

Abstract Submitted
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Level 1 b-tagging Trigger Proposal for CMS PATRICK TSANG,
Brown University, CMS COLLABORATION — A study of b -tagging in CMS Level-1 triggers by simulated data is presented. Two muon momentum cuts, loose and tight, are proposed, which give a Level-1 b -tagging efficiency of 7.9% for jet $|\eta| < 2.5$, and 7.3% for jet $|\eta| < 2.0$ respectively. For an instantaneous luminosity of $L = 2 \times 10^{33} \text{ cm}^{-2}\text{s}^{-1}$ and the jet p_T cut of 20 GeV, we obtain an integrated background rate 3.8kHz for tight cut, and 5.7kHz for loose, which is a hundred times lower than 210kHz rate of a non- b -tag L1 trigger with the same jet threshold. The proposed trigger is now under consideration by the CMS collaboration.

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