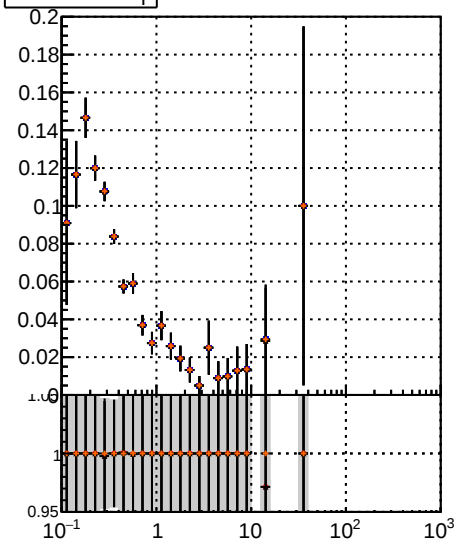
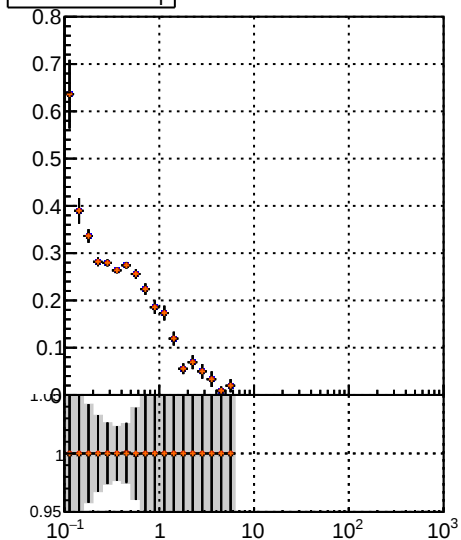
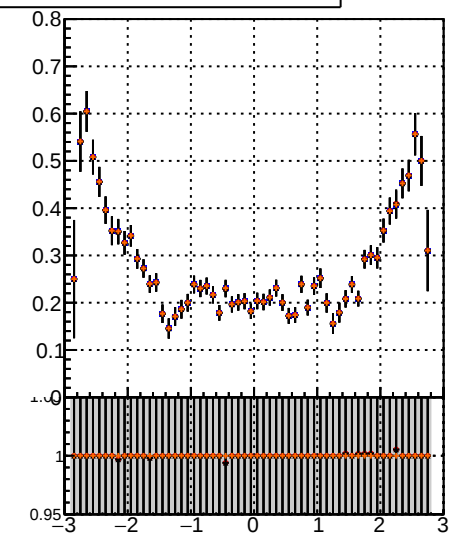
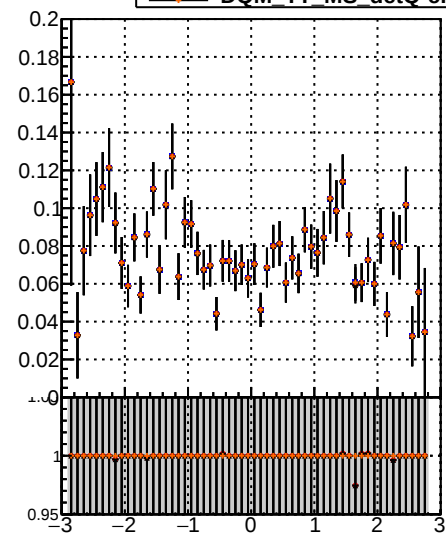
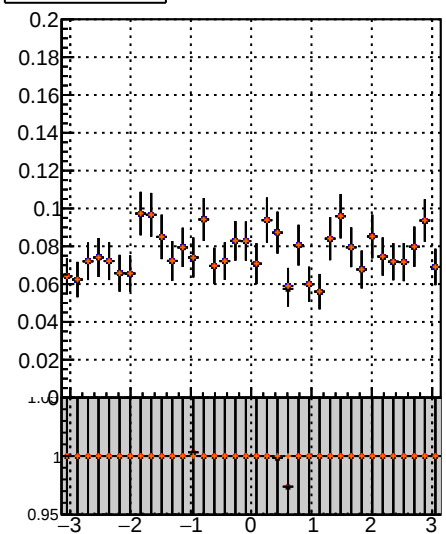


Fake rate vs  $p_T$ Duplicates Rate vs  $p_T$ Pileup rate vs  $p_T$ 

Legend for Fake rate vs  $p_T$ , Duplicates Rate vs  $p_T$ , and Pileup rate vs  $p_T$ :

- $\text{BQM TT MS det0-dpdq}$  (blue line with dots)
- $\text{BQM TT MS det0-chiz}$  (red line with dots)
- $\text{BQM TT MS det0-chiz}$  (black line with dots)

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