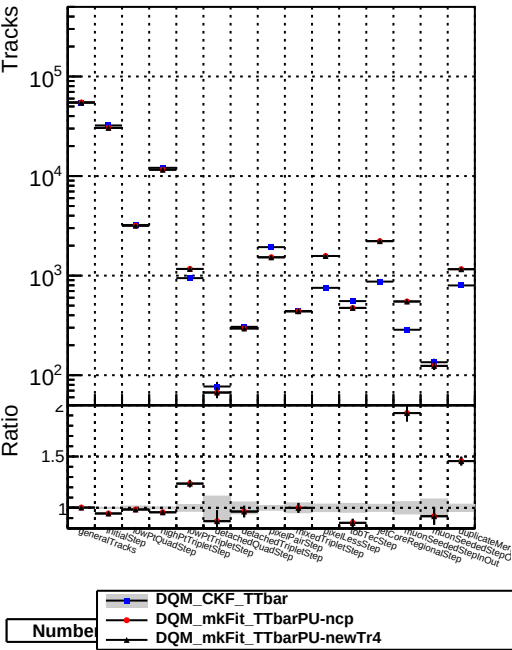
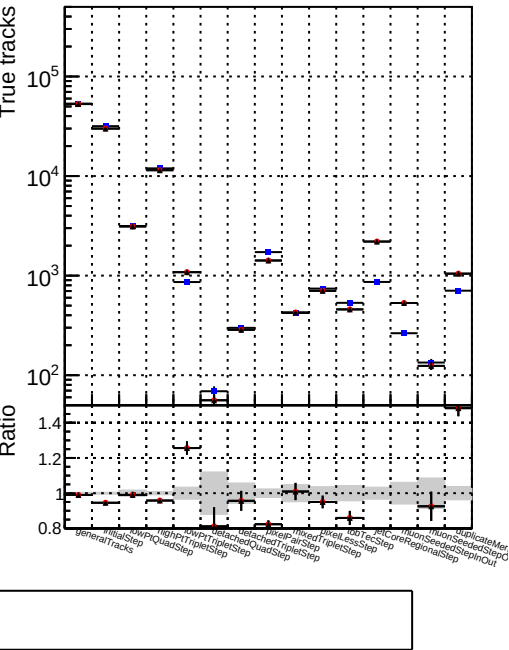


Number of tracks vs collection



Number of true tracks vs collection



Number	Legend
	● DQM_mkFit_TTbarPU-hcp
	▲ DQM_mkFit_TTbarPU-newTr4

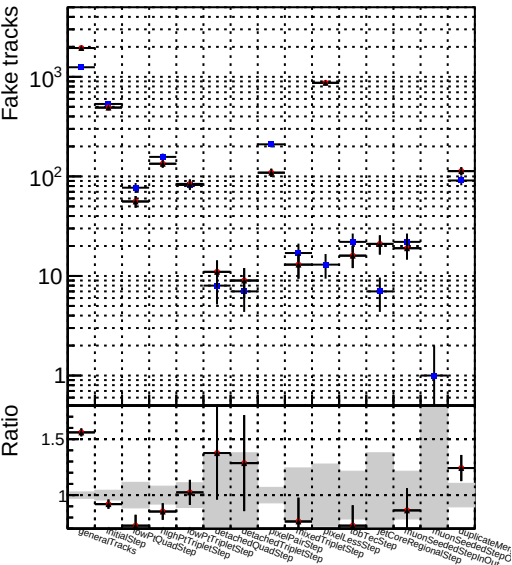


Figure 1 is a dual-axis plot showing the ratio of duplicate tracks and the number of duplicate tracks for various steps in the HMM-based assembly process. The x-axis lists 17 steps: GeneralTracks, RepeatStep, HighPQ, LaunchStep, WarpTripletStep, DetachedTripletStep, ReattachedTripletStep, ReattachedPairStep, UnrelaxedTripletStep, UnrelaxedSecStep, UnrelaxedCoreStep, UnrelaxedRegionStep, UnrelaxedSeedStep, UnrelaxedSeedStep, UnrelaxedSeedStep, UnrelaxedSeedStep, UnrelaxedSeedStep, and DuplicateTracks. The left y-axis is 'Ratio' (0.6 to 1.0), and the right y-axis is 'Duplicate tracks' (10 to 100). Blue dots with error bars represent the ratio, and grey bars represent the number of duplicate tracks.

Step	Ratio (approx.)	Duplicate Tracks (approx.)
GeneralTracks	1.0	1
RepeatStep	1.0	1
HighPQ	1.0	1
LaunchStep	1.0	1
WarpTripletStep	2.0	1
DetachedTripletStep	2.0	1
ReattachedTripletStep	2.0	1
ReattachedPairStep	2.0	1
UnrelaxedTripletStep	2.0	1
UnrelaxedSecStep	2.0	1
UnrelaxedCoreStep	2.0	1
UnrelaxedRegionStep	2.0	1
UnrelaxedSeedStep	2.0	1
UnrelaxedSeedStep	2.0	1
UnrelaxedSeedStep	2.0	1
UnrelaxedSeedStep	2.0	1
DuplicateTracks	1.0	1

Number of pileup tracks vs collection

