

## **Cut Definition**

In this,

- Electron Pt cut means events having electron pt > 20, [1]
- Electron Eta cut means events having electron Eta < 2.5 [1]
- Met Pt cut means events having Met pt > 25,
- Jet Pt cut means events having jet pt > 25, [1]
- Jet Eta cut means events having jet Eta < 2.5 [1]
- forward jet pt cut means events having jet pt > 30 GeV, [2]
- forward jet energy cut means events having jet E > 300 GeV, [2]
- forward jet Eta cut means events having jet Eta > 2.5, [2]
- b\_Tag pt cut means events having pt > 25 [1]

## **B tagging**

Identification of jets produced by hadronization of b quark is known as B tagging. In Delphes software, b tagging is already done and a variable named as Btag is defined in the root file generated by delphes. The algorithm used for btag identification is, if a b

quark is found within some distance  $\Delta R = \sqrt{(\eta^{jet} - \eta^{b,\tau})^2 + (\phi^{jet} - \phi^{b,\tau})^2}$  of the jet axis then the jet is tagged as b jet.[3]

## **References**

[1] arXiv:1302.3856v3 [hep-ph] 1 Apr 2013

[2] Measuring Higgs Couplings without Higgs Bosons, PHYSICAL REVIEW LETTERS 123, 181801 (2019)

[3] arXiv:1307.6346v3 [hep-ex] 21 Mar 2014