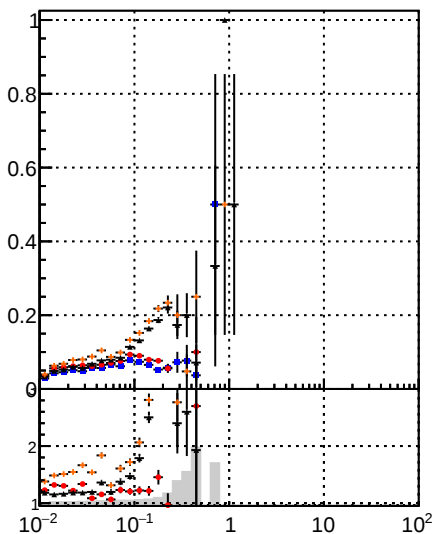
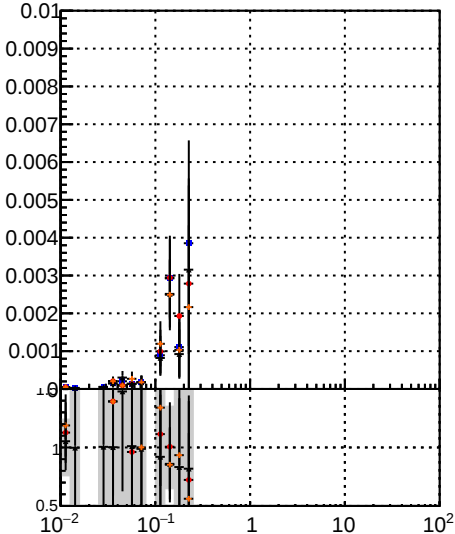


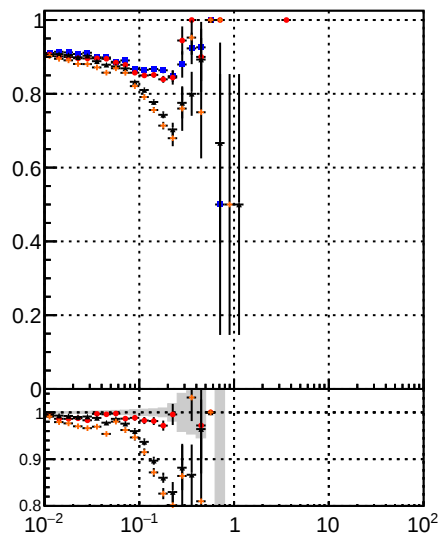
## Fake rate vs vertpos



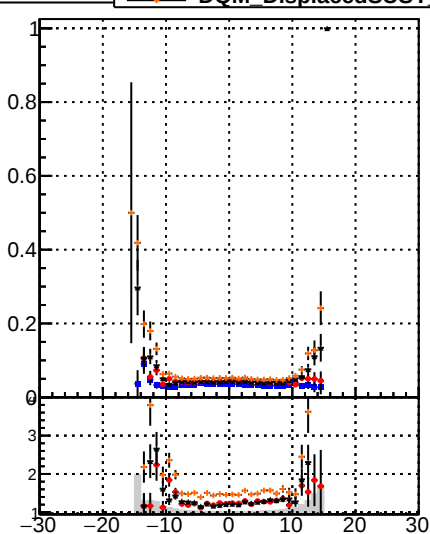
### Duplicates Rate vs vertpos



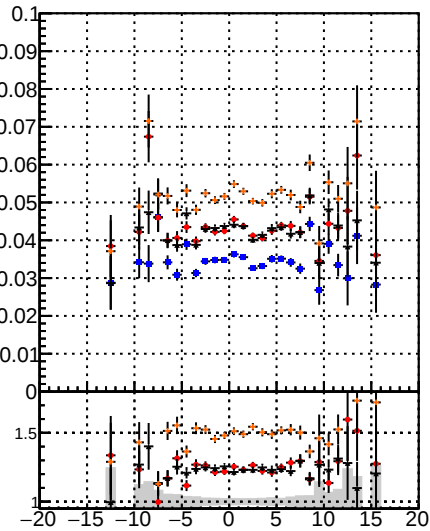
### Pileup rate vs vertpos



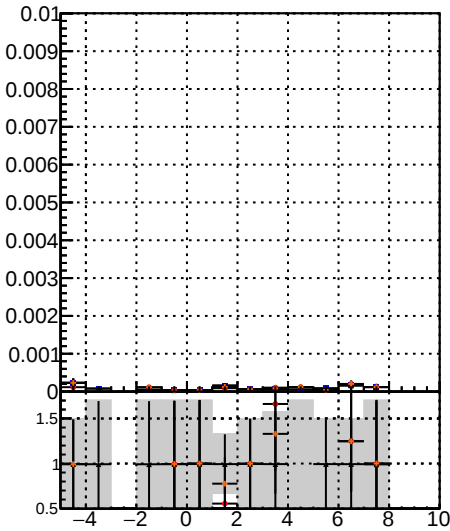
Fake rate vs  $\sqrt{s}$



### Fake rate vs. sim PV z



### Duplicates Rate vs sim PV z



### Pileup rate vs. sim PV z

