

MG5 LHE Validation

Wei Shi

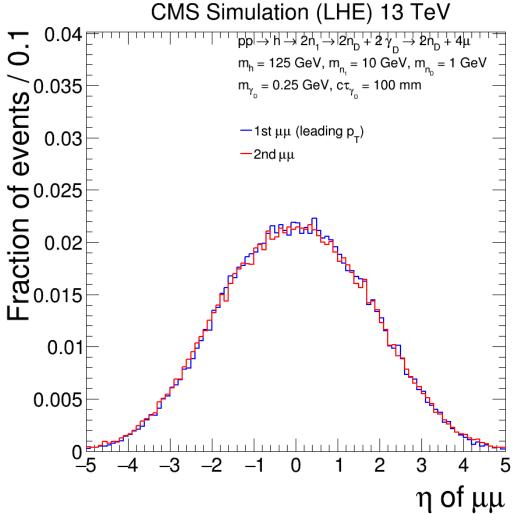
TAMU+RICE working meeting

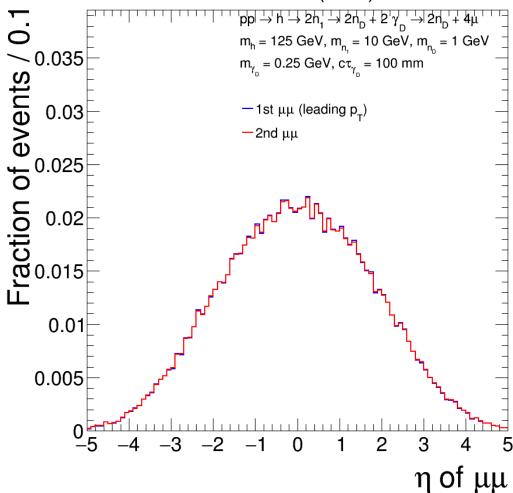
MG5









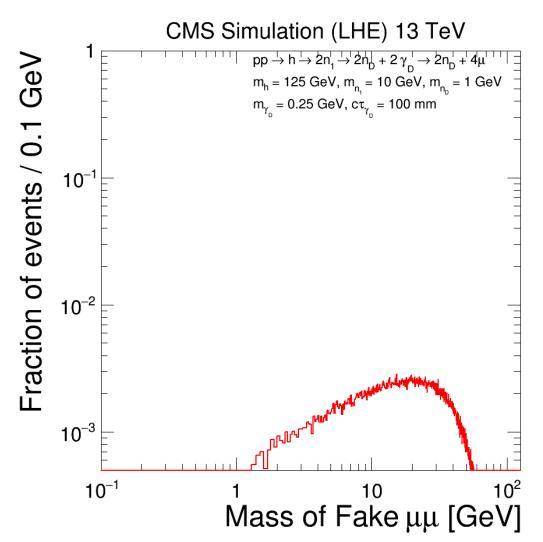


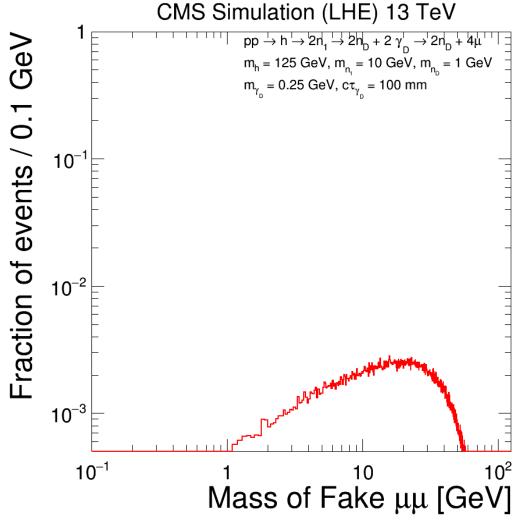
MG5





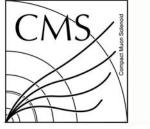




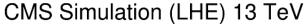


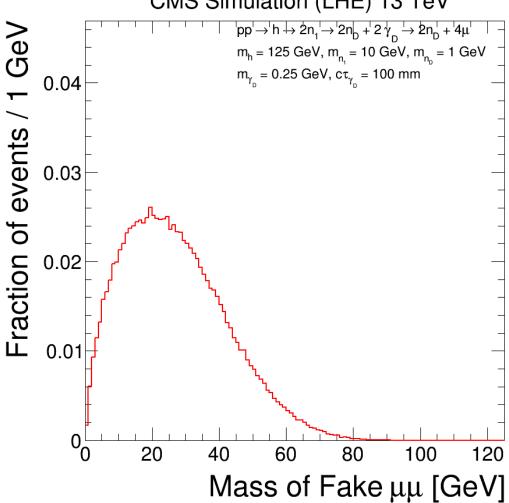


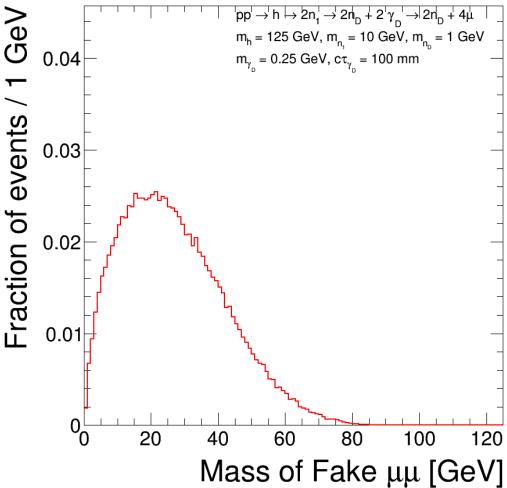






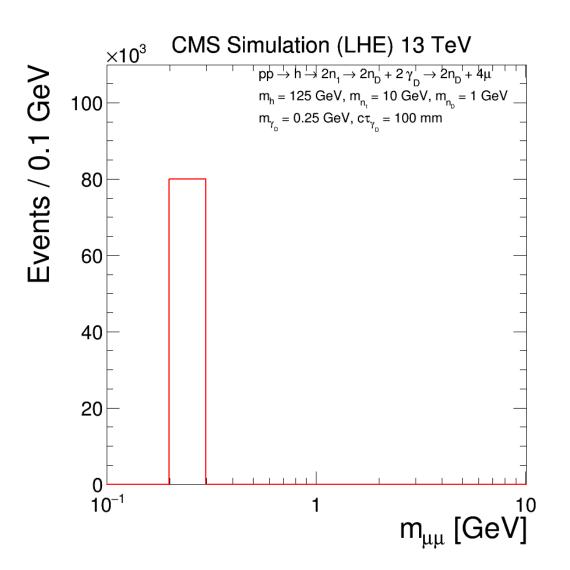




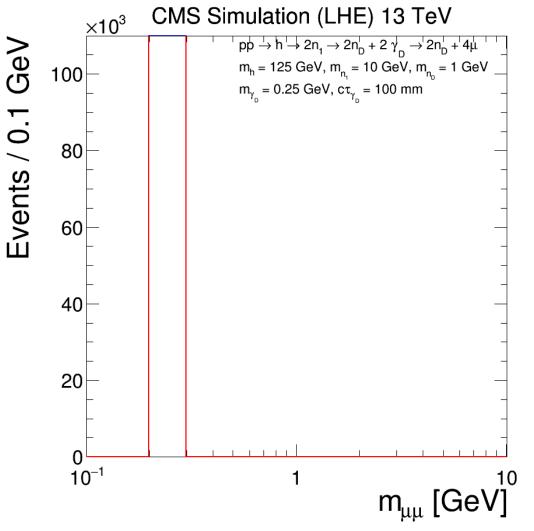




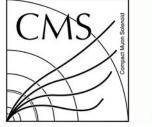




MG4

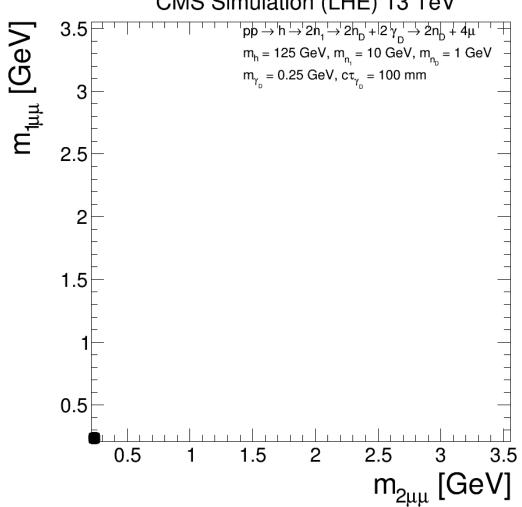


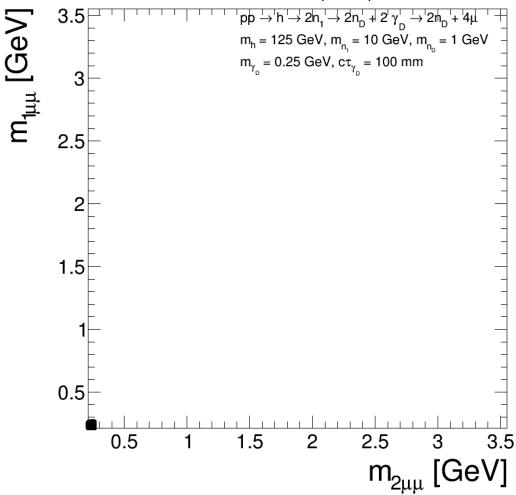
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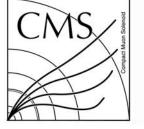


CMS Simulation (LHE) 13 TeV



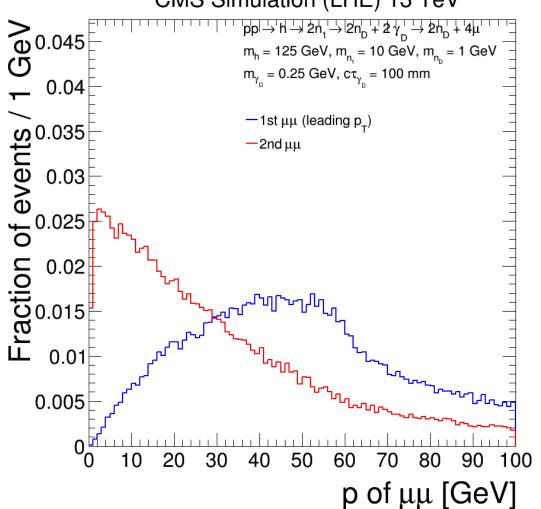


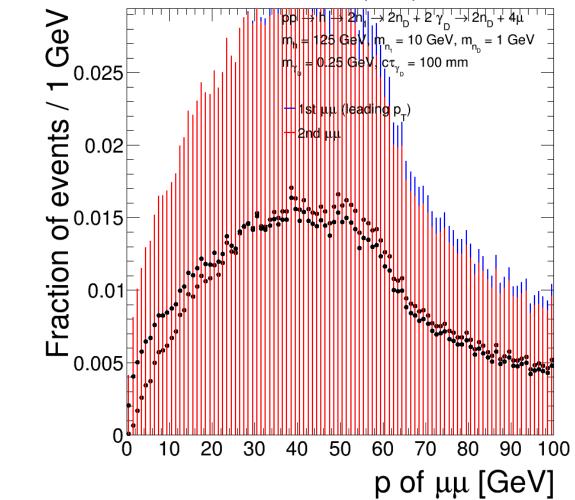
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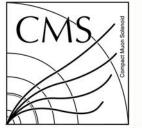






