

Pass1 vs Pass2 Comparison Two-Pion Channel Events

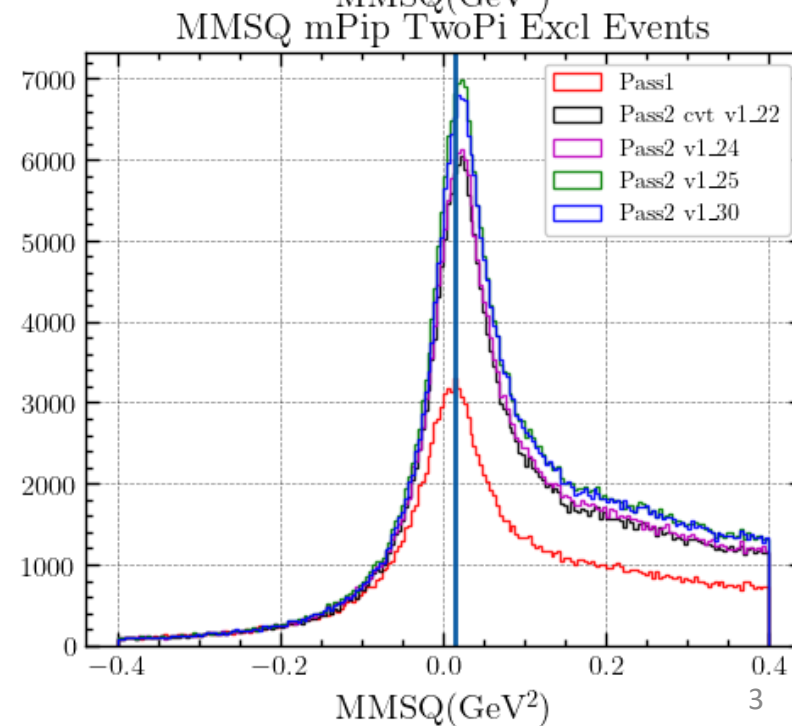
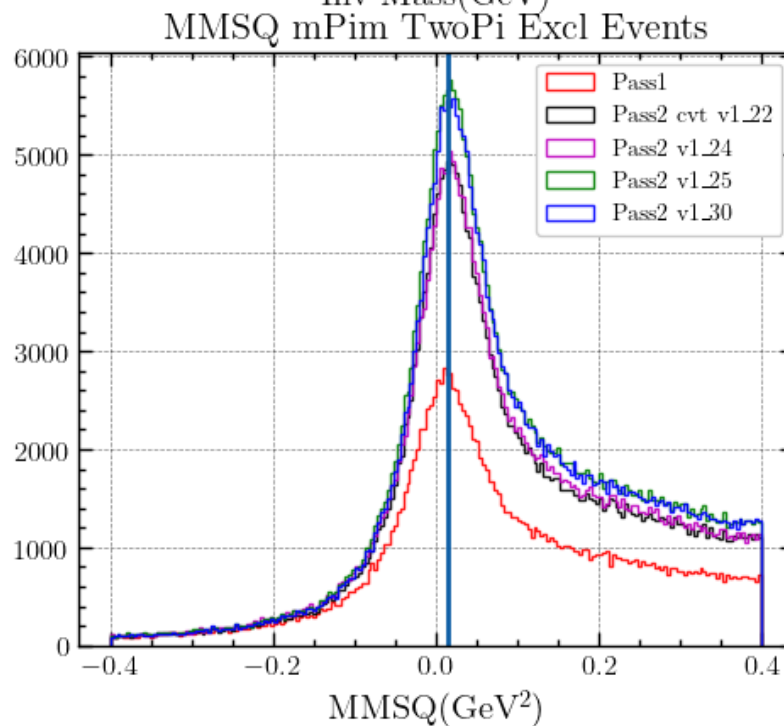
