

Abstract Submitted  
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**Feasibility Study of the Measurement of the Differential Production Cross Section of  $\Upsilon \rightarrow \mu^+\mu^-$  with the CMS detector in Early LHC Data** ZOLTAN GECSE, IAN SHIPSEY, Purdue University, CMS COLLABORATION — We present a feasibility study of the measurement of the differential production cross-section of  $\Upsilon \rightarrow \mu^+\mu^-$  in early proton-proton collision data produced by the LHC accelerator at  $\sqrt{s} = 10$  TeV and collected by the CMS detector. About two thousand reconstructed  $\Upsilon \rightarrow \mu^+\mu^-$  decays are expected to pass the di-muon trigger per  $1 \text{ pb}^{-1}$  of data, providing a statistically significant signal sample. The  $\Upsilon$  resonance also provides the set of muons used to measure the reconstruction and trigger efficiencies in the low transverse momentum range.

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