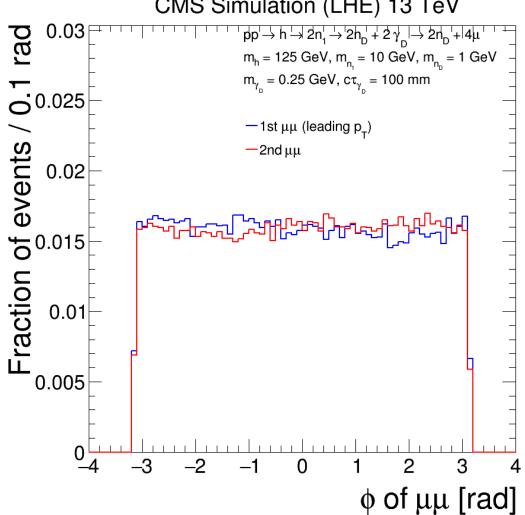


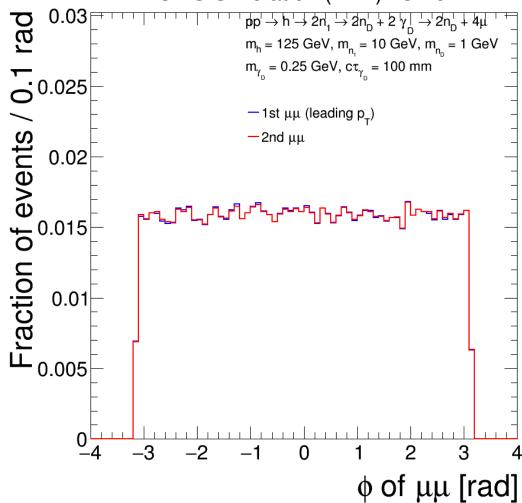




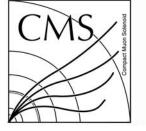




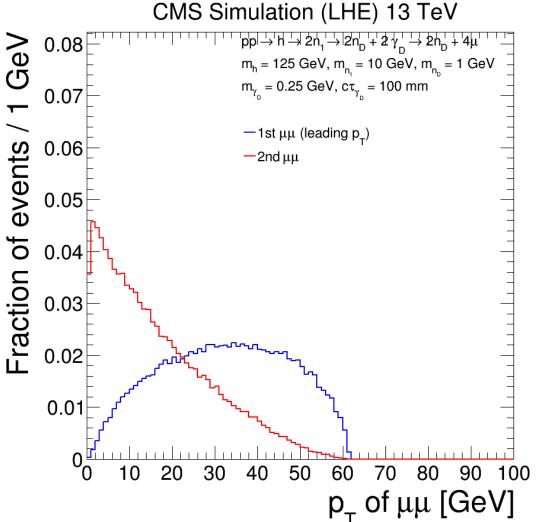


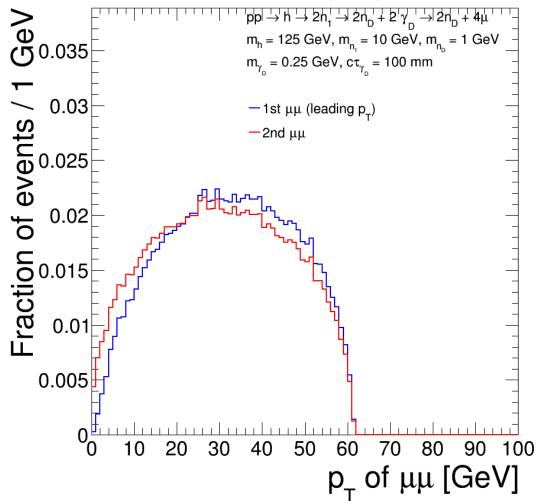


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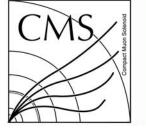






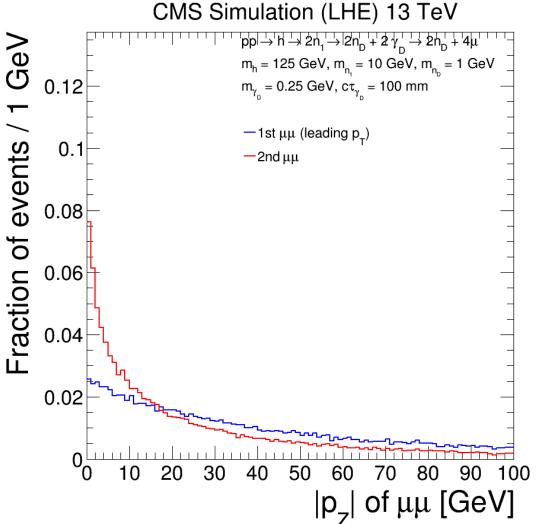


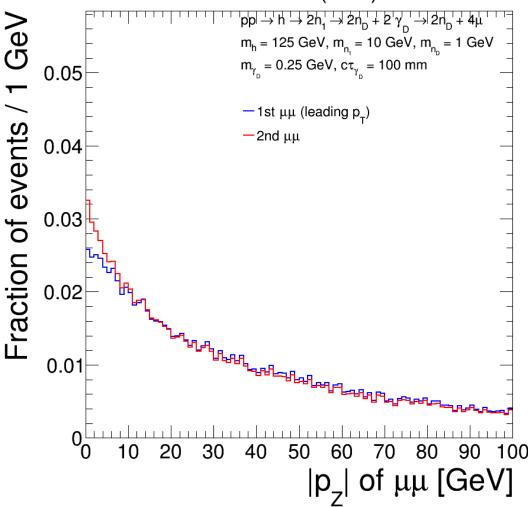




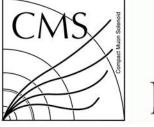






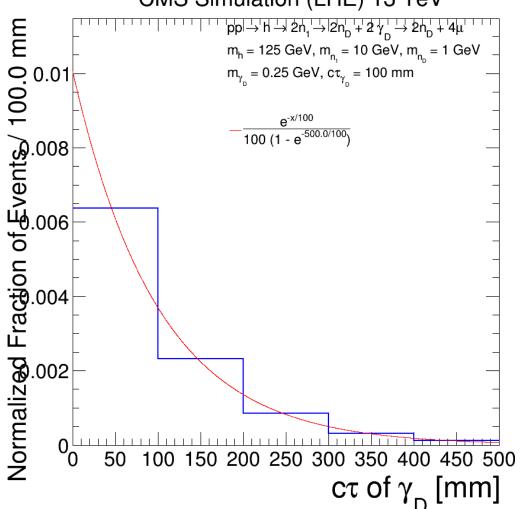


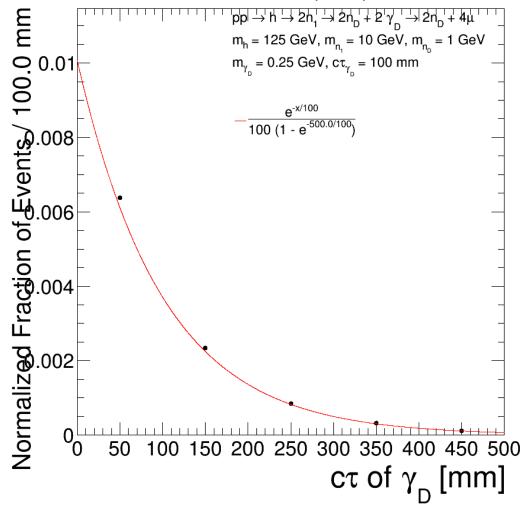




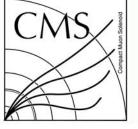


CMS Simulation (LHE) 13 TeV



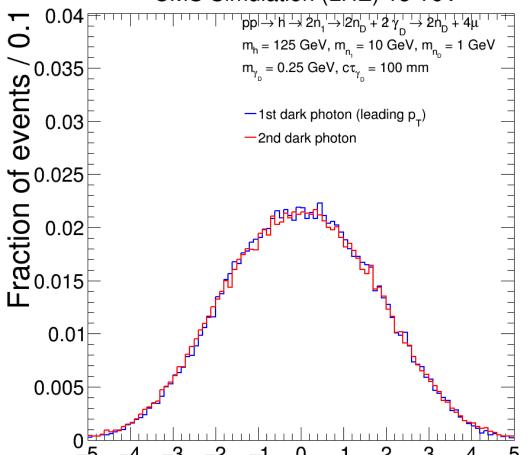


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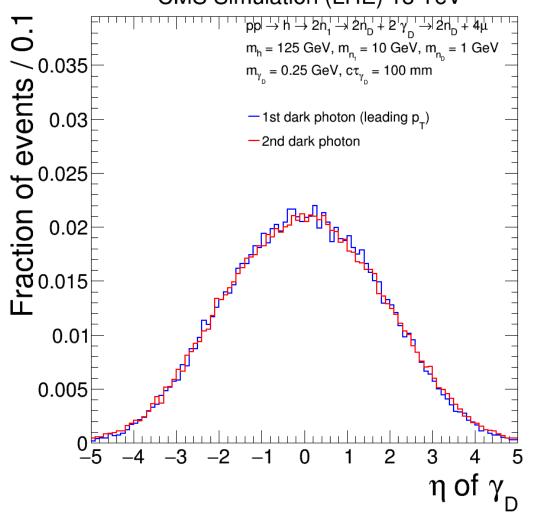








