



中国科学院高能物理研究所
Institute of High Energy Physics
Chinese Academy of Sciences



Double Jpsi work status

Taozhe YU

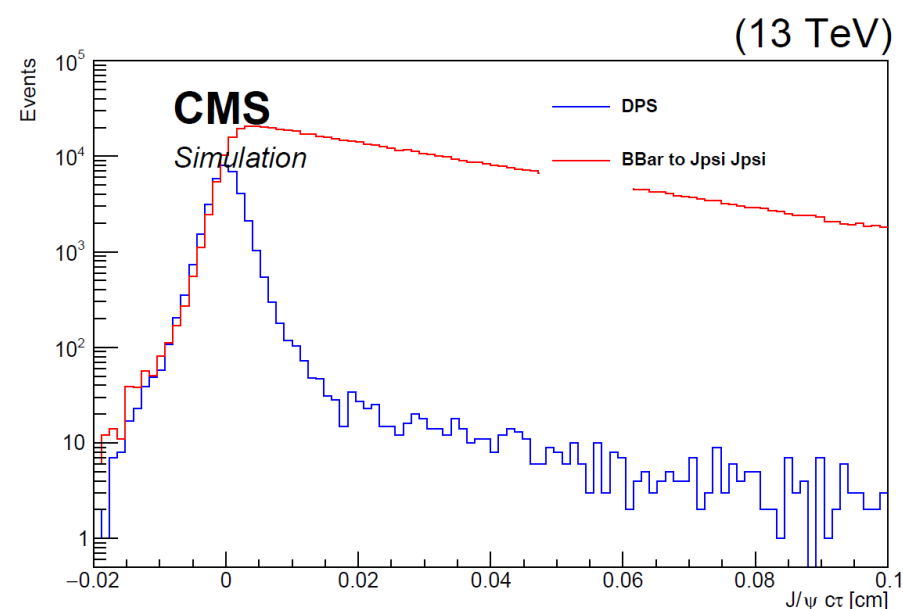
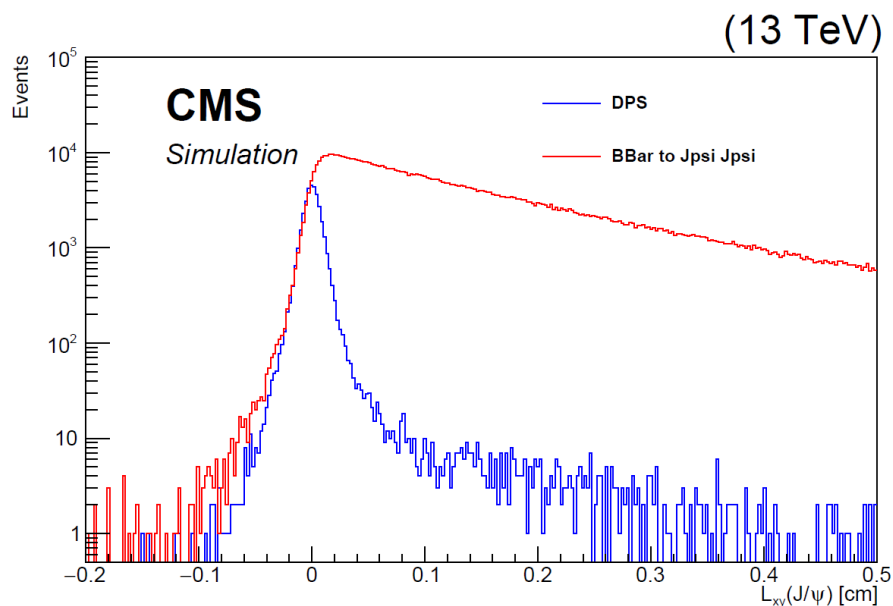
2022.9.8



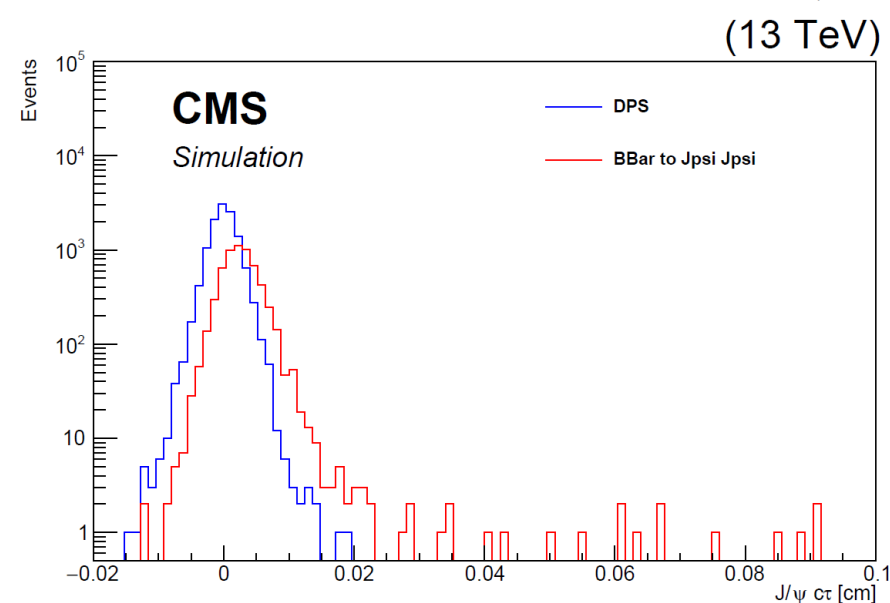
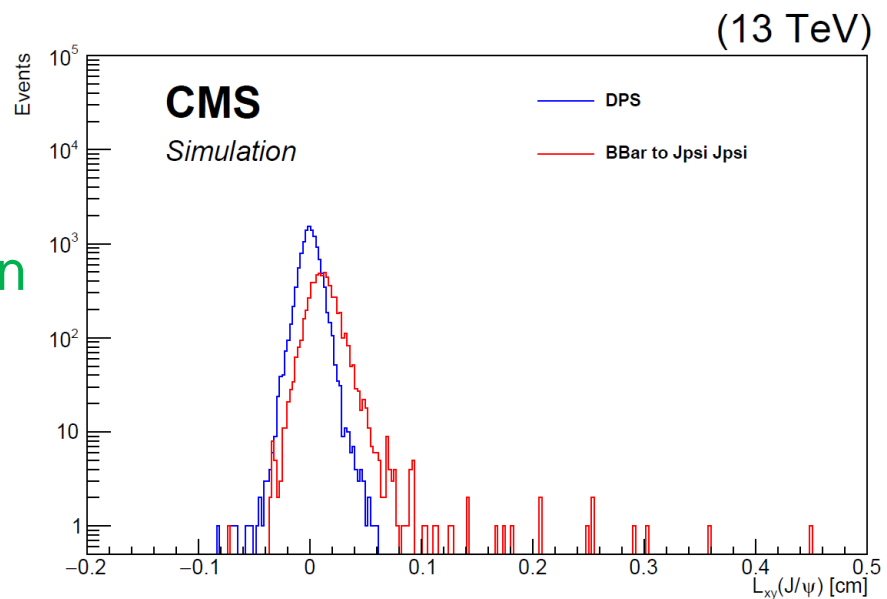
Variable distribution with/without Four muon vertex cut