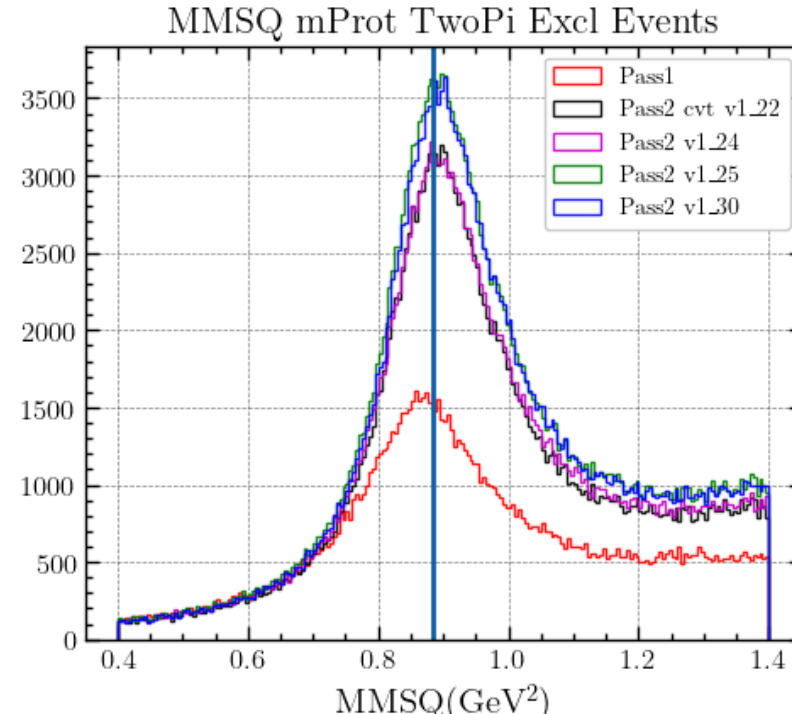
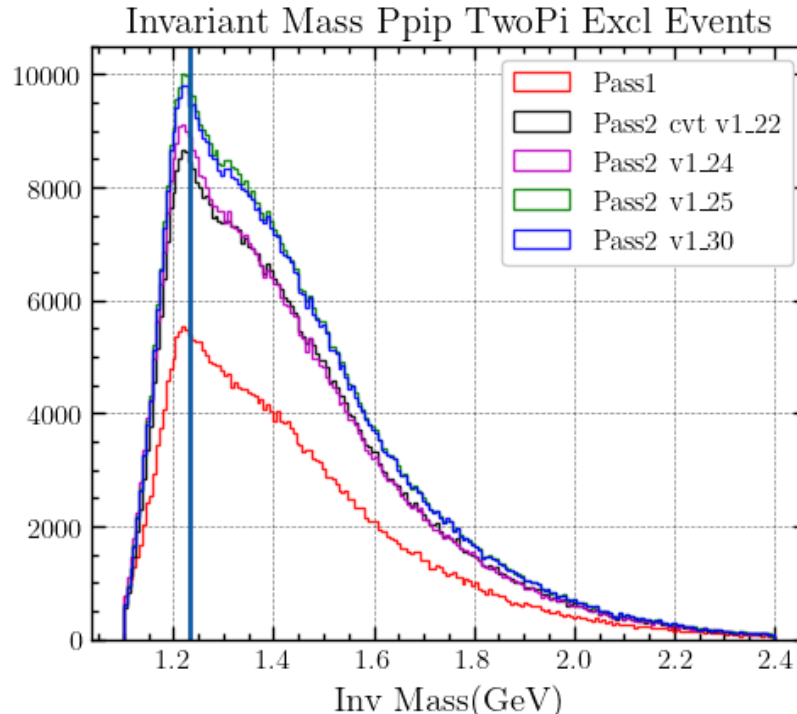
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Key Notes