CMS Simulation (LHE) 13 TeV



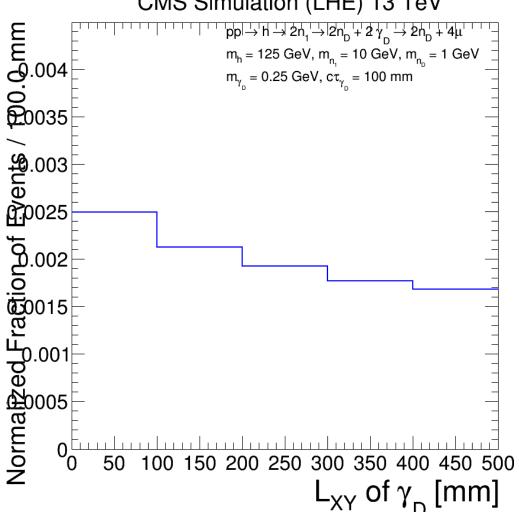
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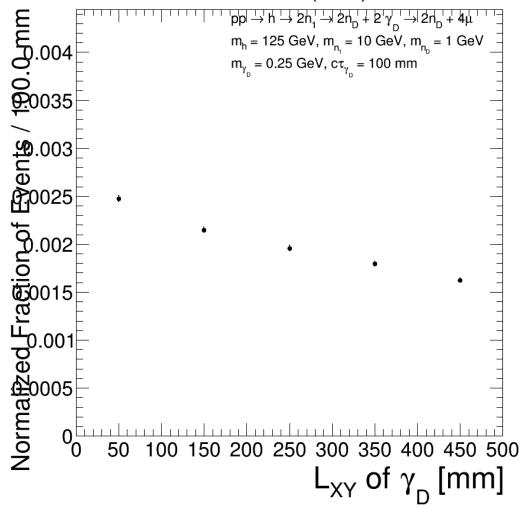
MG5





CMS Simulation (LHE) 13 TeV



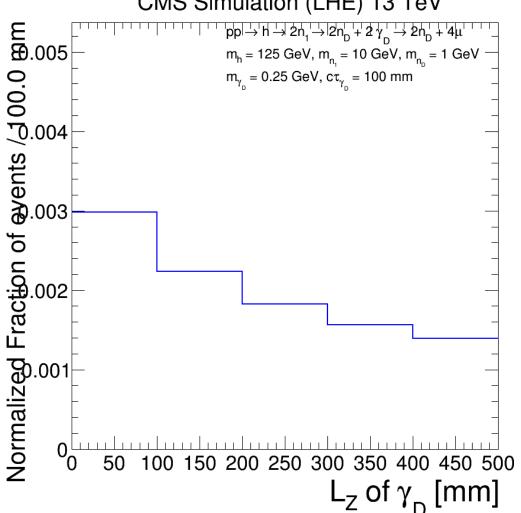


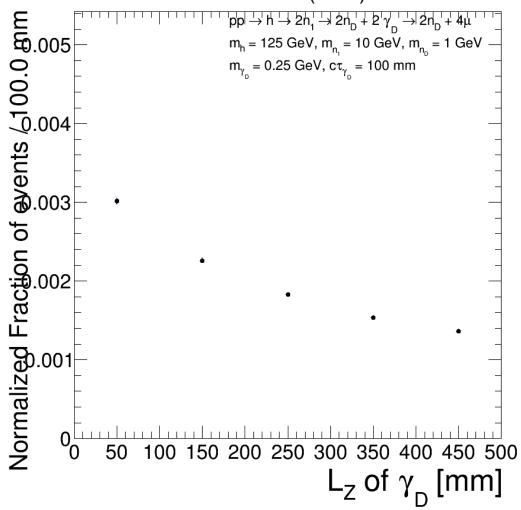
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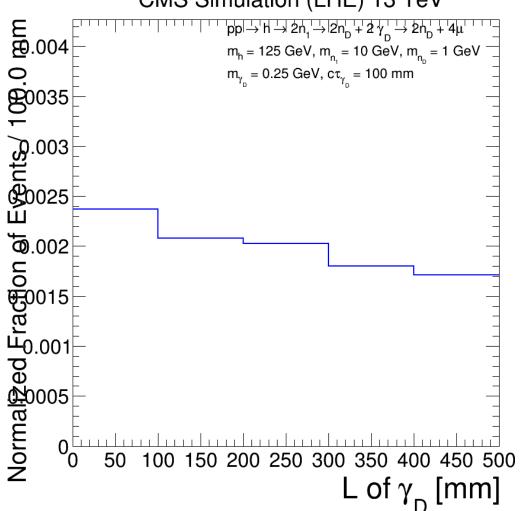


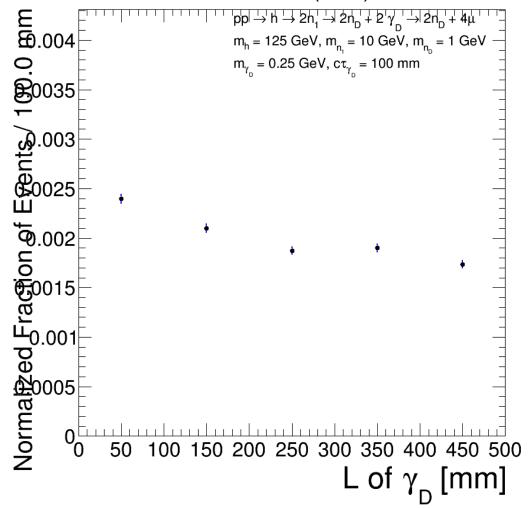
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CMS Simulation (LHE) 13 TeV

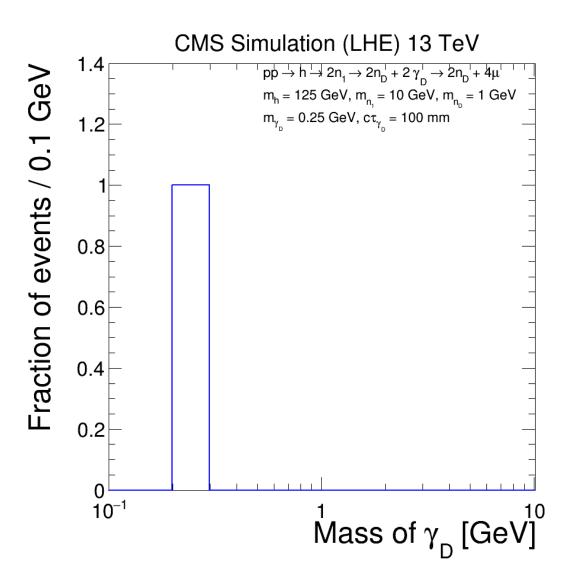


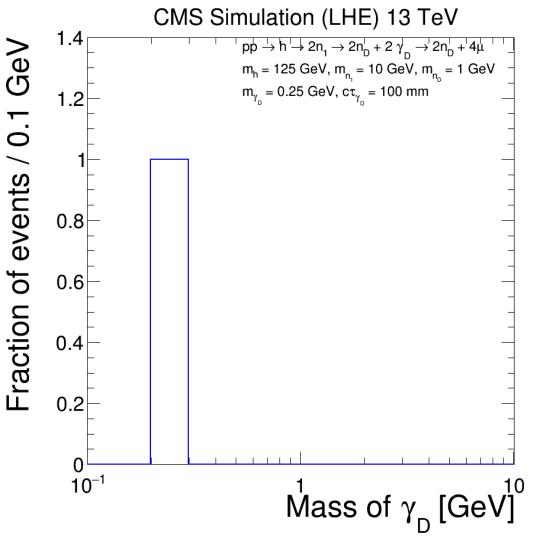








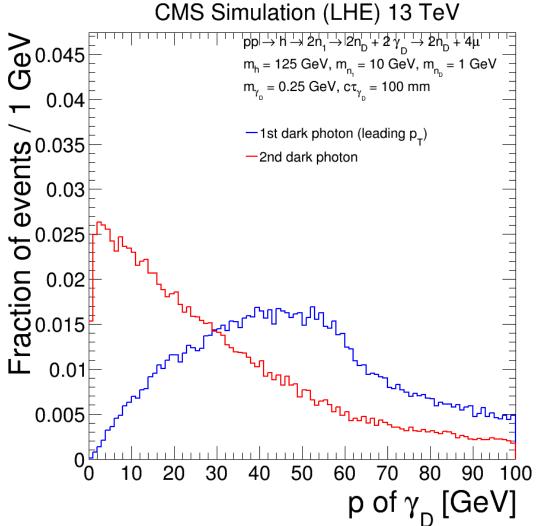






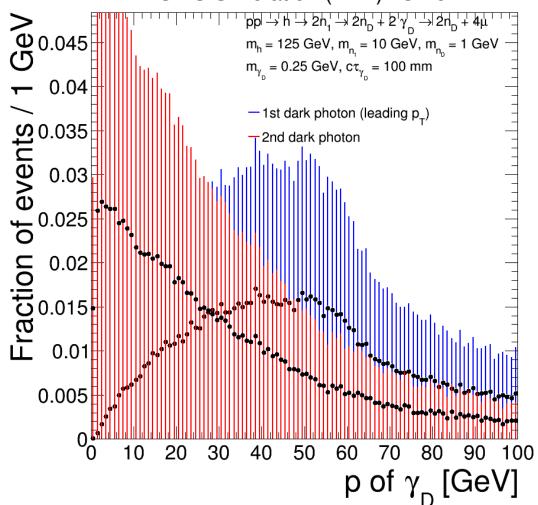


1-1'- - (1-11E) 40 E-1/

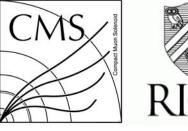


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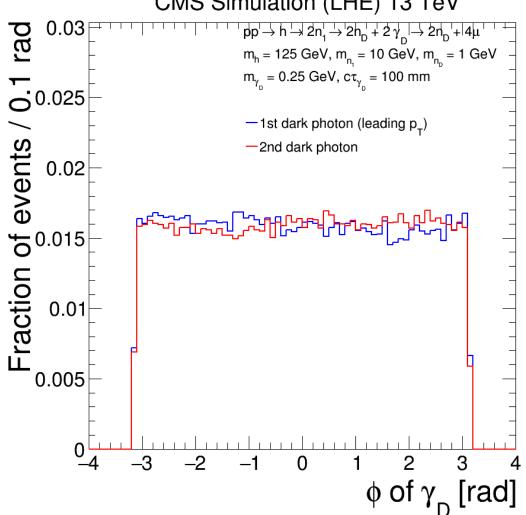


