



Cuts for Both Sets

- HLT_j60
- Leading jet: $p_T > 70 \text{ GeV}$ and $|\eta| < 2.5$
- $JVT > 0.641$ if ($p_T < 50 \text{ GeV}$ and $|\eta| < 2.4$)
- Run1LooseBadCuts and “ugly” jet removal
- Truth Dijet Test applied to MC to clean sample
 - $(\text{Lead } P_T + \text{Sublead } P_T)/2 < 1.4 * \text{Truth Lead } P_T$, for $n_{\text{jet}} > 1$
 - $(\text{Lead } p_T < 1.4 * \text{Truth Lead } p_T)$, for $n_{\text{jet}} = 1$

All tracks are tracks used by IP3D so have a $p_T > 1 \text{ GeV}$

Samples

MC Samples : 50ns dijet MC sample data with ~ 8M Events.

- Note different tags for JZ1 and JZ2-4

`“mc15_13TeV.361021.Pythia8EvtGen_A14NNPDF23LO_jetjet_JZ1W.merge.AOD.e3569_s2576_s2132_r6630_r6264/”`

`“mc15_13TeV.361022.Pythia8EvtGen_A14NNPDF23LO_jetjet_JZ2W.merge.AOD.e3668_s2576_s2132_r6630_r6264/”`

`“mc15_13TeV.361023.Pythia8EvtGen_A14NNPDF23LO_jetjet_JZ3W.merge.AOD.e3668_s2576_s2132_r6630_r6264/”`

`“mc15_13TeV.361024.Pythia8EvtGen_A14NNPDF23LO_jetjet_JZ4W.merge.AOD.e3668_s2576_s2132_r6630_r6264/”`

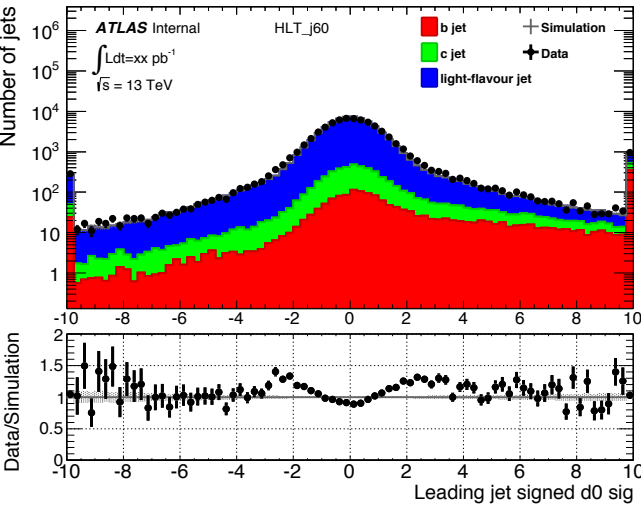
Data Samples : Stable beam collisions from Run 270806 and 270953 after GRL ~30K events