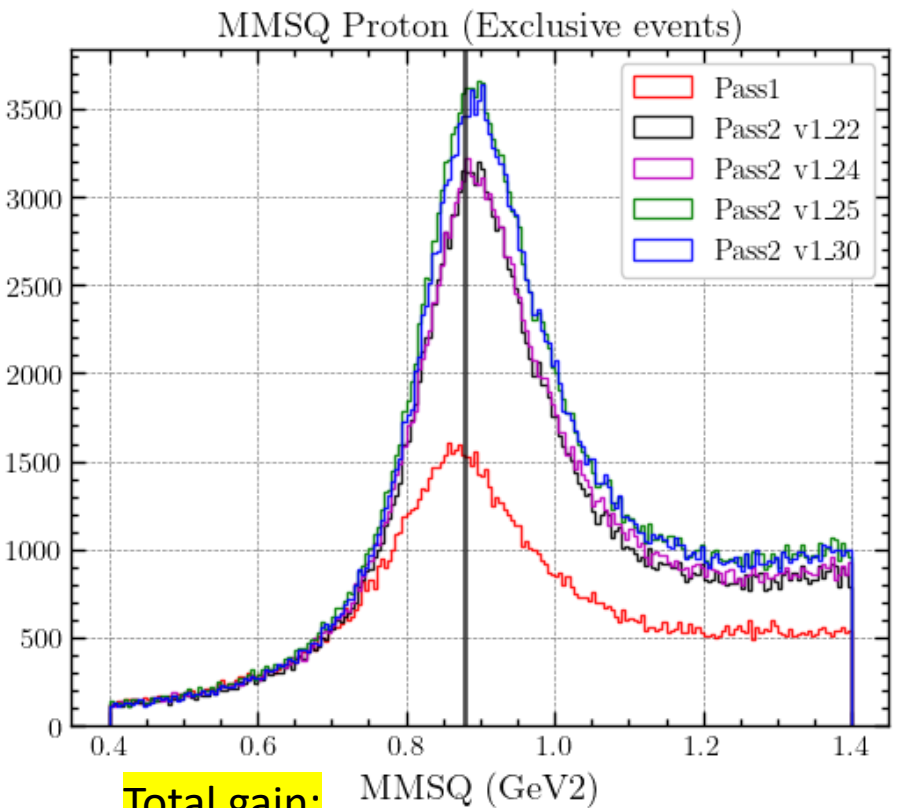
1. Same 5 runs (**006712, 006714, 006716, 006718, 006728**) from each version of pass2 rga spring 19 data with cvt software are included, resIncl train is used
2. Most of the pid cuts are applied including fiducial DC and PCAL cuts
3. Two-Pion ($ep \rightarrow e'p'p_i + p_i^-$) events from 4 different topologies are used

