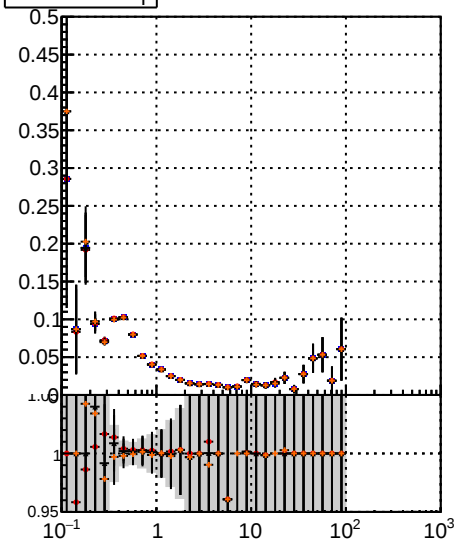
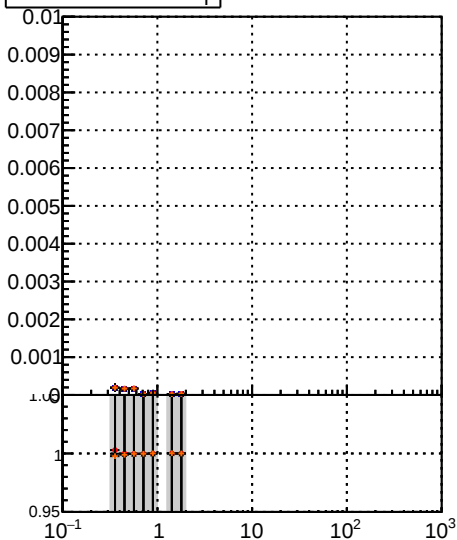
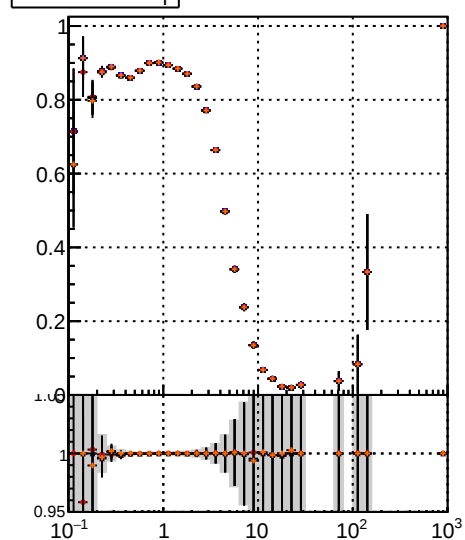
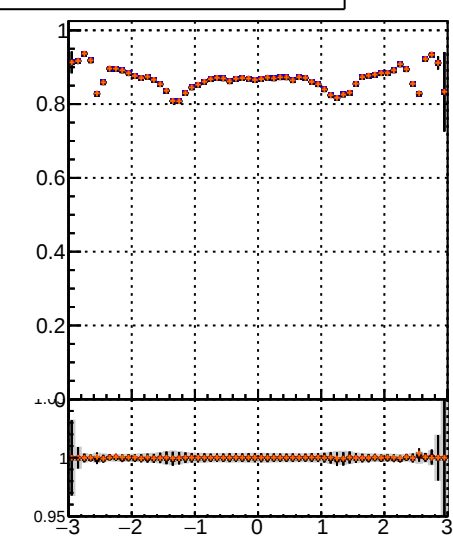
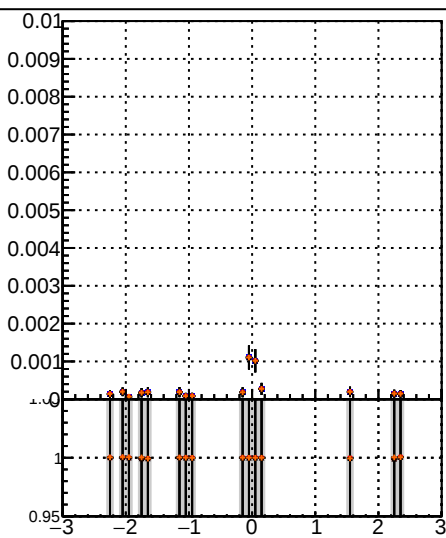
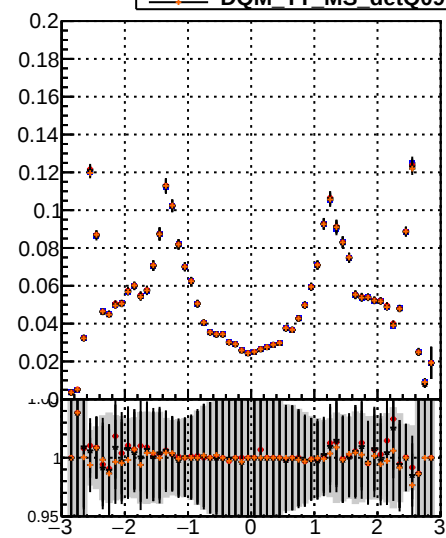
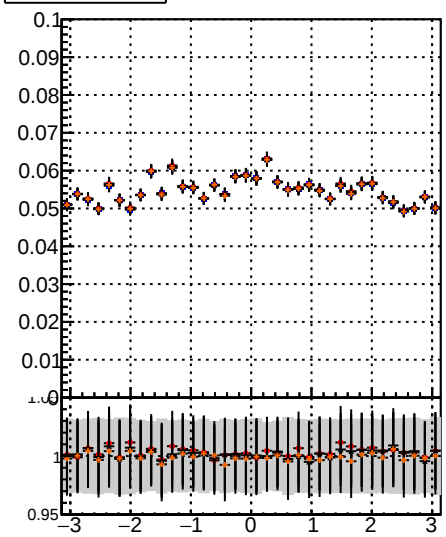
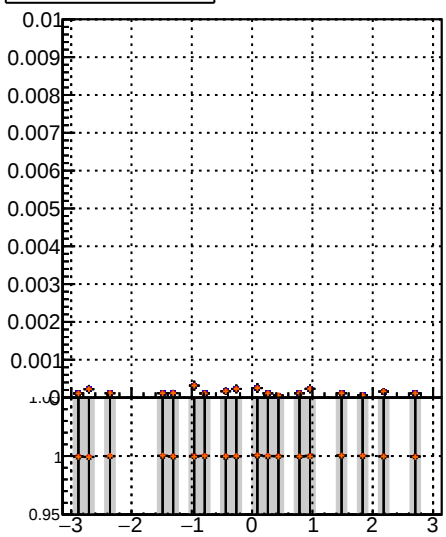


Fake rate vs  $p_T$ Duplicates Rate vs  $p_T$ Pileup rate vs  $p_T$ 

$\text{BQM TT MS detQ}$   
 $\text{BQM TT MS detQ1}$   
 $\text{BQM TT MS detQ9}$

Fake rate vs  $\phi$ Duplicates Rate vs  $\phi$ Pileup rate vs  $\phi$ 