`“data15_13TeV.00270953.physics_Main.merge.DAOD_FTAG1.f611_m1463_p2375/”`

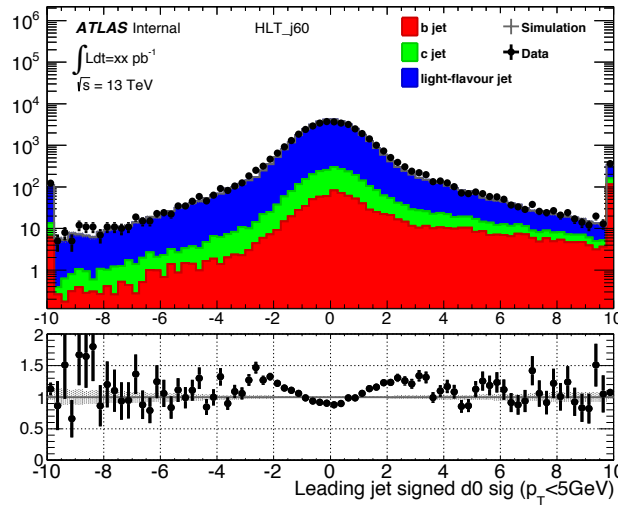
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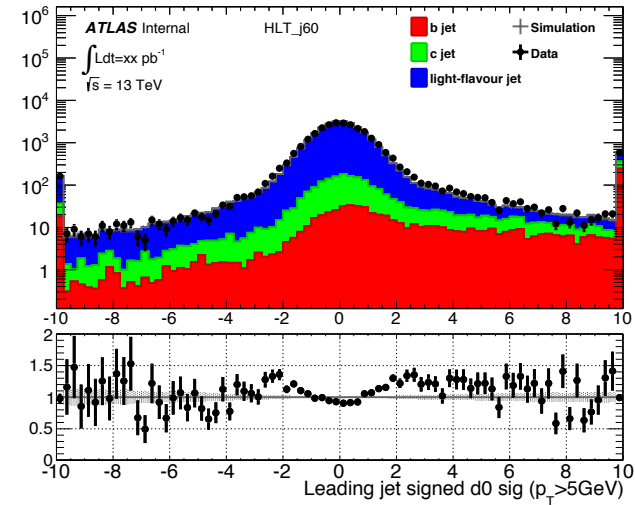
d0 Significance:



All ($p_T > 1 \text{ GeV}$)

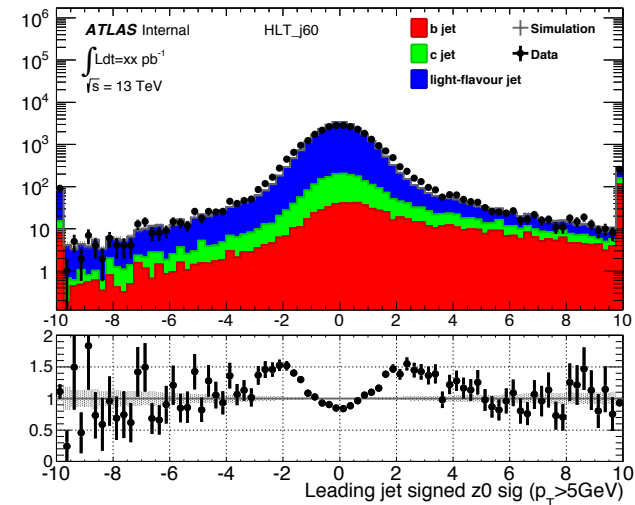
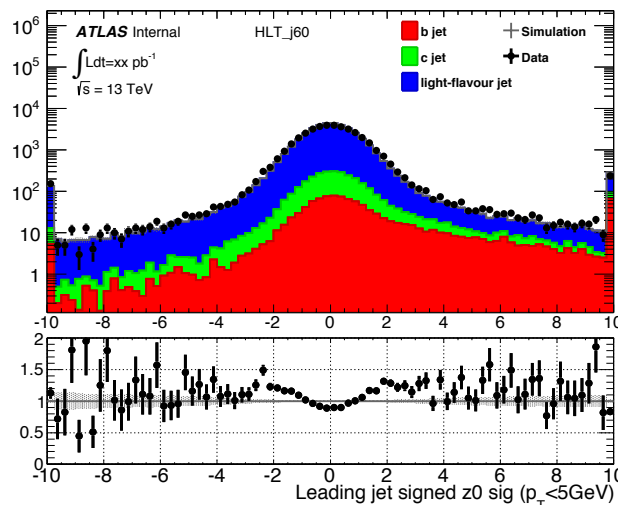
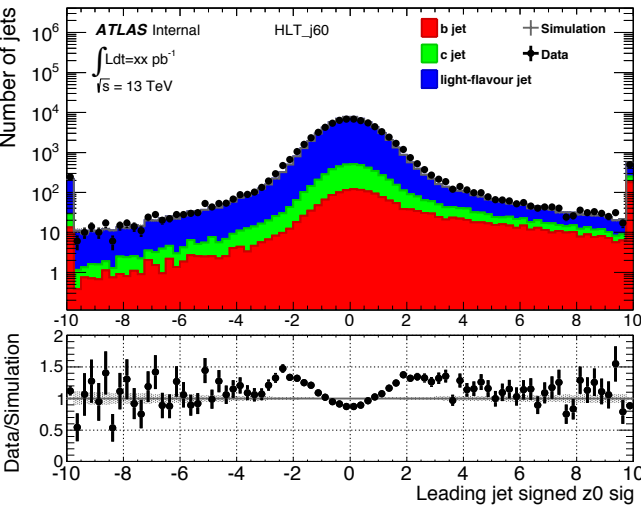