Exclusive Events

All four MMSQ peaks are
Consistent along with
invariant mass histogram.



Exclusive Events



Total gain:

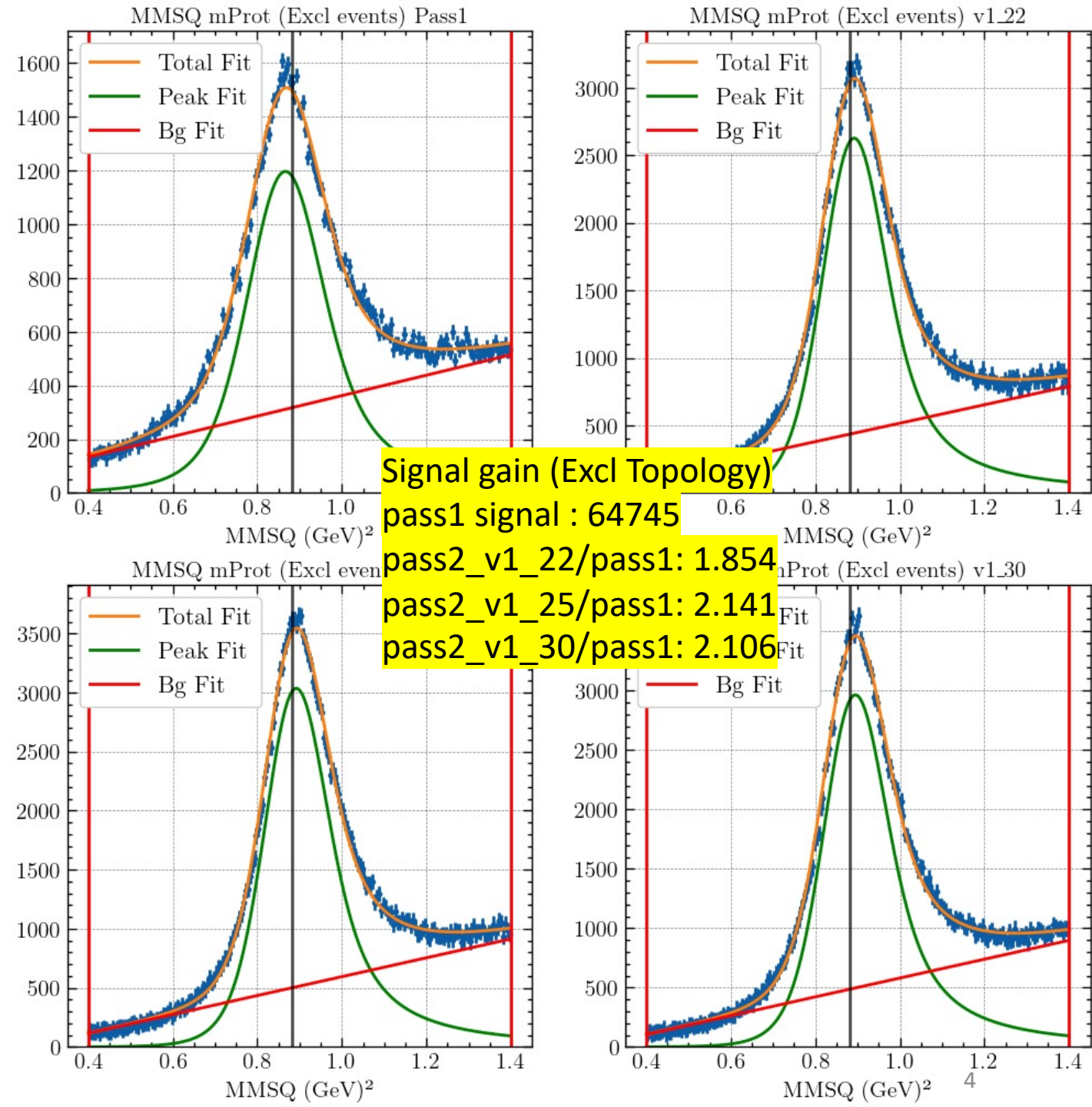
pass1 = 129894

pass2 v1_22/pass1 = 1.618

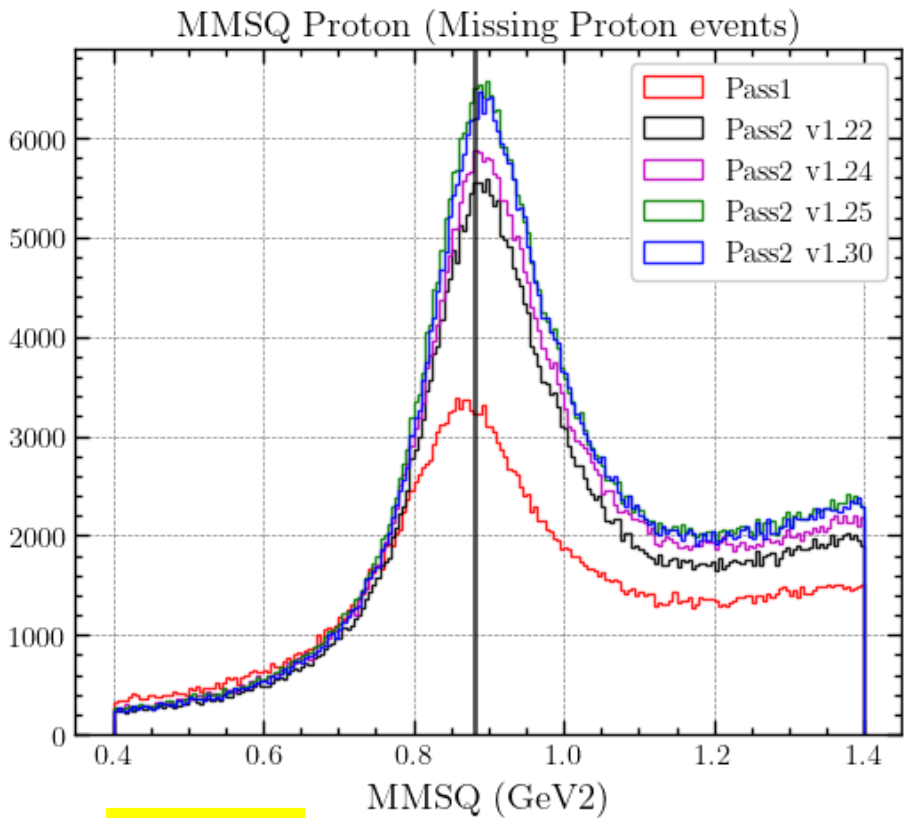
pass2 v1_24/pass1 = 1.662

pass2 v1_25/pass1 = 1.866

pass2 v1_30/pass1 = 1.827



Missing Proton Events



Total gain:

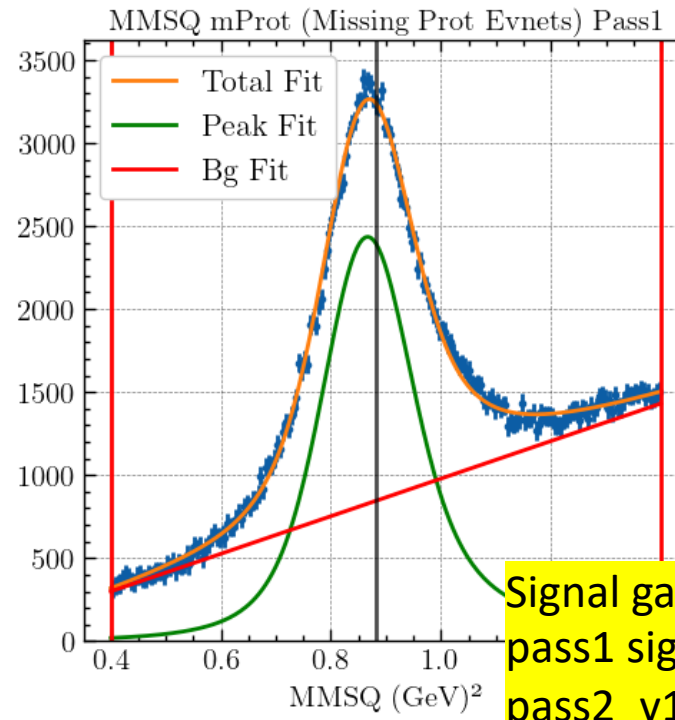
pass1 = 295608.0

pass2 v1_22/pass1 = 1.321

pass2 v1_24/pass1 = 1.436

pass2 v1_25/pass1 = 1.553

pass2 v1_30/pass1 = 1.518



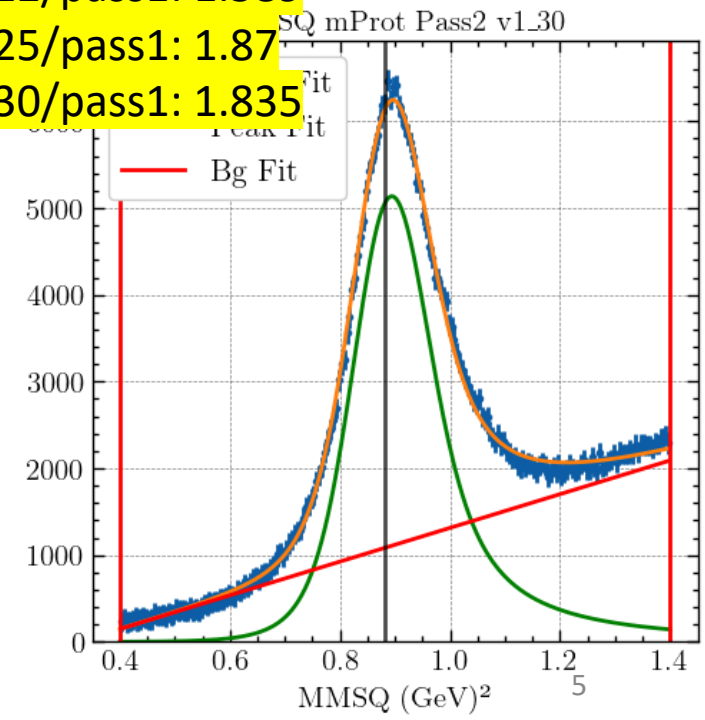
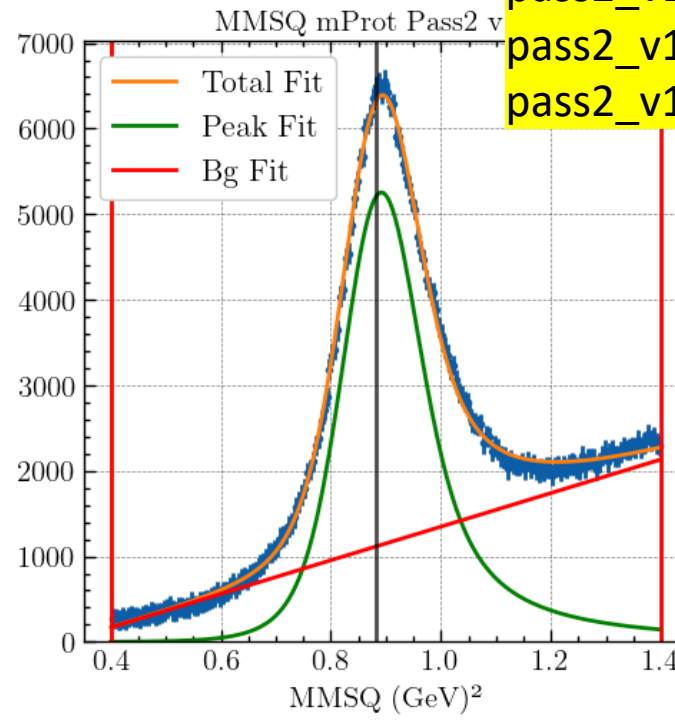
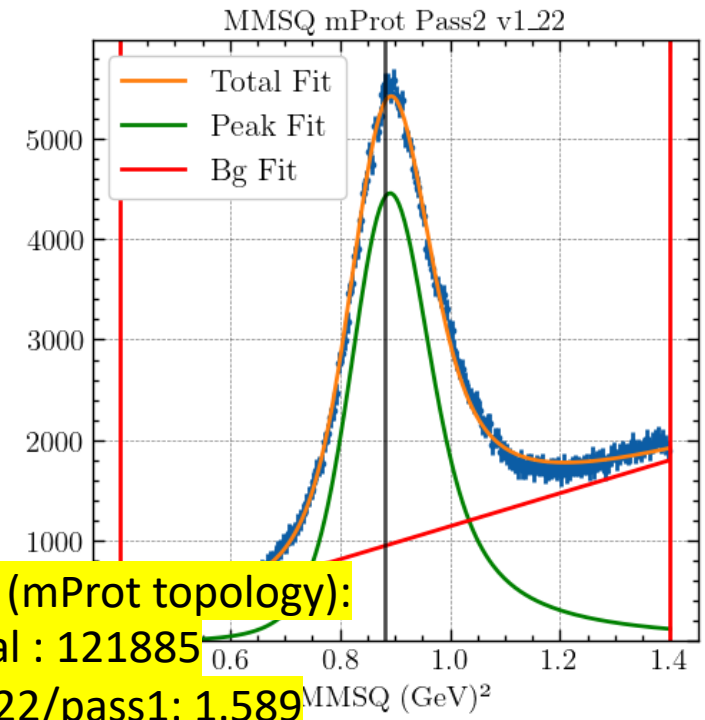
Signal gain (mProt topology):

