Update on Comparisons of M(μμ) in Data and MC

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Samples and Selections

Data: Top Group p14 DiMU skim (~344 k events)

(/rooms/depot/sanderso/top_analyzed_data/Nefertiti/DIMU/p14.03.0*/*/output_00.root
/rooms/depot/sanderso/top_analyzed_data/Nefertiti/DIMU/p14.05.0*/*/output_00.root
/rooms/depot/sanderso/top_analyzed_data/Nefertiti/DIMU/p14.06.0*/*/output_00.root)

MC: 2 different MC samples considered (Iain Bertram)

(1) Z ->mumu with pileup of ZB below 10E30
(4764 events pass selections out of 60,965)
(1) Z ->mumu with pileup of ZB between 10E30 and 30E30
(4800 events pass selections out of 60,000)

Selections (for Z ⟶ mumu events):

Muon quality cuts

- **pT > 15 GeV, isMedium, cosmic =0**
- **has central trackmatch**
- **nseg =3**
- **track_chisq <4, dca_sig <=3**
- **|PV-z0| < 1**
- **dR(muon,jet) > 0.5**

Vertex cuts

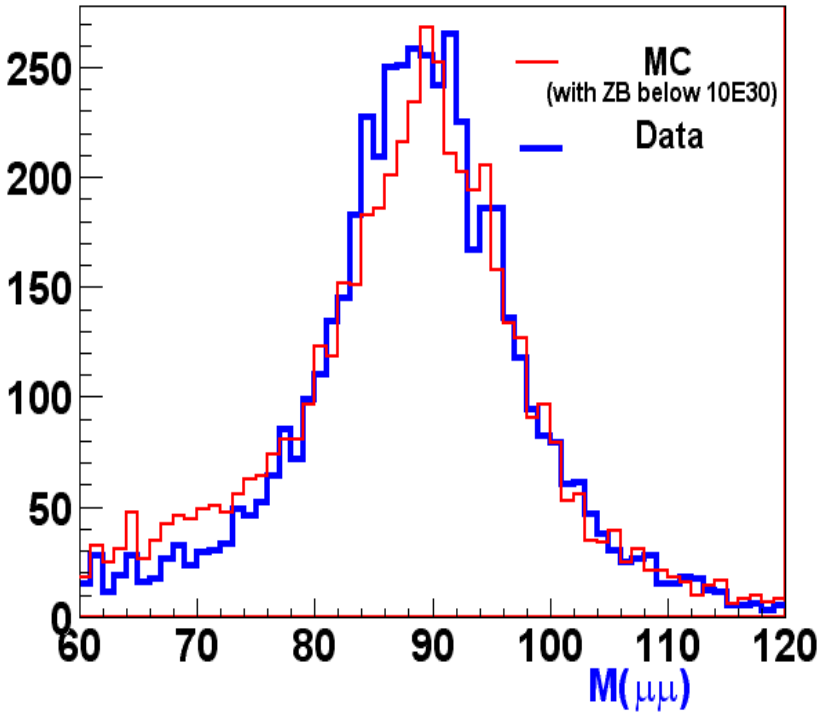
- **vertex_ntracks >=3**
- **|vertex| < 60.**

Event selection

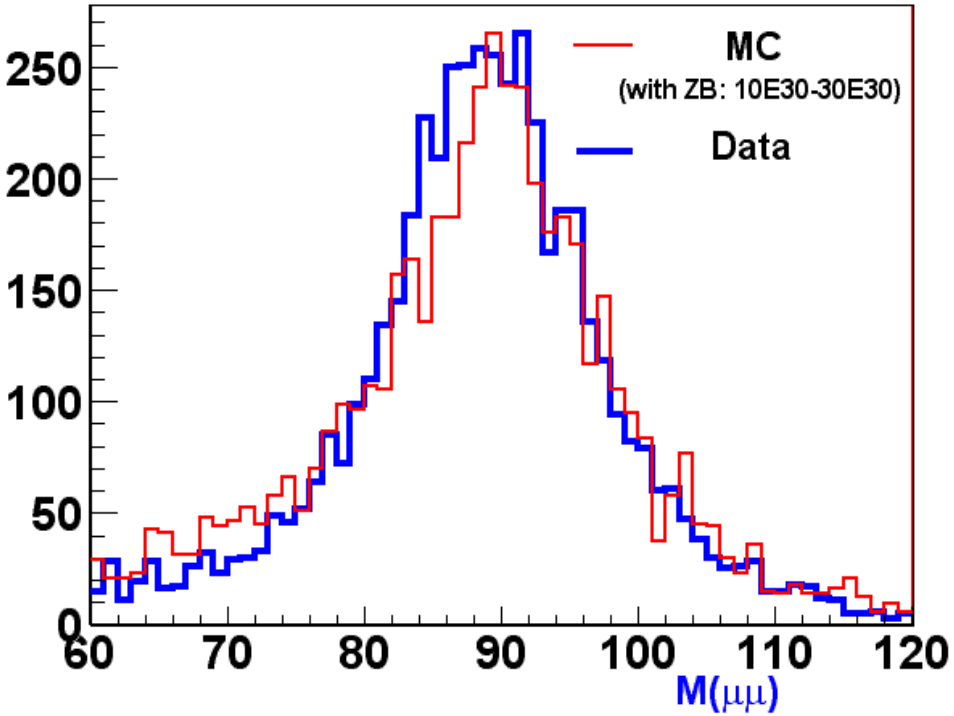
- **oppositely charged muons**
- **dphi(leading muon, MET) < 165°**

Data/MC comparisons... for C_C muons (|η| < 1.62)

MC with ZB below 10E30



MC with ZB between 10E30 and 30E30



Conclusion: Reasonable agreement between Data and MC with ZB pileup !