1 GeV < track $p_T < 5 \text{ GeV}$



track $p_T > 5 \text{ GeV}$

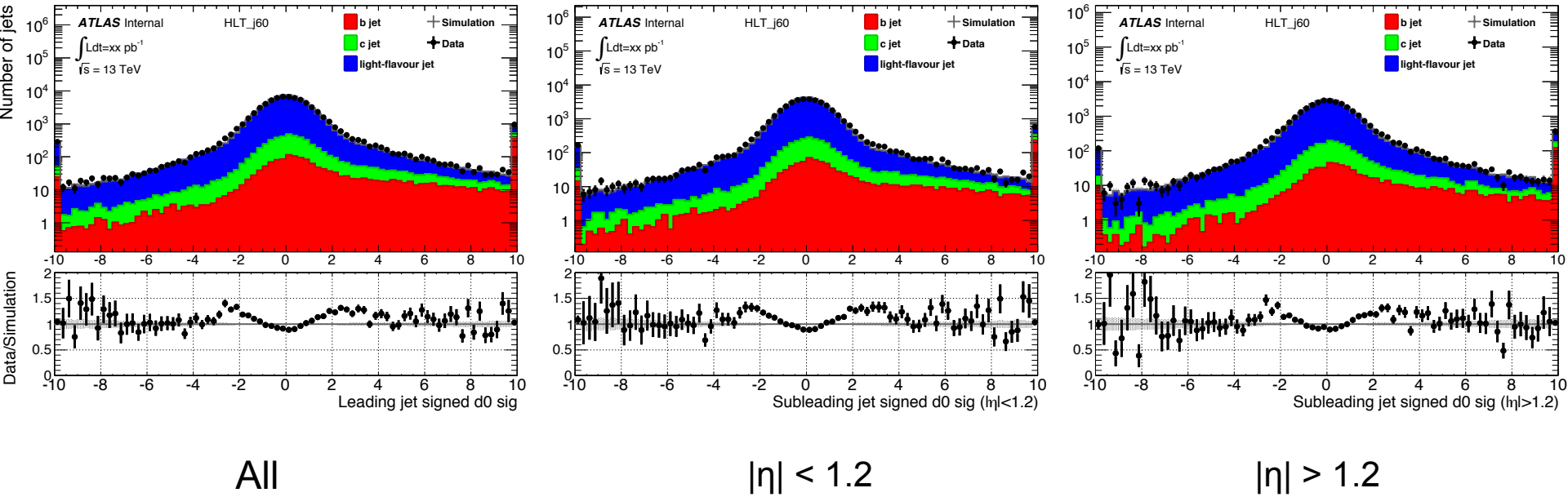
z0 Significance:



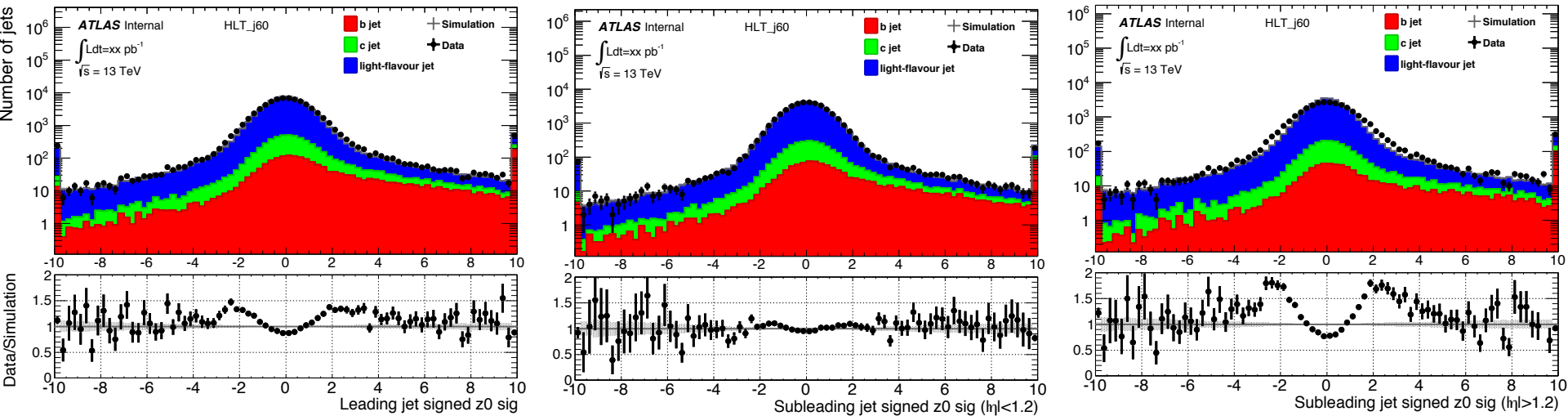


3 Signed d0/z0 Significance - Varying n

d0 Significance:



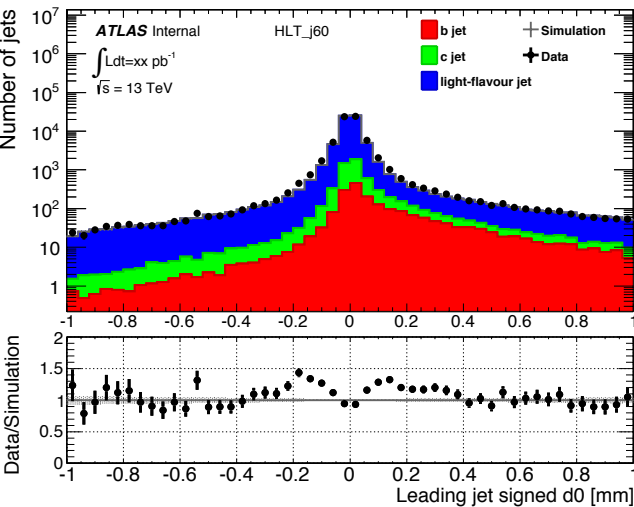
z0 Significance:



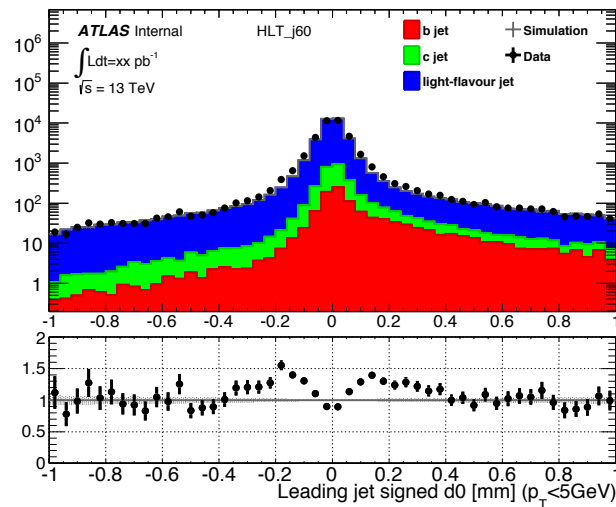


4 Signed d0/z0 - Varying Track pT

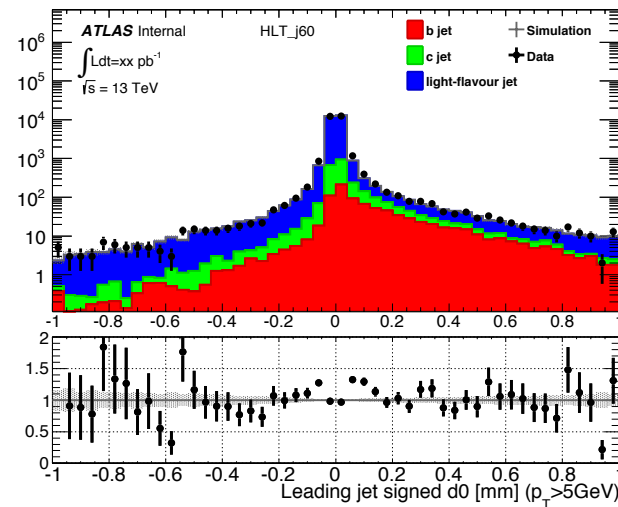
d0 Significance:



All ($p_T > 1 \text{ GeV}$)

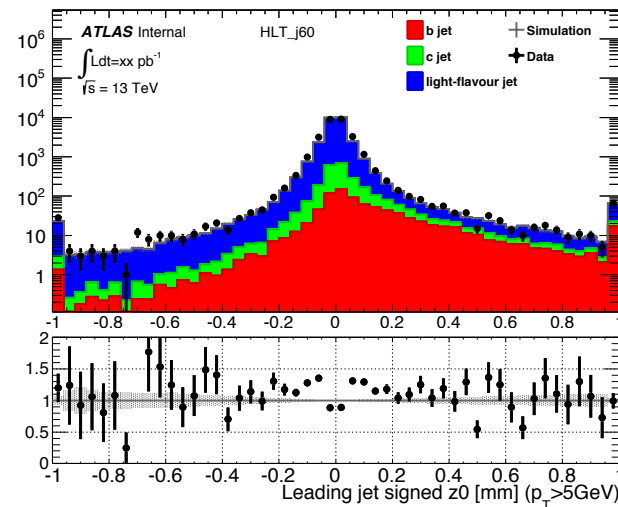
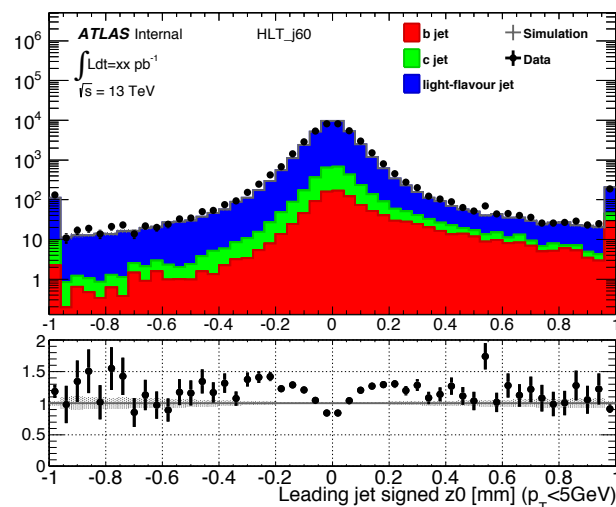
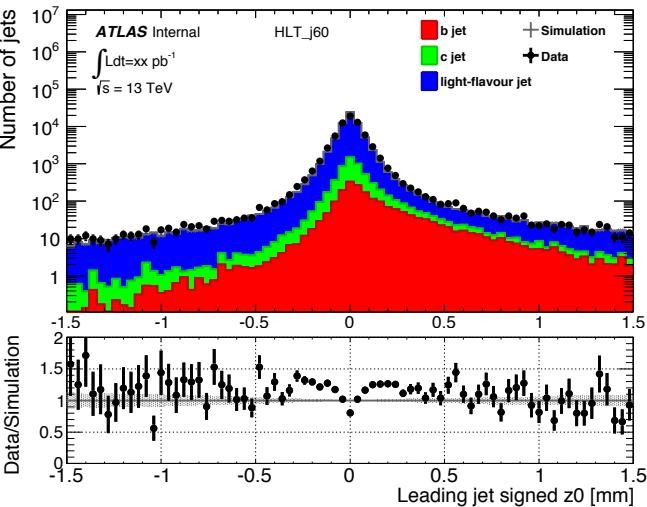