pass1 signal : 121885

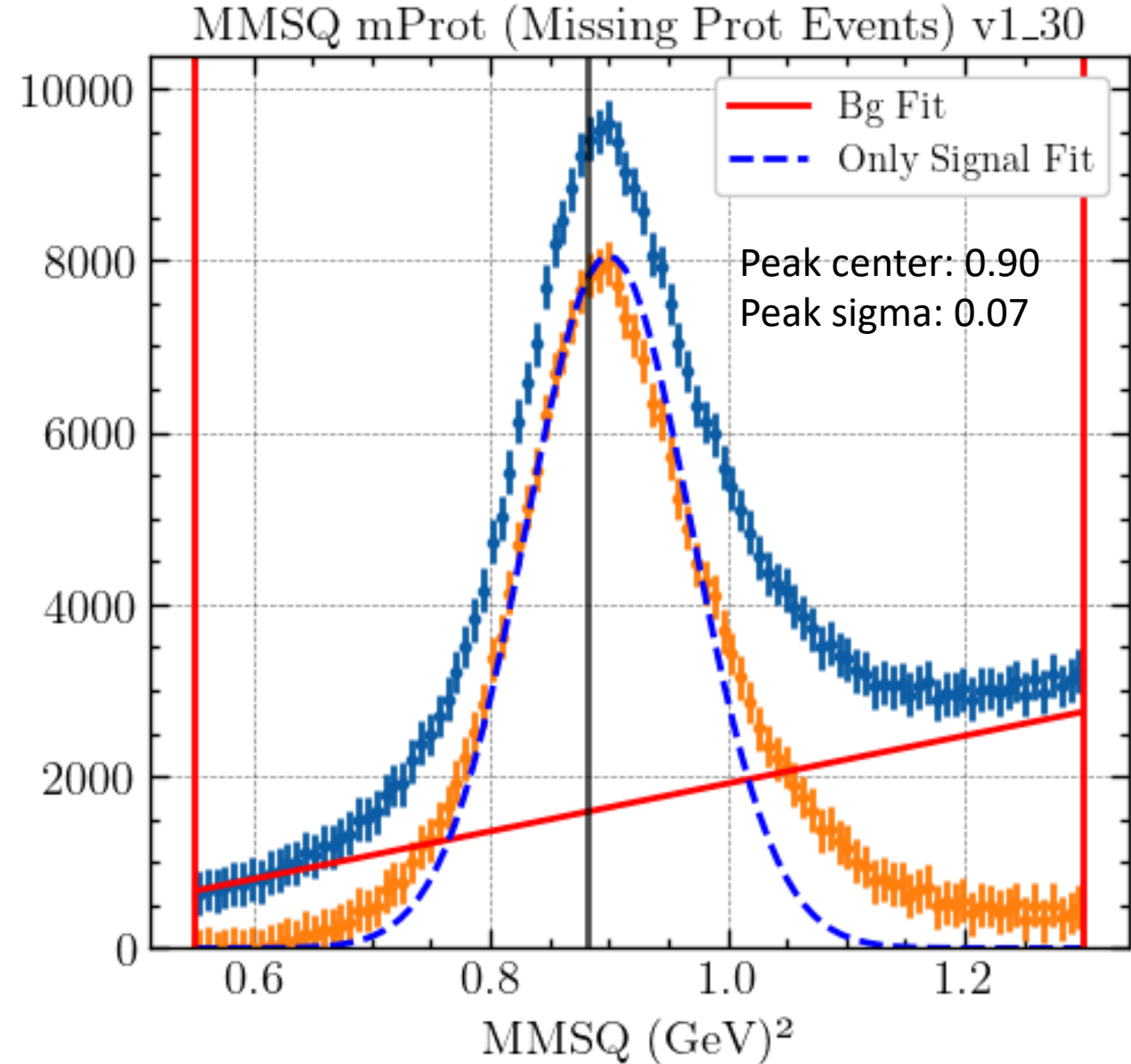
