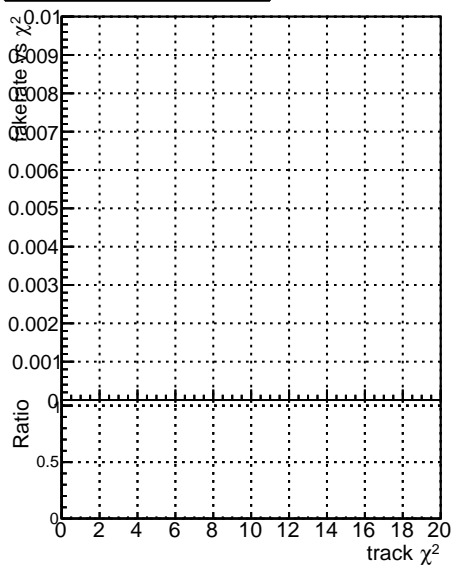
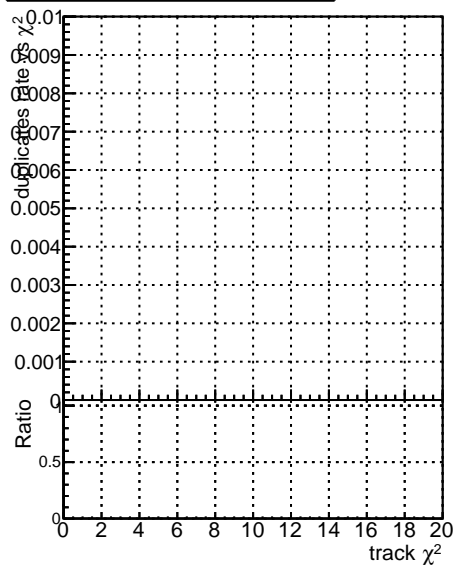


**Fake rate vs normalized  $\chi^2$**



**Duplicates Rate vs normalized  $\chi^2$**



**Pileup rate vs normalized  $\chi^2$**