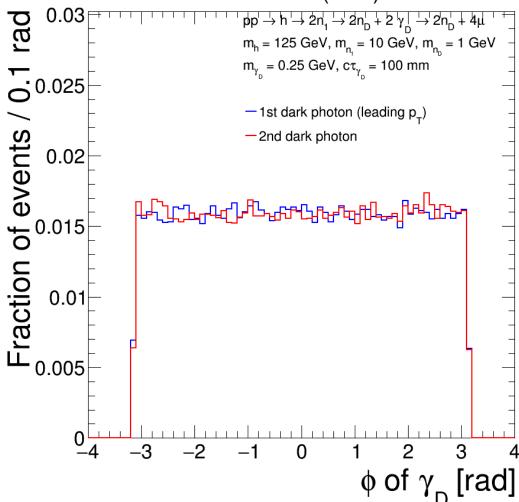






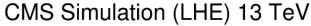


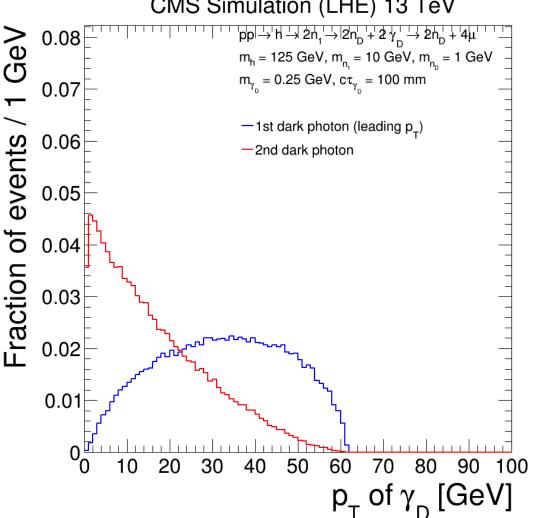






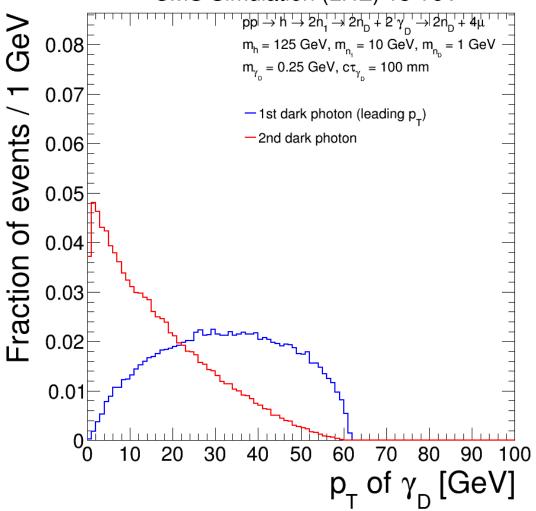




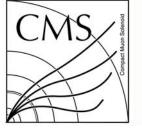


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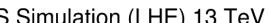
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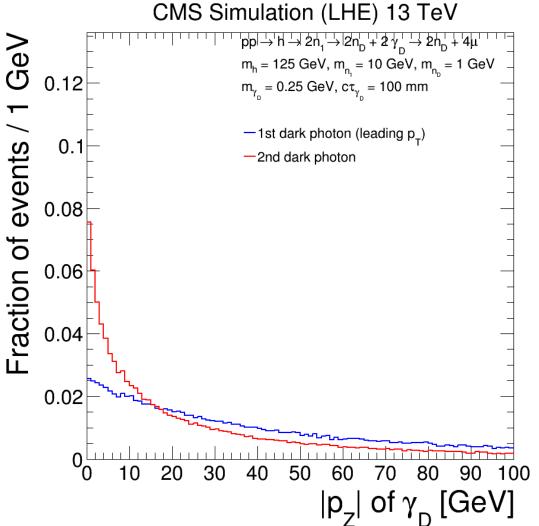


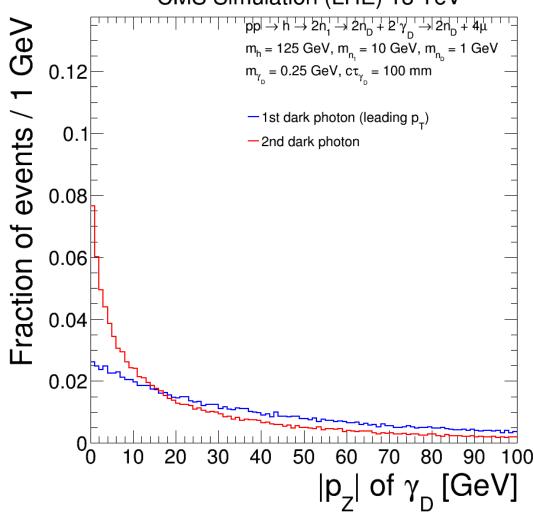
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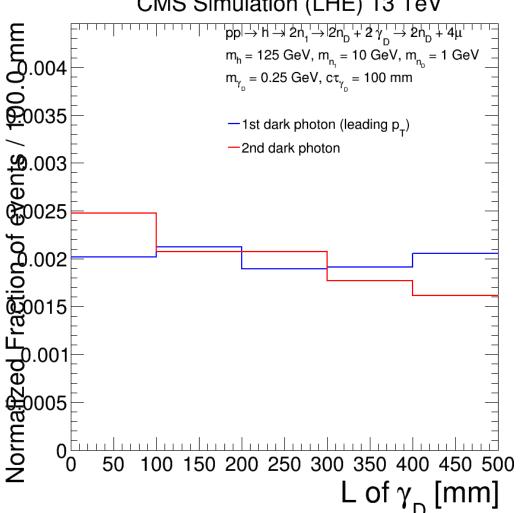


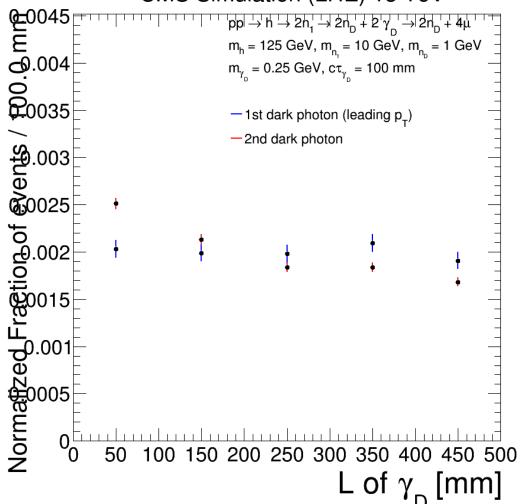
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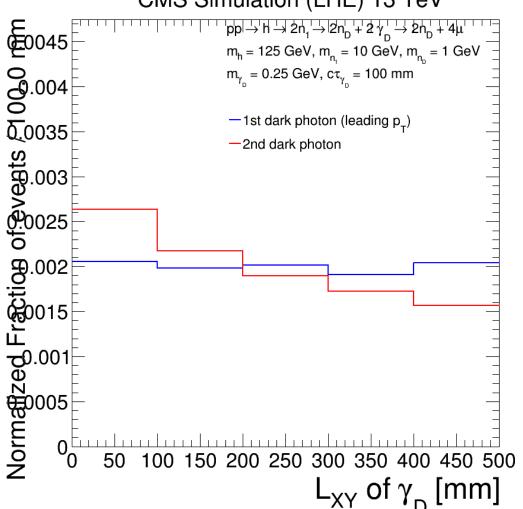


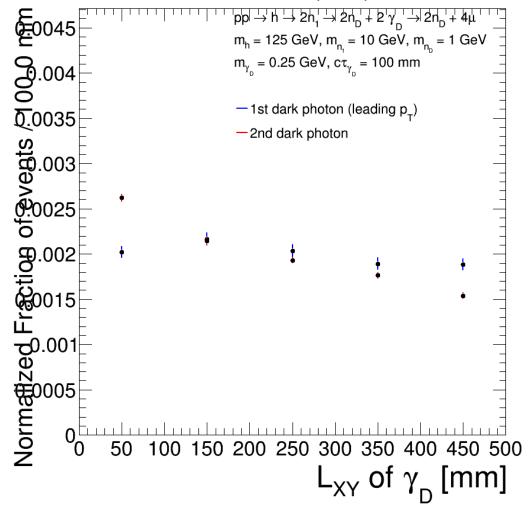
MG5





CMS Simulation (LHE) 13 TeV



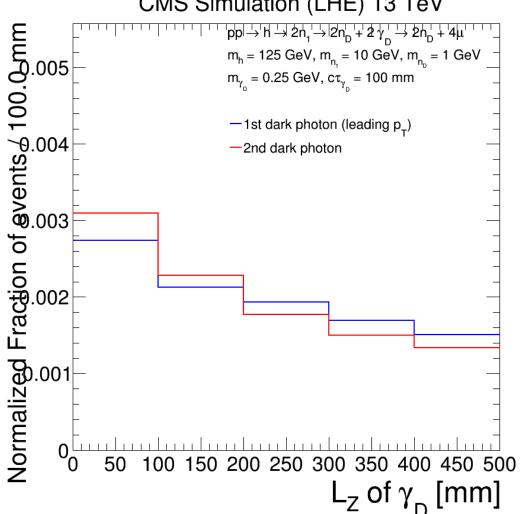


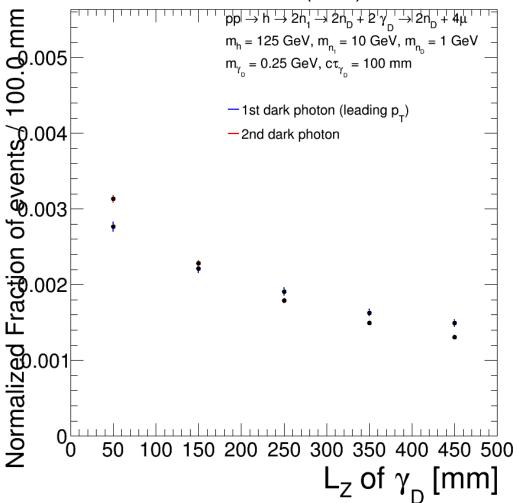
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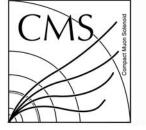