1 GeV < track p_T < 5 GeV

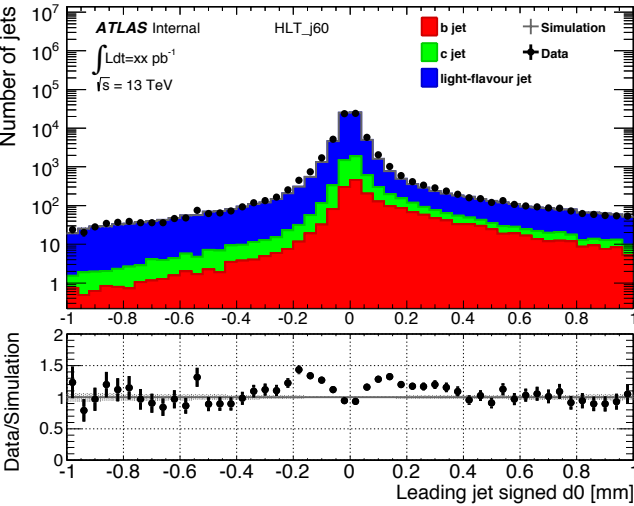


track $p_T > 5 \text{ GeV}$

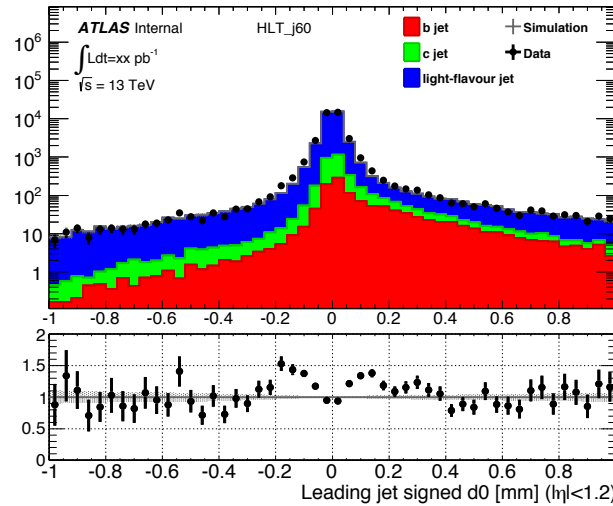
z0 Significance:



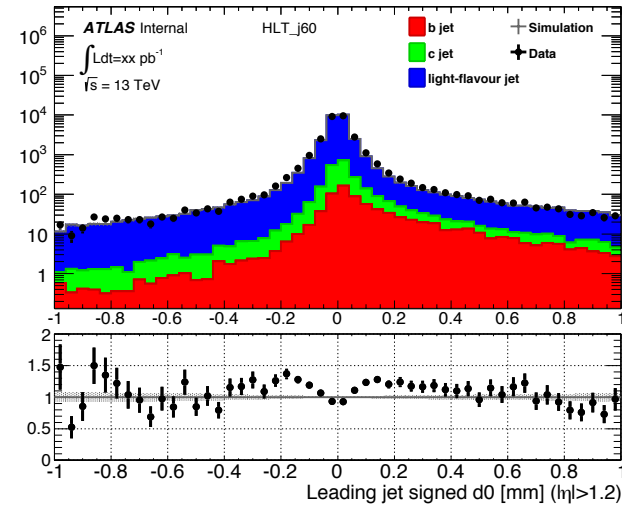
d0 Significance:



All



$|\eta| < 1.2$



$|\eta| > 1.2$

z0 Significance:

