

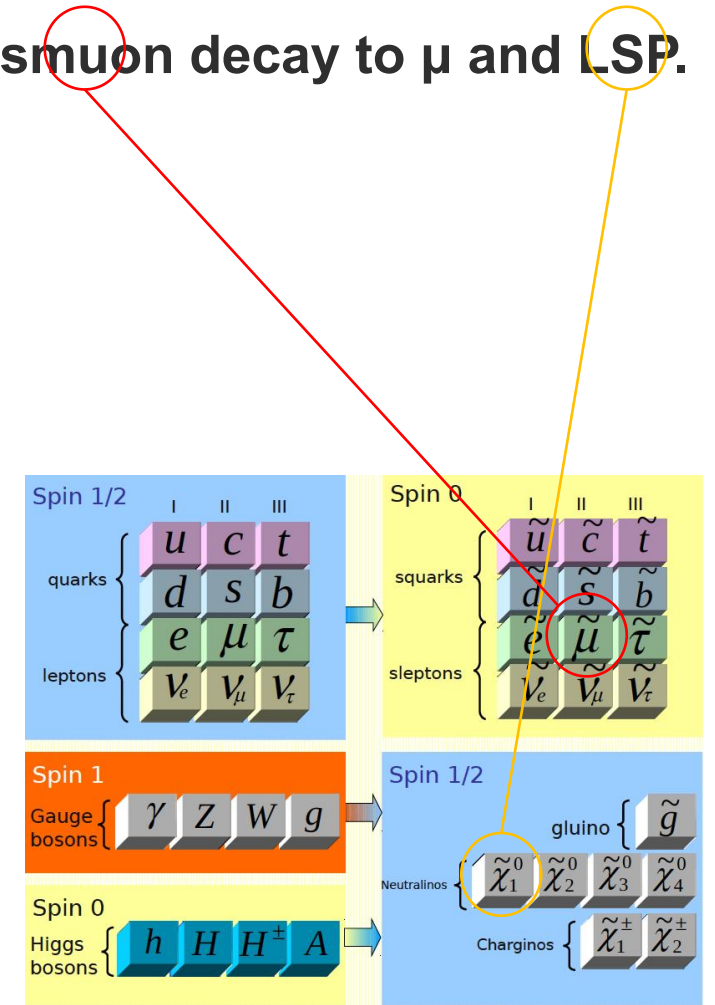
CEPC RefTDR smuon search

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Introduction

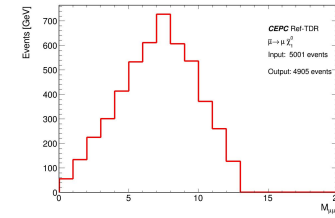
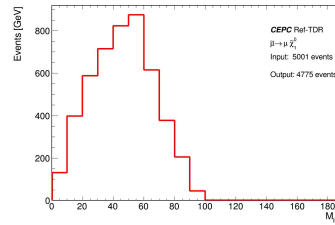
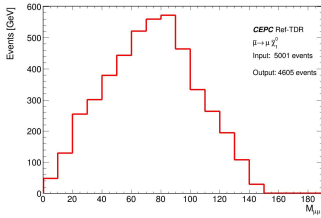
- **Target:** search for smuon pair production on CEPC, considering smuon decay to μ and LSP.
- **Status:**
 - signal MC production of $\sqrt{s}=240$ GeV [done]
 - check $M_{\mu\mu}$ distributions of signal
- **Next step:** check kinematic distributions of signal and SM background to decide search strategy



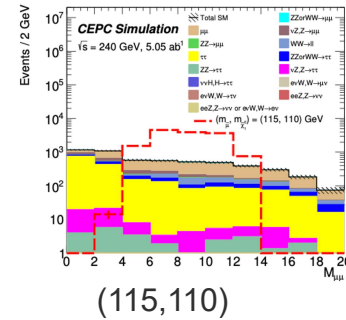
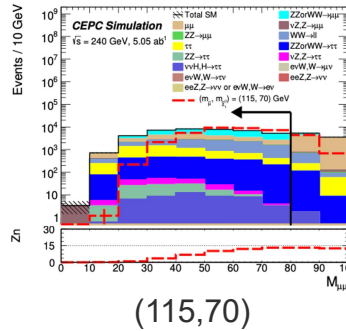
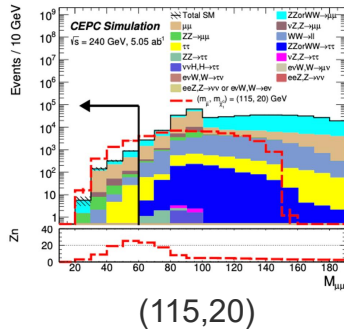
$M_{\mu\mu}$ distribution check

- 3 signal point with (smuon mass, LSP mass)[GeV]=(115,20), (115,70), (115,110)
- Preselection: final state contain two μ with opposite-sign and with energy > 0.5 GeV.
- Compare with jiarong's previous results.

my result



jiarong's result



- Conclusion: $M_{\mu\mu}$ distributions look good as jiarong's result.