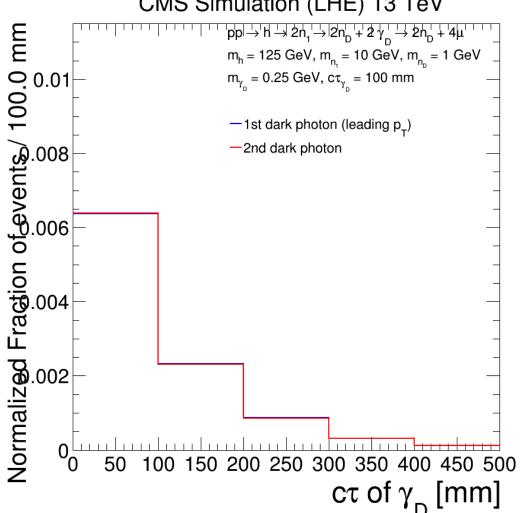


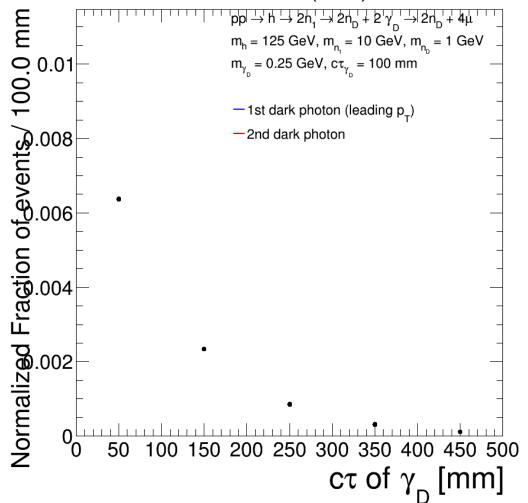










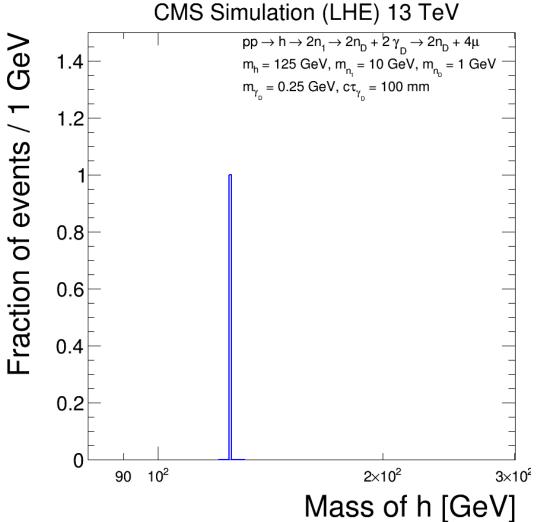


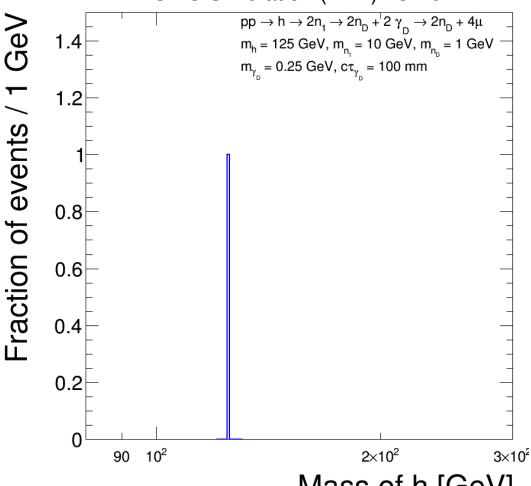






MG4

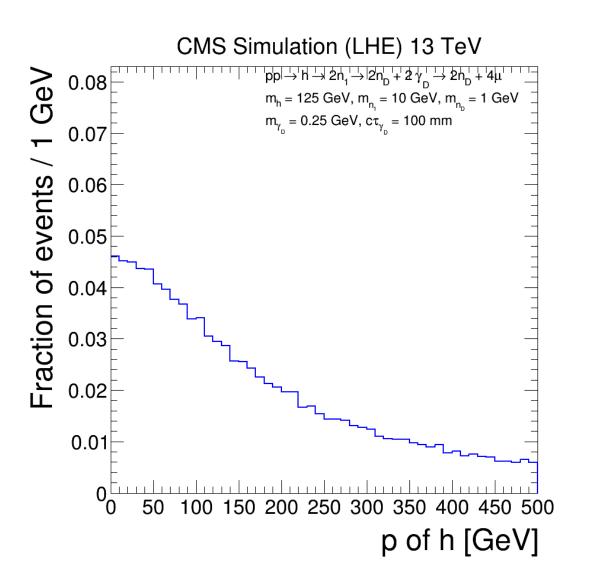


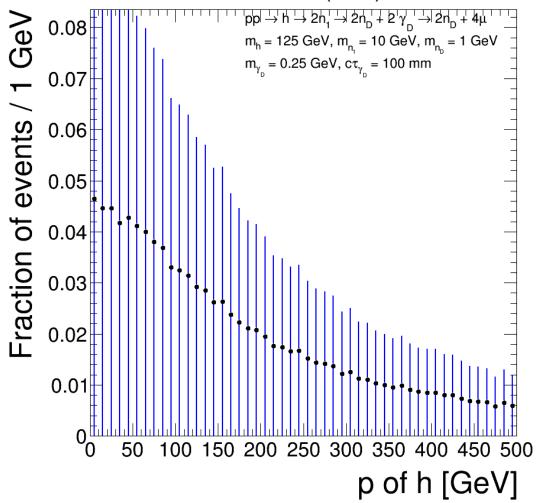










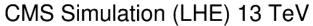


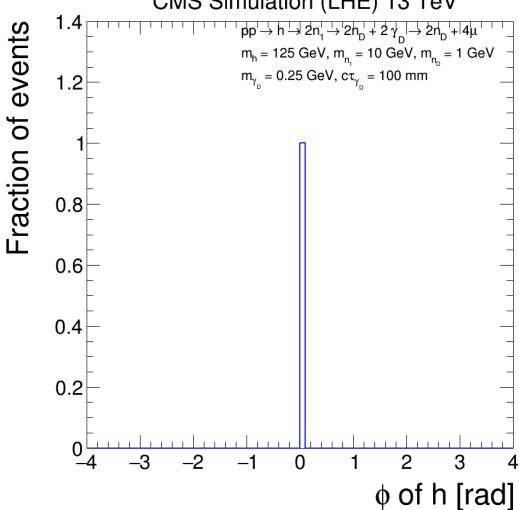


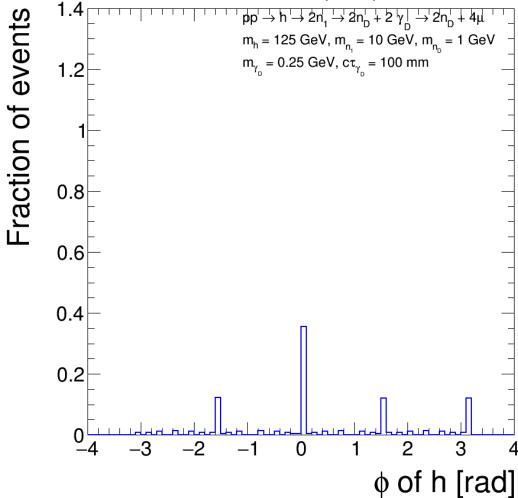




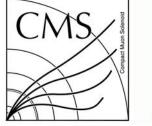




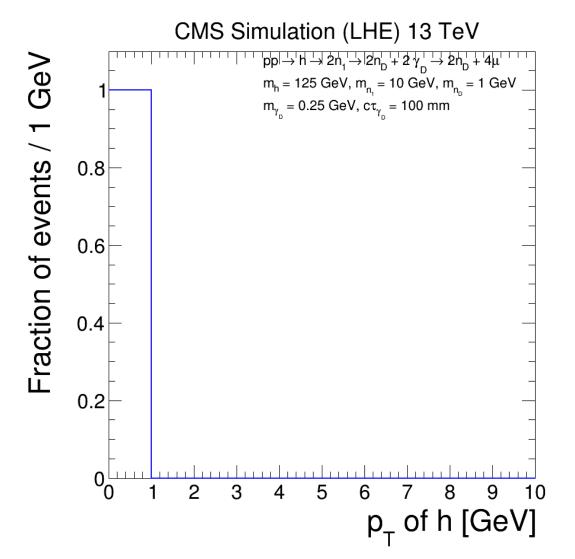


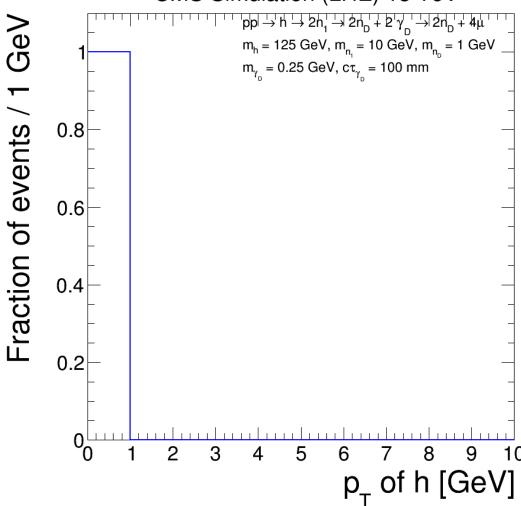










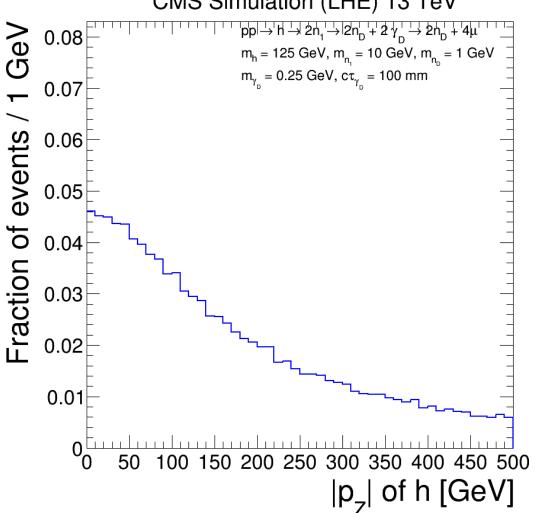


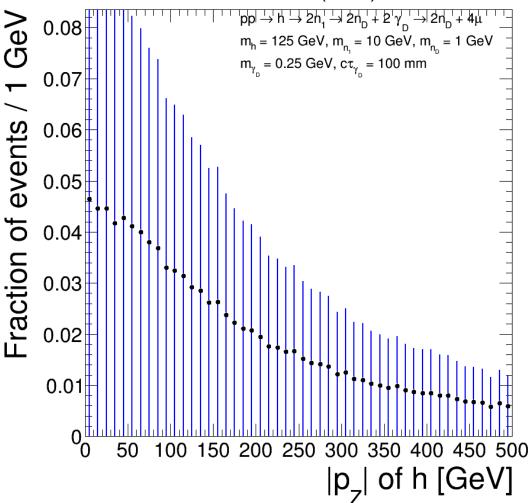




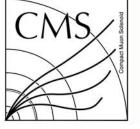






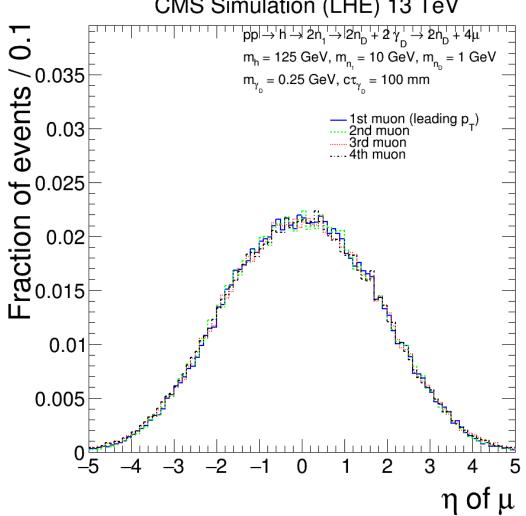


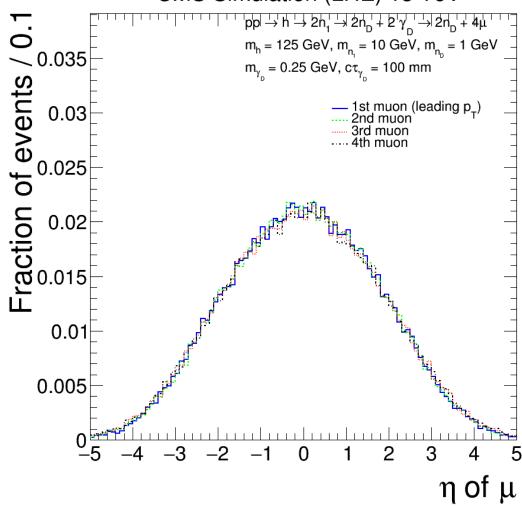
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CMS Simulation (LHE) 13 TeV