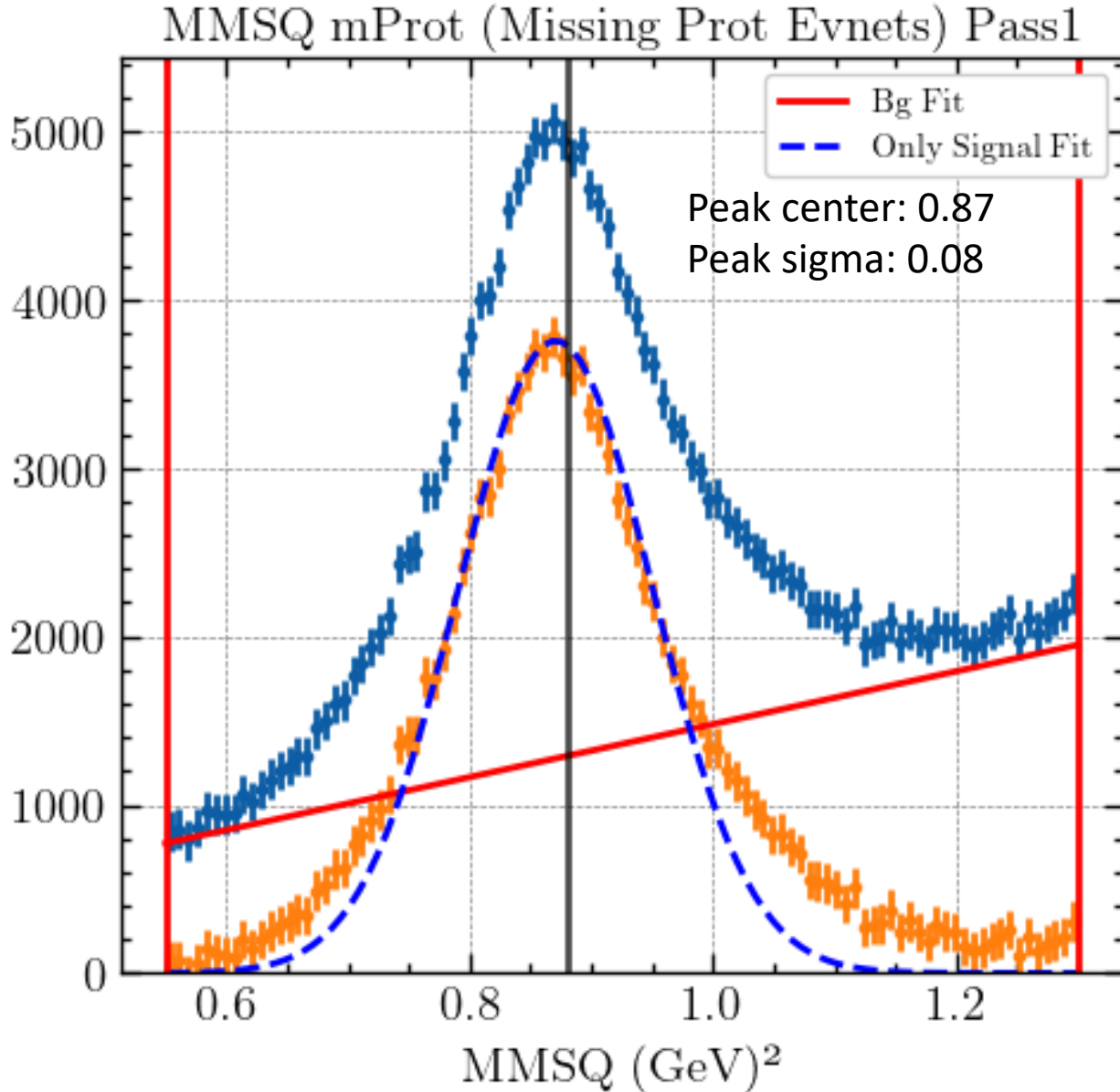
pass2_v1_22/pass1: 1.589

