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# B-Tagging cut flow

Algorithm/Algtool	Task	Cuts
BJetBuilder	retrieves Jet/ParticleJet collection and TrackParticle container. Calls tool for TrackParticle - Jet association. Calls BTagTool for <b>every</b> Jet in the input collection	cuts on the jet: PtMin = 10*GeV, EtaMax = 2.5, NbTrackMin = 1. <b>but these cuts are bypassed by default</b> with TagJetIfNotSelected = True
BTagTool	sets general JetTag datamembers (4 mom, aso.). Calls truth matching tool (if no truth match possible, it is set to "N/A". retrieves primary vertex container.	If there is <b>no</b> primary vertex <b>no</b> tag tool is called. BTagTool returns SC::Success to BJetBuilder.
TagTools	each tool does a dedicated tag (lifetime, secvtx)	Loops over the TrackParticles in the Jet and selects them: pt > 1.GeV, d0 to primary vertex < 1 mm, z0 to pri vtx < 1.5 mm, precision hits (pixel + sct) >= 9, Pixel hits >= 2, B-layer hits >= 1.
	SecVtxTool special cuts	also cut on a0/sig(a0) > 1. and in the vertex fit: chi2 per track < 4. and distance between primary and secondary vertex > 0.2 mm

## Conclusion: when is a Jet not tagged

Algorithm/Algtool	Stops tagging
BJetBuilder	<b>never</b> , all jets are passed through unless TagJetIfNotSelected is set to <b>False</b> via job options
BTagTool	stops if there is <b>no primary vertex</b> in the event. No tag at all will be called. The info map of the JetTag object has size 1 and will contain the TruthInfo object only.
LifetimeTag	stops if a Jet has less than 2 good tracks, no info object will be appended to the JetTag object
SecVtxTag	stops if a Jet has less than 2 good tracks, no info object will be appended to the JetTag object <b>in addition</b> does not give a usefull tag if no secondary vertex could be fitted. <b>however</b> in this case a info object will be given to the JetTag object which also will be used for tagging ... <b>Advice:</b> when reading the sec vtx info part of the JetTag check for the variable SecVtxInfo::fitType() not equal SecVtxInfo::NoFit

-- DerSchrecklicheSven - 23 May 2005

This topic: Main > CutFlow

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