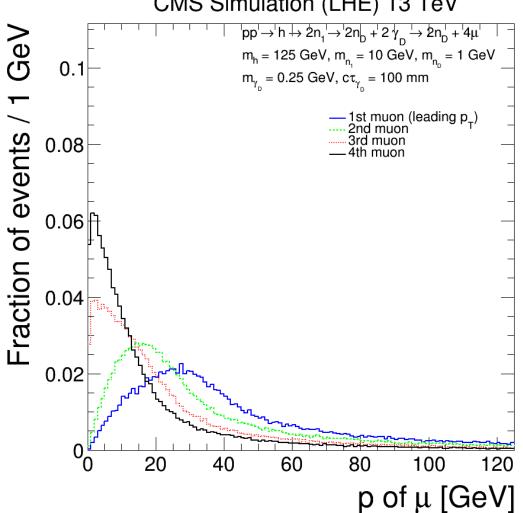


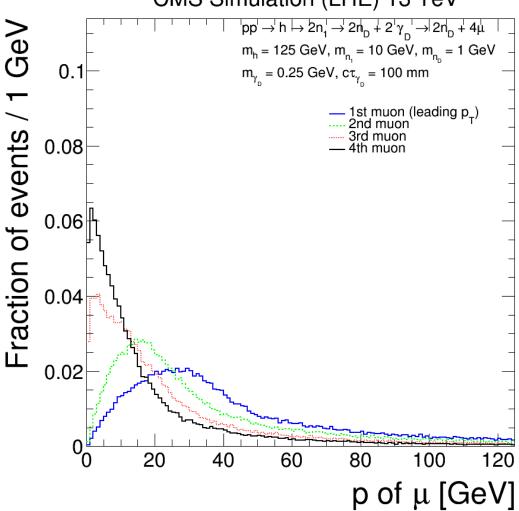












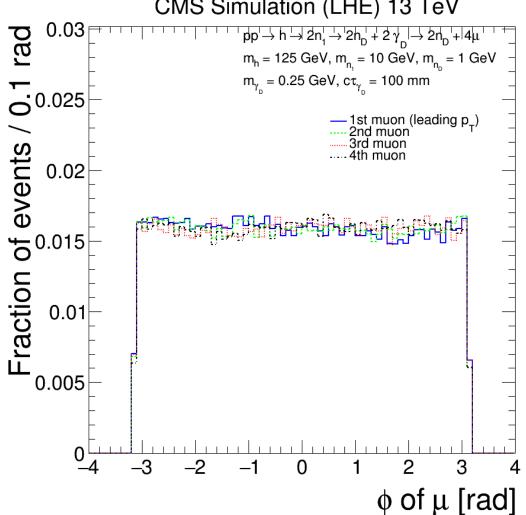


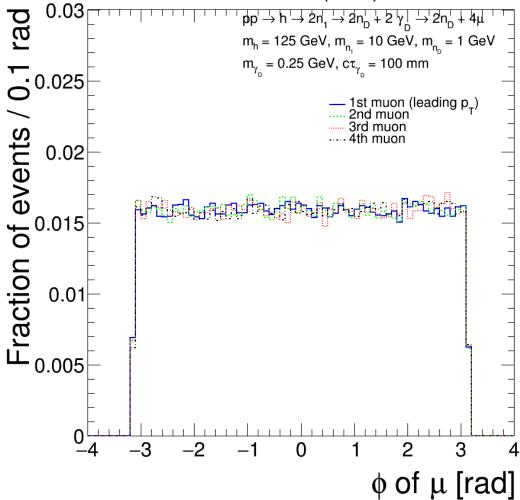




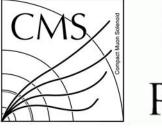






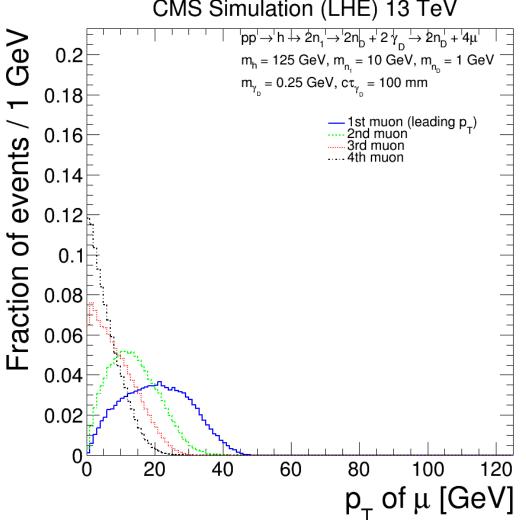


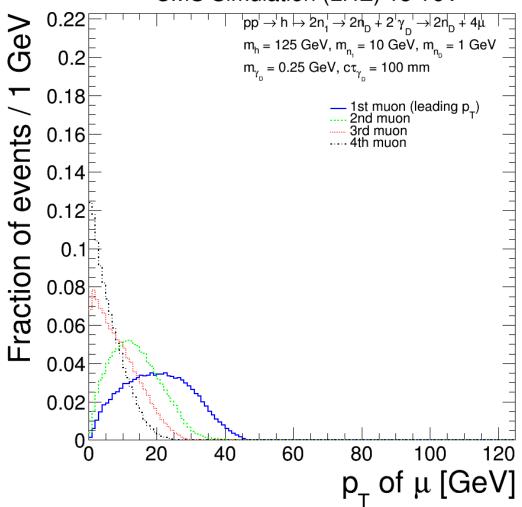
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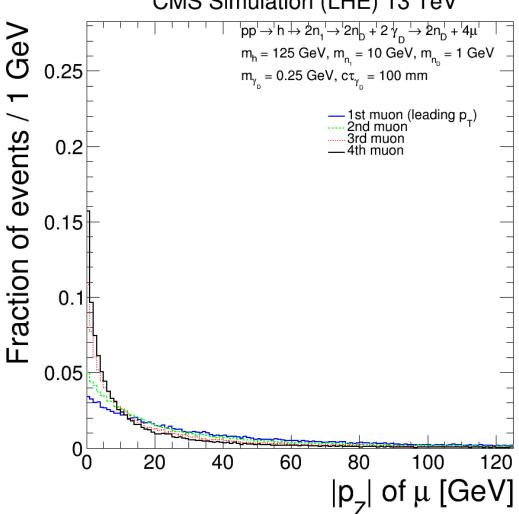


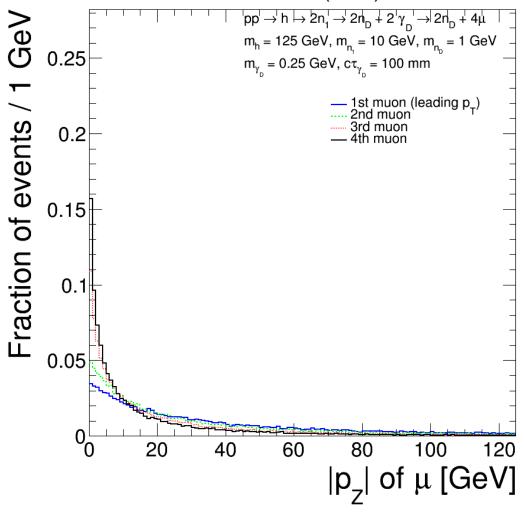






CMS Simulation (LHE) 13 TeV





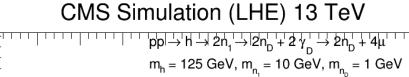
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 $m_{\gamma_D} = 0.25$ GeV, $c\tau_{\gamma_D} = 100$ mm