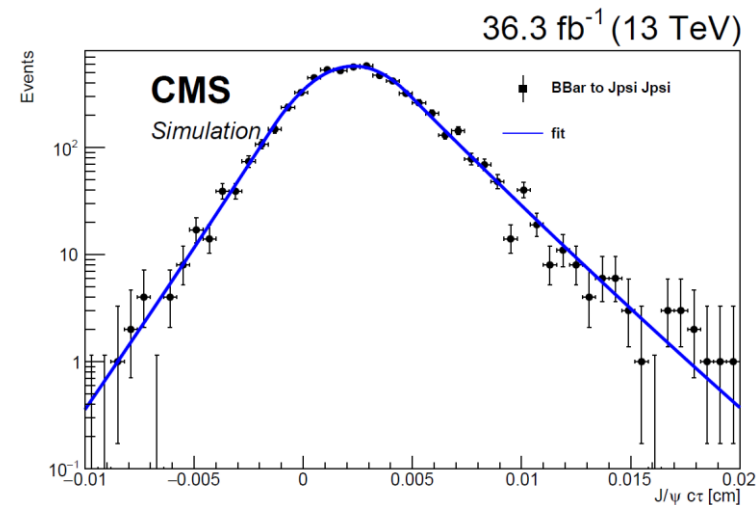
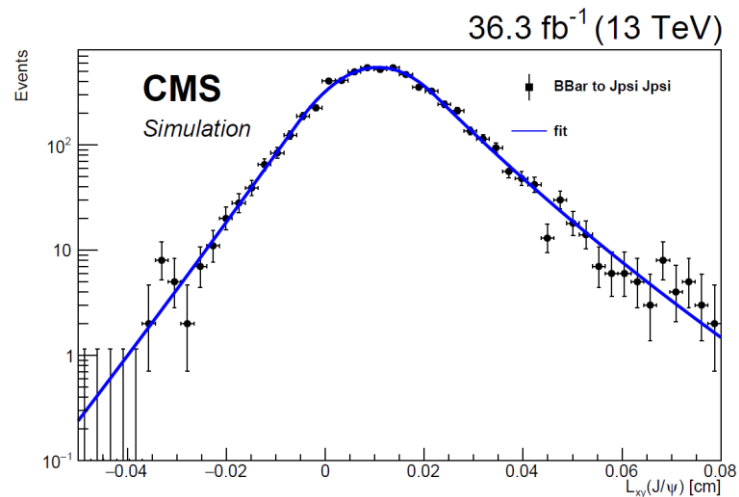
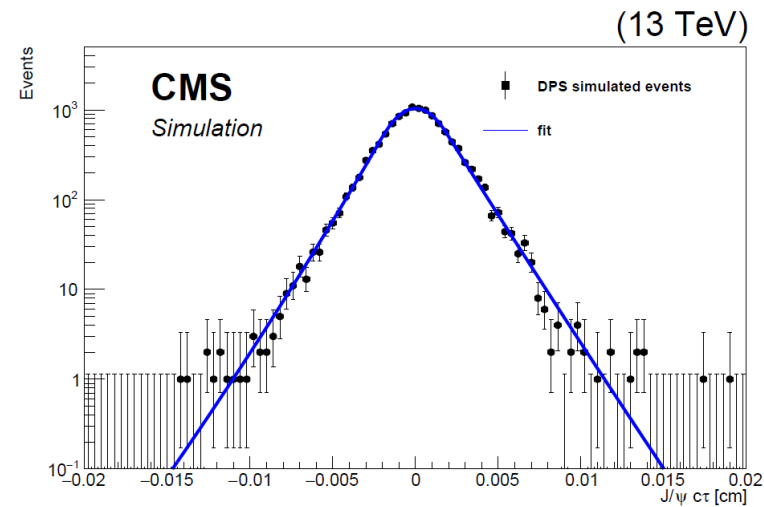
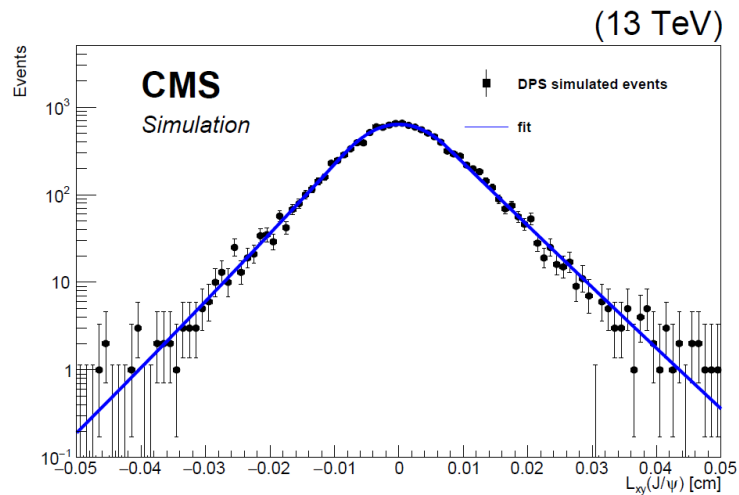
No Four muon vertex cut



Add Four muon vertex cut



Fit the prompt and non-prompt Double Jpsi



- Use double side crystal function to fit non-prompt Jpsi L_{xy} and $c\tau$ distribution
- Compare to the prompt Jpsi, the mean value are different



```
Begin processing the 990th record. Run 1, Event 59043853, LumiSection 591 on stream 0 at 08-Sep-2022 16:12:26.718 CEST
MuMu vtx position is ( 0.0288894 , 0.0411674 )
MuMu pvtx position is ( 0.0104849 , 0.0420538 )
MuMu pT is ( 20.2603,-3.94349 )
two muon cosAlpha is 0.989634
two muon lxy is 0.0433412
two muon lxyPV is 0.0182348
MuMu vtx position is ( -0.0467982 , -0.0024414 )
MuMu pvtx position is ( 0.0104849 , 0.0420538 )
MuMu pT is ( -9.75544,-5.88793 )
two muon cosAlpha is 0.993119
two muon lxy is 0.0433412
two muon lxyPV is 0.0720349
four muon vtx is ( 0.0142503 , 0.041133 )
four muon pvtx is ( 0.0104849 , 0.0420538 )
four muon pT is ( 10.7288 , -9.56838 )
four muon cosAlpha is 0.883059
four muon lxy is 0.00387637
four muon lxyPV is 0.00342306
```

- MuMu cosalpha LxyPV is correct, Lxy not correct
- FourMuMu cosalpha, LxyPV, Lxy is correct