Instrumental FTAG light-tag Eigenvar. 11 light-tag Eigenvar. 10 light-tag Eigenvar. 9 light-tag Eigenvar. 8 light-tag Eigenvar. 7 light-tag Eigenvar. 3 light-tag Eigenvar. 1 light-tag Eigenvar. 0 c-tag Eigenvar. 17 c-tag Eigenvar. 8 c-tag Eigenvar. 5 Instrumental JESR c-tag Eigenvar. 4 c-tag Eigenvar. 3 JES effective NP stat. 6 c-tag Eigenvar. 2 JES effective NP stat. 5 c-tag Eigenvar. 1 JES effective NP stat. 4 c-tag Eigenvar. 0 JES effective NP stat. 2 b-tag Eigenvar. 6 JES effective NP stat. 1 b-tag Eigenvar. 5 JES effective NP modelling 4 b-tag Eigenvar. 2 JES effective NP modelling 3 b-tag Eigenvar. 1 JES effective NP modelling 2 b-tag Eigenvar. 0 JES effective NP modelling 1 0 -2 2 -1 1 JES effective NP mixed 3 JES effective NP mixed 2 Instrumental JES effective NP mixed 1 Tau fake shape JES effective NP detector 1 Tau fake norm. JES relative non-closure AFII Lepton fake leading JES pileup ρ topology Luminosity JES pileup pT term Forward Jet-Vertex-Tagger (fJVT) JES pileup offset NPV Tau energy scale (physicslist) JES pileup offset μ Tau energy scale (model closure) JES flavour response Tau energy scale (insitu fit) JES flavour composition Tau energy scale (insitu exp.) JES η intercalibration total stat Tau energy scale (detector) JES n intercalibration non-closure (pos n) RNN Tau ID syst. JET EtaIntercalibration NonClosure 2018data Tau reconstruction JES η intercalibration modelling Tau electron veto (tot.) JES BJES Response Pile-up rew. JER EffectiveNP 9 Muon isol. eff. (syst) JER EffectiveNP 8 Muon energy scale JER EffectiveNP 7 Muon sagitta ρ topology JER EffectiveNP 6 Muon energy resolution (MS) JER EffectiveNP 5 Muon energy resolution (ID) JER EffectiveNP 4 MET soft reso (parp.) JER EffectiveNP 3 MET soft reso (para.) JER EffectiveNP 2 Jet-Vertex-Tagger (JVT) JER EffectiveNP 12restTerm Electron reco. eff. JER EffectiveNP 11 Electron isol. eff. (syst) JER EffectiveNP 10 Electron isol. eff. (stat) JER EffectiveNP 1 Electron ID eff. JER DataVsMC MC16 Electron energy scale JER DataVsMC AFII Electron energy resolution 0 -2 2 -1 0 2 -2 _1

 $(\theta - \theta_0)/\Delta\theta$

 $(\hat{\theta} - \theta_0)/\Delta \theta$