-1st neutralino

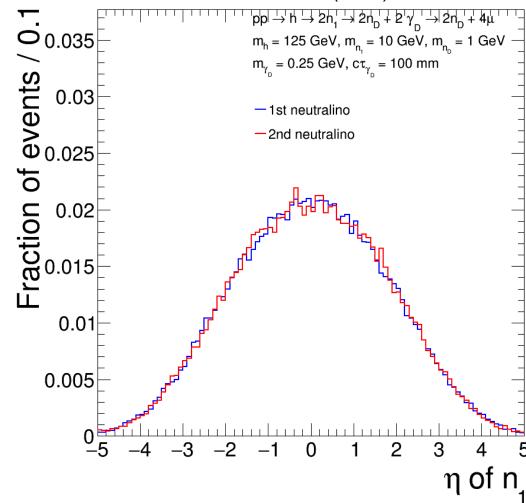
-2nd neutralino

Fraction of events / 0.1

0.01 0.005

η of n





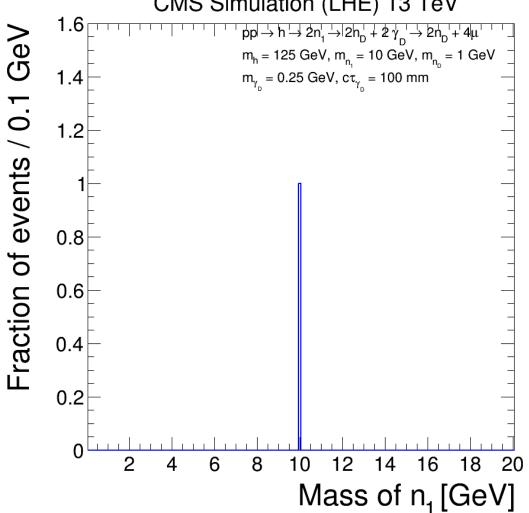


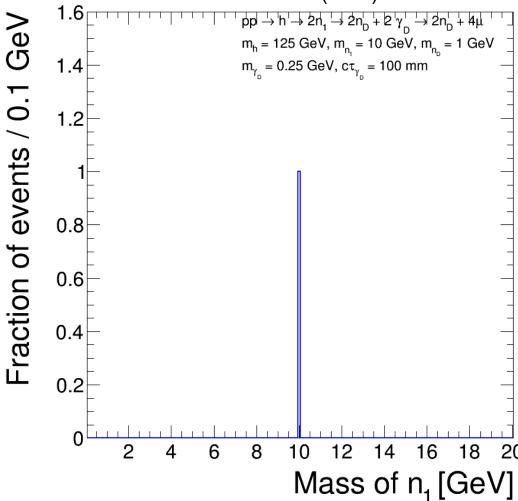








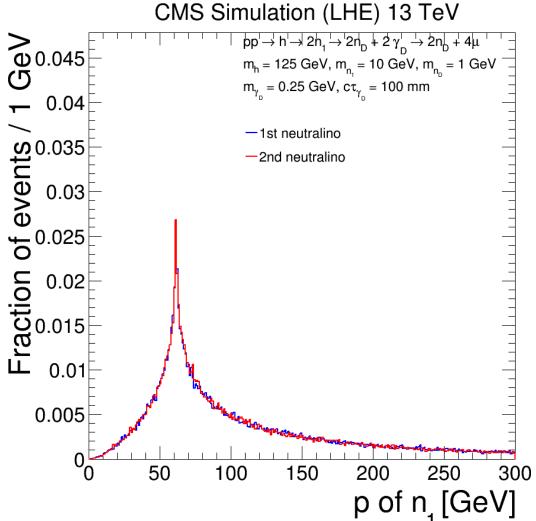


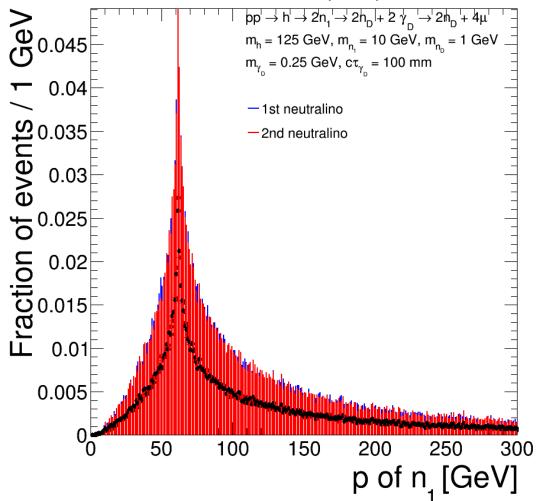


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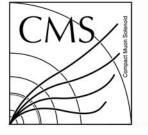




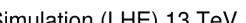


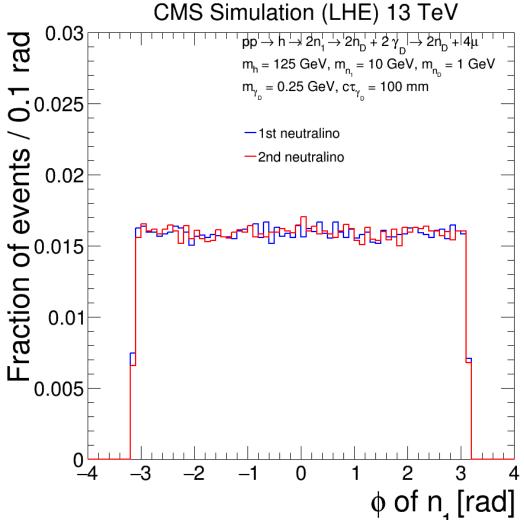


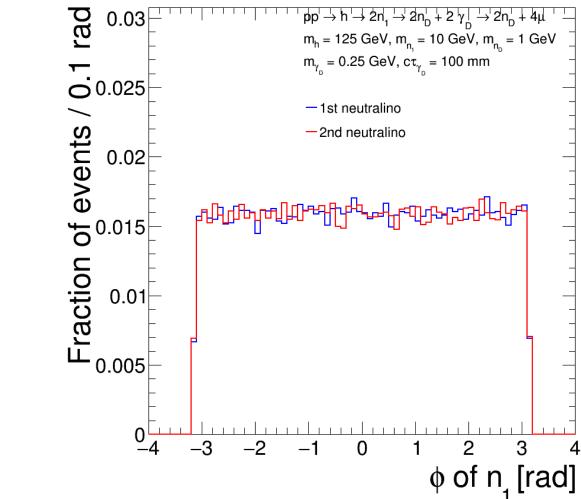
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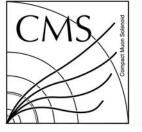






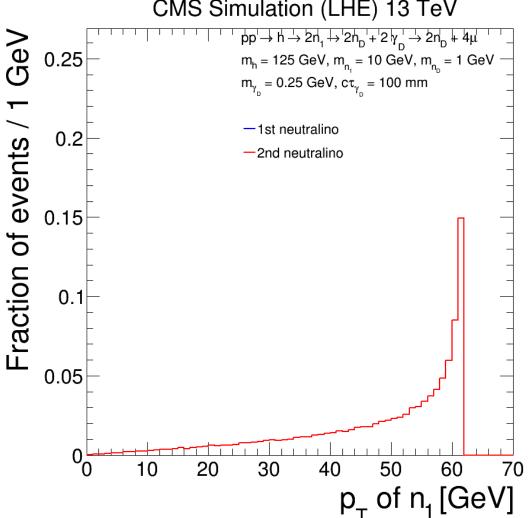


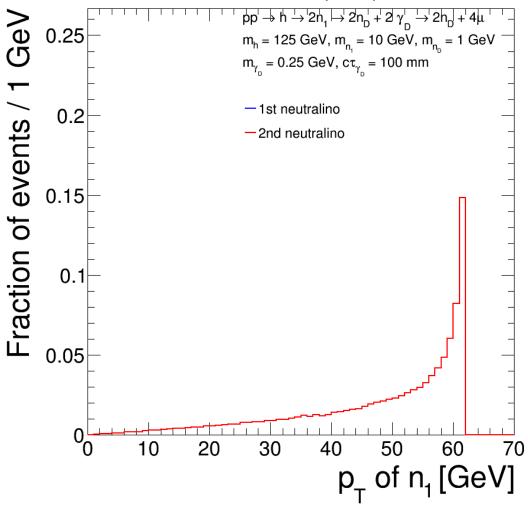
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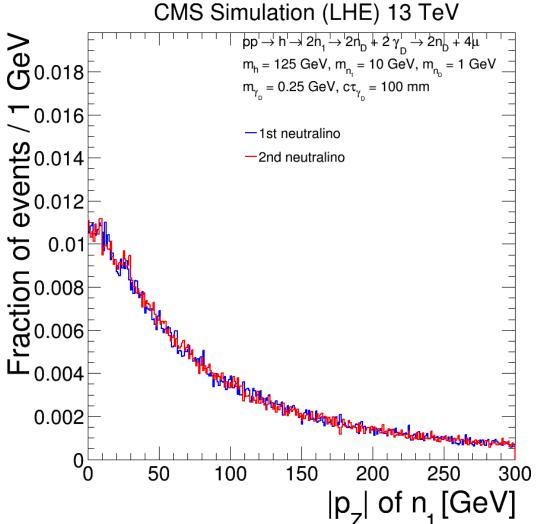


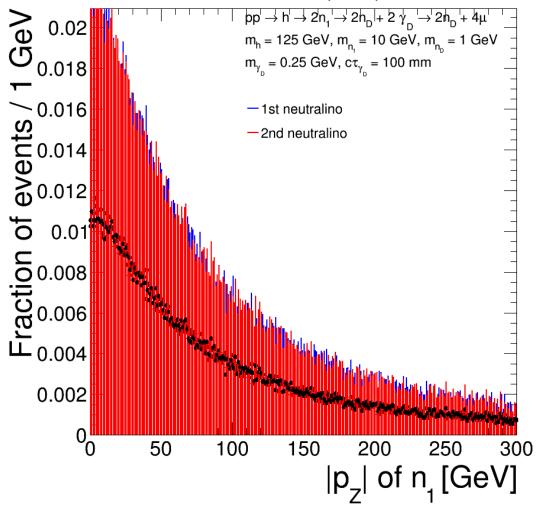


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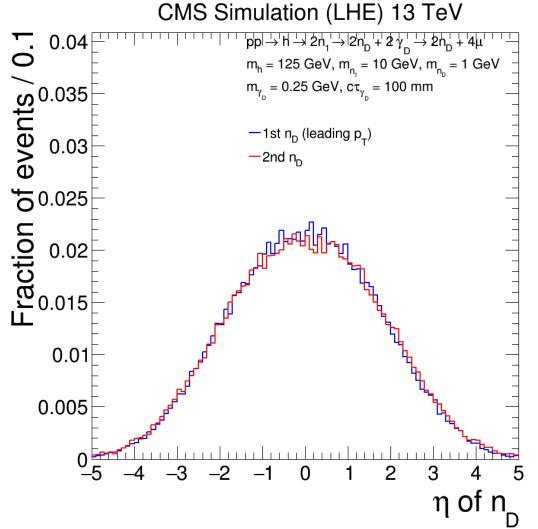


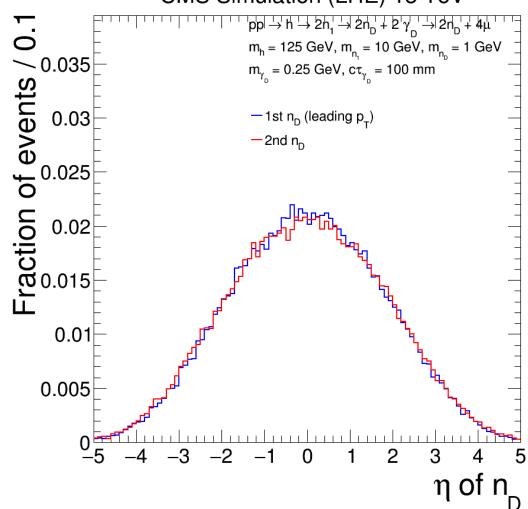
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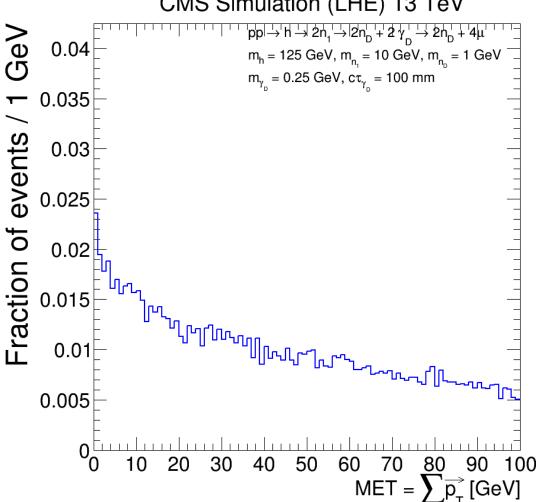






