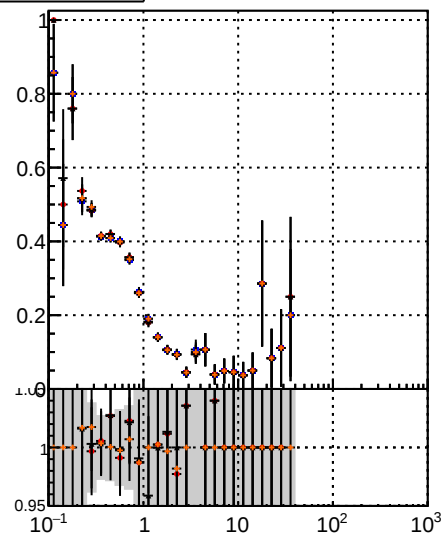
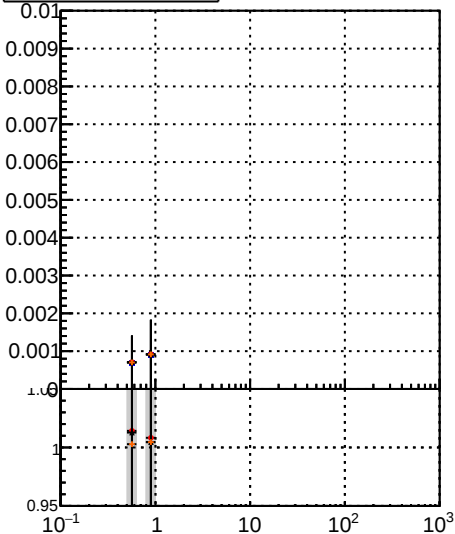
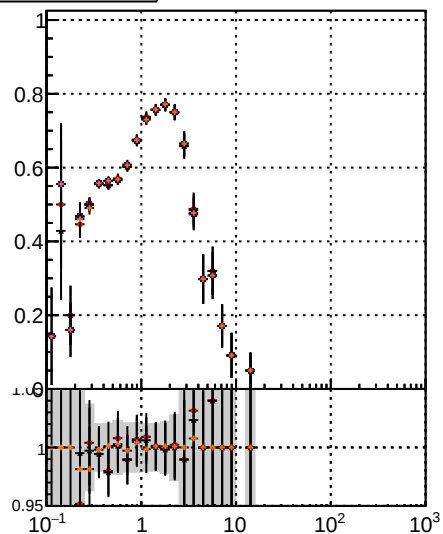
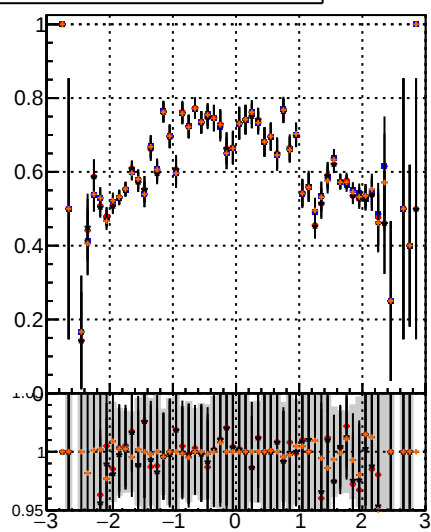
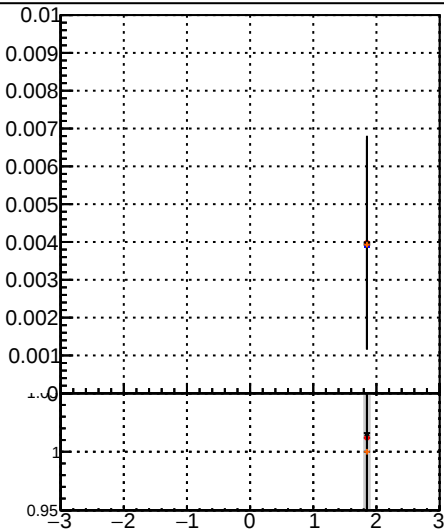
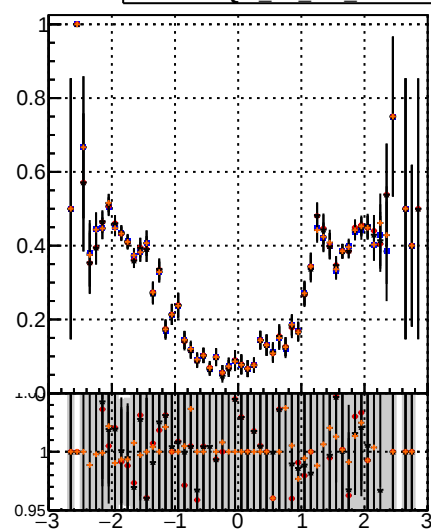
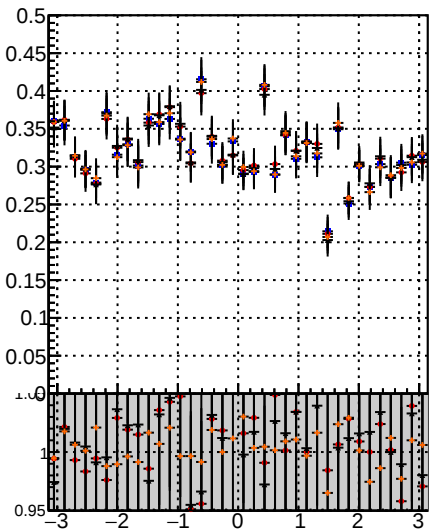
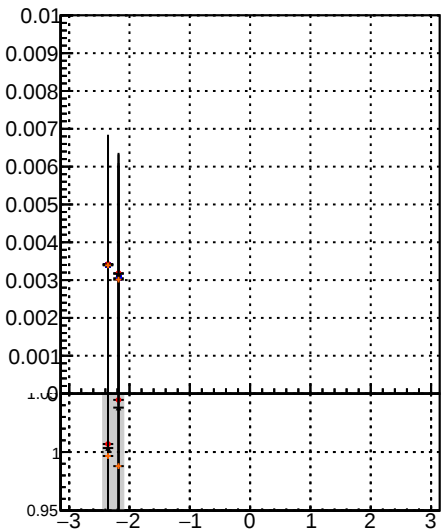


