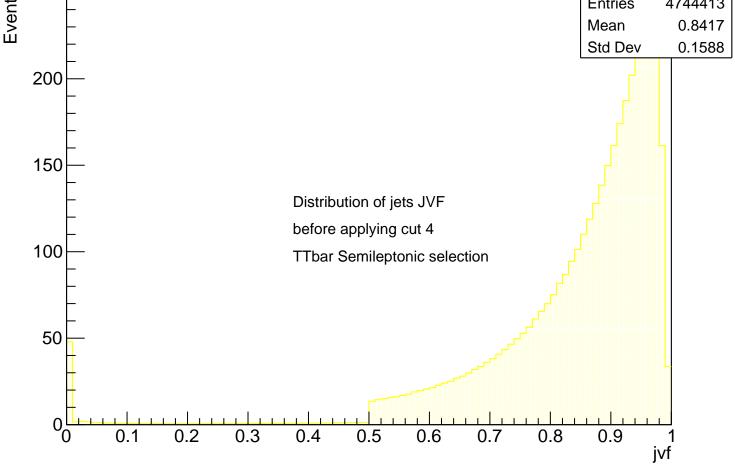
Jets pT Distribution $\times 10^3$



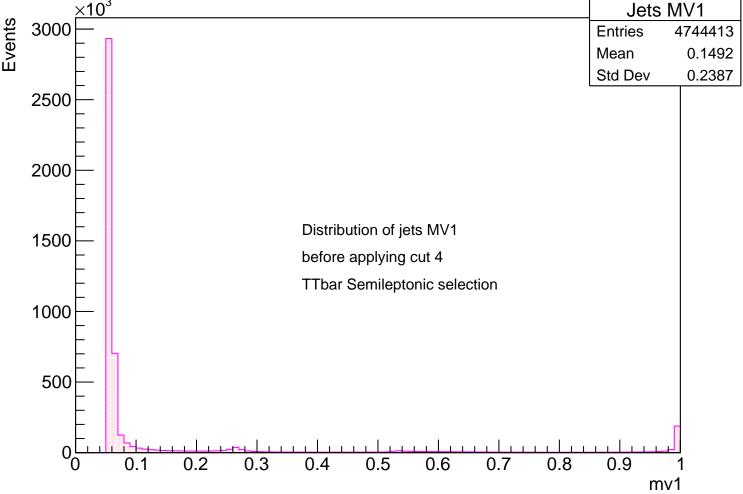
Jets η Distribution



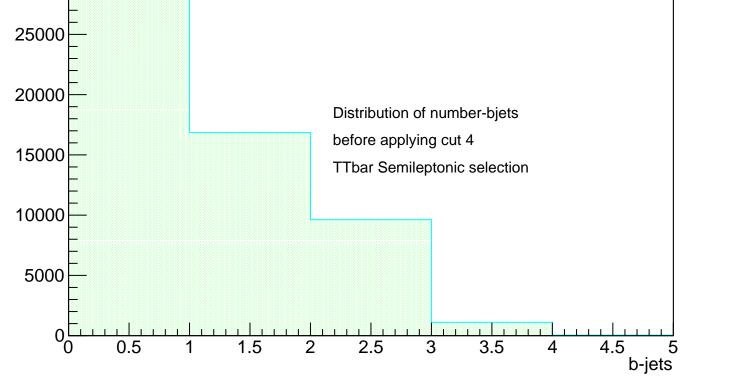
JVF Distribution 250 × 10³ Jets jvf Events **Entries** 4744413 Mean 0.8417 Std Dev 0.1588 200 150 Distribution of jets JVF before applying cut 4 100 TTbar Semileptonic selection 50



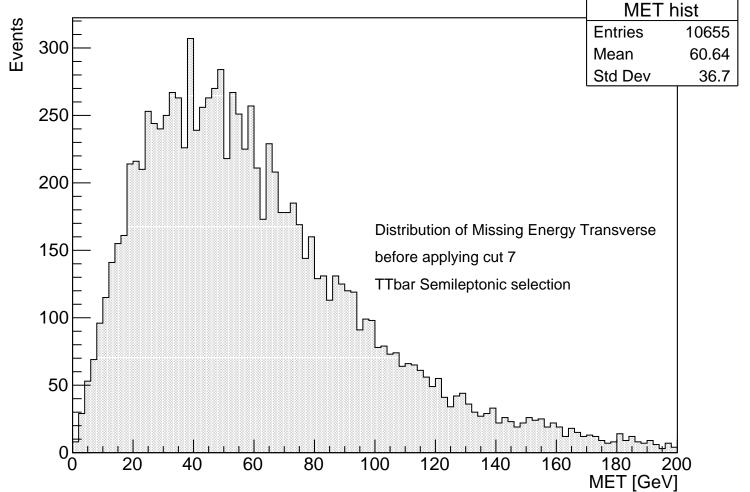
Jets MV1 Distribution ×10³



b-Jets Distribution bjets 35000 **Entries** 61995 0.6387 Mean Std Dev 0.8105 30000 25000 20000 Distribution of number-bjets before applying cut 4 15000 TTbar Semileptonic selection



MET Distribution



mT(W) Distribution mTW hist Events **Entries** Mean 68.11 Std Dev 35.22 Distribution of Transverse mass mT(W) before applying cut 8 TTbar Semileptonic selection

mT(W) [GeV]