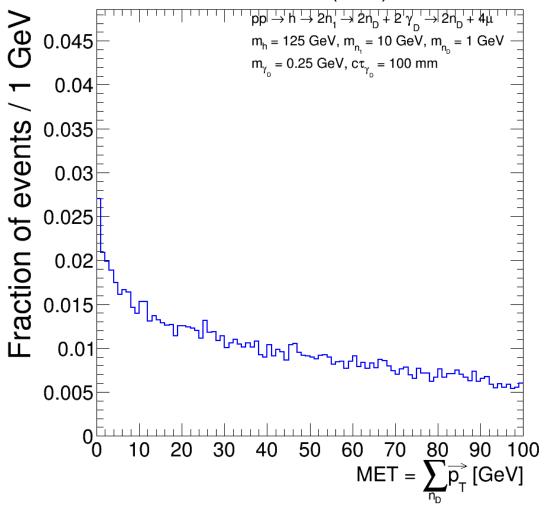






CMS Simulation (LHE) 13 TeV

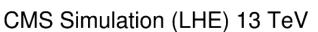
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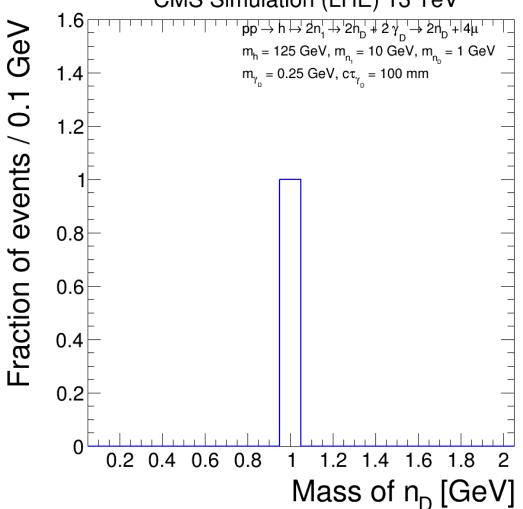


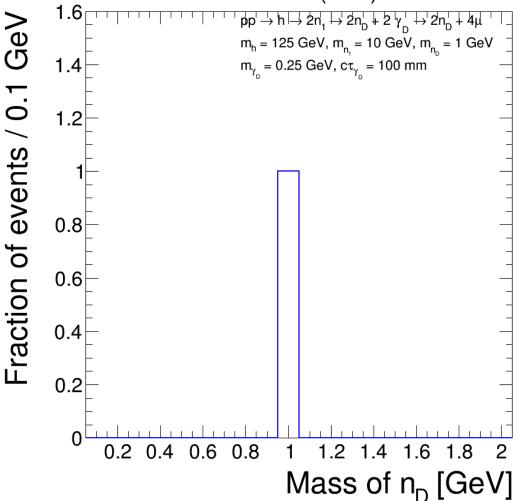
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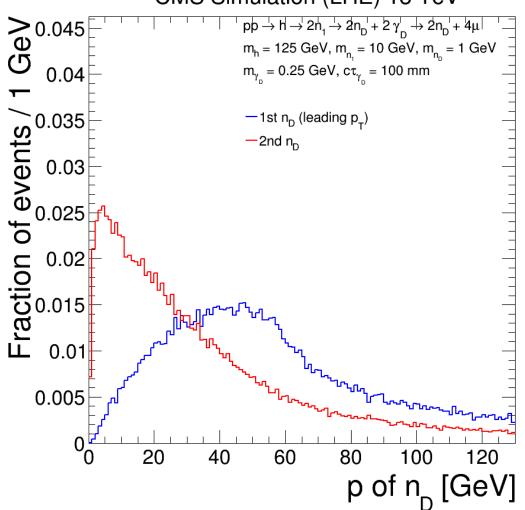


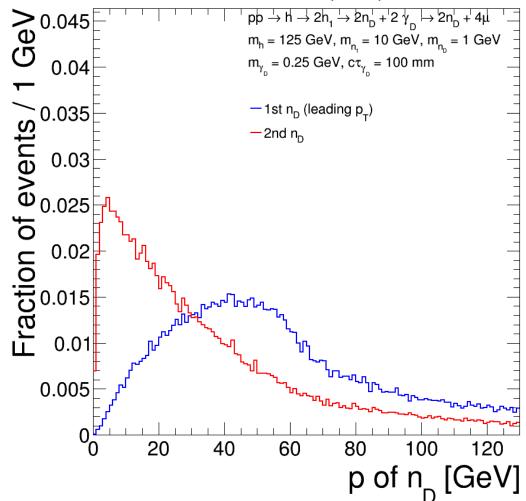
MG5



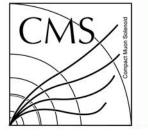


CMS Simulation (LHE) 13 TeV



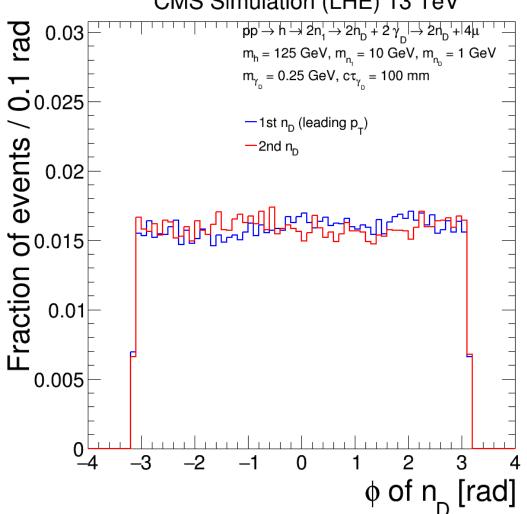


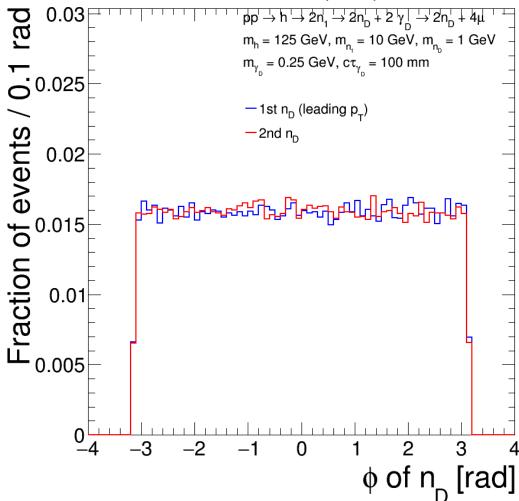
MG5





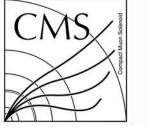
CMS Simulation (LHE) 13 TeV





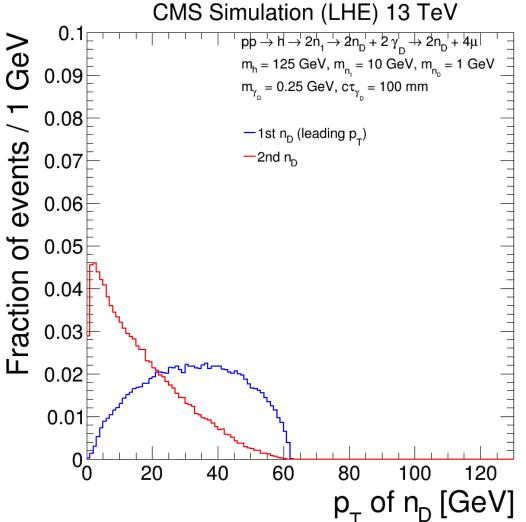


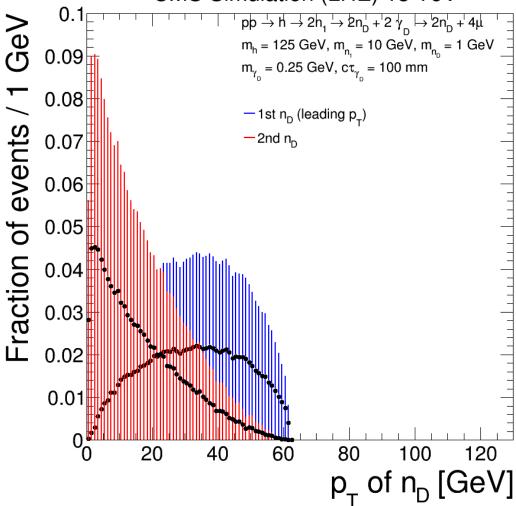






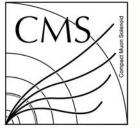




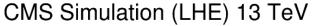


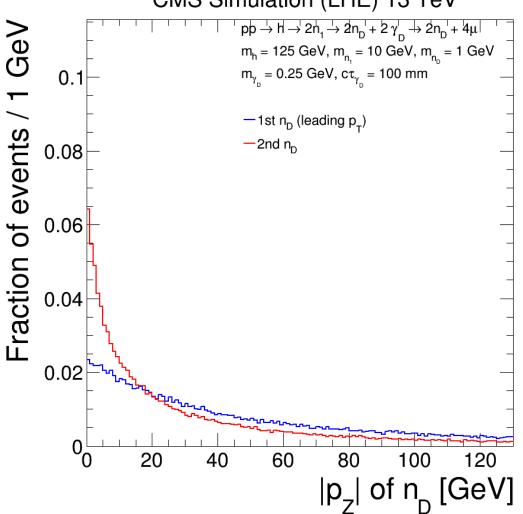


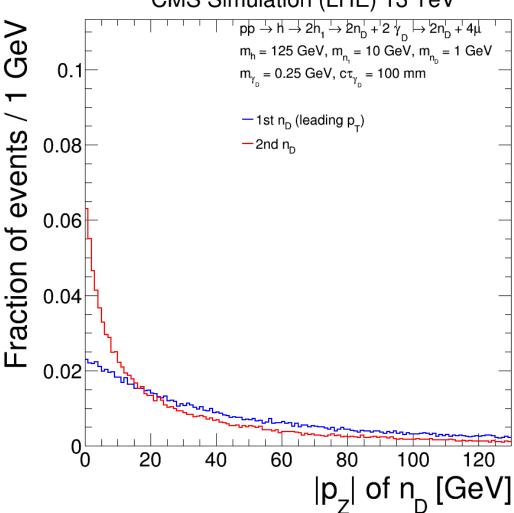






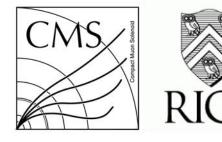






BACK UP





- Import dark SUSY model
 - UFO format
 - python files containing coupling, parameters, vertex, etc.
 - Output by FeynRules2.0 package
- Implement dark SUSY model in FeynRules
 - Current strategy: MSSM+U1D
 - Base on MSSM, add new particles and vertexes in our dark SUSY benchmark model
 - https://github.com/weishi10141993/DarkSUSY MC MG5/tree/master/MSSMDarkSector