Fake rate vs  $p_T$ Duplicates Rate vs  $p_T$ Pileup rate vs  $p_T$ 

Legend for detector regions and channels:

- Blue line:  $\overline{BQM} \rightarrow TT \rightarrow MS$
- Red line:  $\overline{BQM} \rightarrow TT \rightarrow MS$
- Orange line:  $\overline{BQM} \rightarrow TT \rightarrow MS$
- Black line:  $\overline{BQM} \rightarrow TT \rightarrow MS$
- Grey line:  $\overline{BQM} \rightarrow TT \rightarrow MS$
- Green line:  $\overline{BQM} \rightarrow TT \rightarrow MS$
- Yellow line:  $\overline{BQM} \rightarrow TT \rightarrow MS$
- Purple line:  $\overline{BQM} \rightarrow TT \rightarrow MS$
- Light blue line:  $\overline{BQM} \rightarrow TT \rightarrow MS$
- Light red line:  $\overline{BQM} \rightarrow TT \rightarrow MS$
- Light orange line:  $\overline{BQM} \rightarrow TT \rightarrow MS$
- Light black line:  $\overline{BQM} \rightarrow TT \rightarrow MS$
- Light grey line:  $\overline{BQM} \rightarrow TT \rightarrow MS$
- Light green line:  $\overline{BQM} \rightarrow TT \rightarrow MS$
- Light yellow line:  $\overline{BQM} \rightarrow TT \rightarrow MS$
- Light purple line:  $\overline{BQM} \rightarrow TT \rightarrow MS$
- Light light blue line:  $\overline{BQM} \rightarrow TT \rightarrow MS$
- Light light red line:  $\overline{BQM} \rightarrow TT \rightarrow MS$
- Light light orange line:  $\overline{BQM} \rightarrow TT \rightarrow MS$
- Light light black line:  $\overline{BQM} \rightarrow TT \rightarrow MS$
- Light light grey line:  $\overline{BQM} \rightarrow TT \rightarrow MS$
- Light light green line:  $\overline{BQM} \rightarrow TT \rightarrow MS$
- Light light yellow line:  $\overline{BQM} \rightarrow TT \rightarrow MS$
- Light light purple line:  $\overline{BQM} \rightarrow TT \rightarrow MS$

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