pass2_v1_25/pass1: 1.87

pass2_v1_30/pass1: 1.835

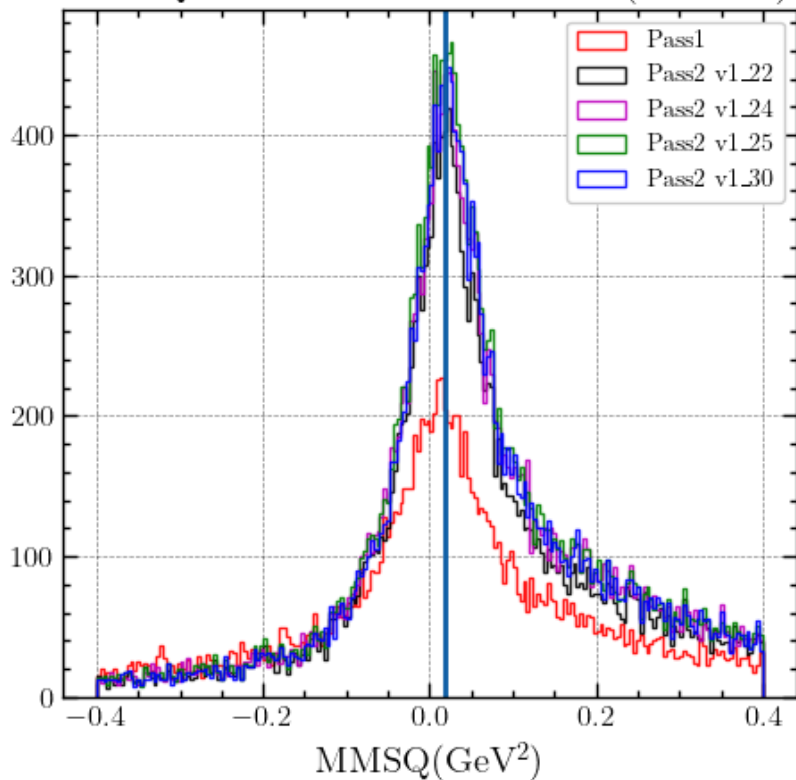


Missing Proton Events

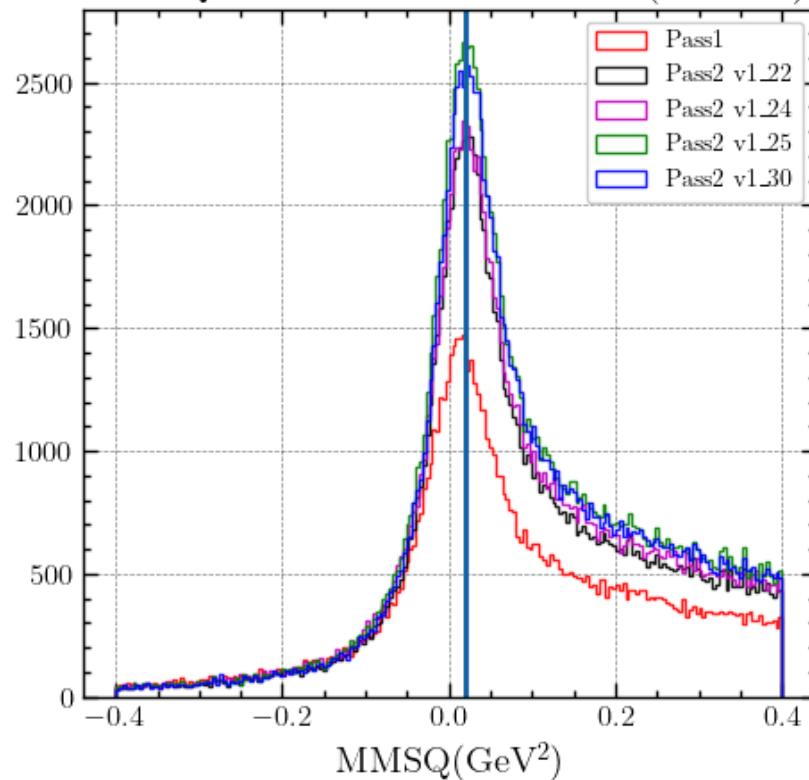


One Particle Detected in Sentral Detector

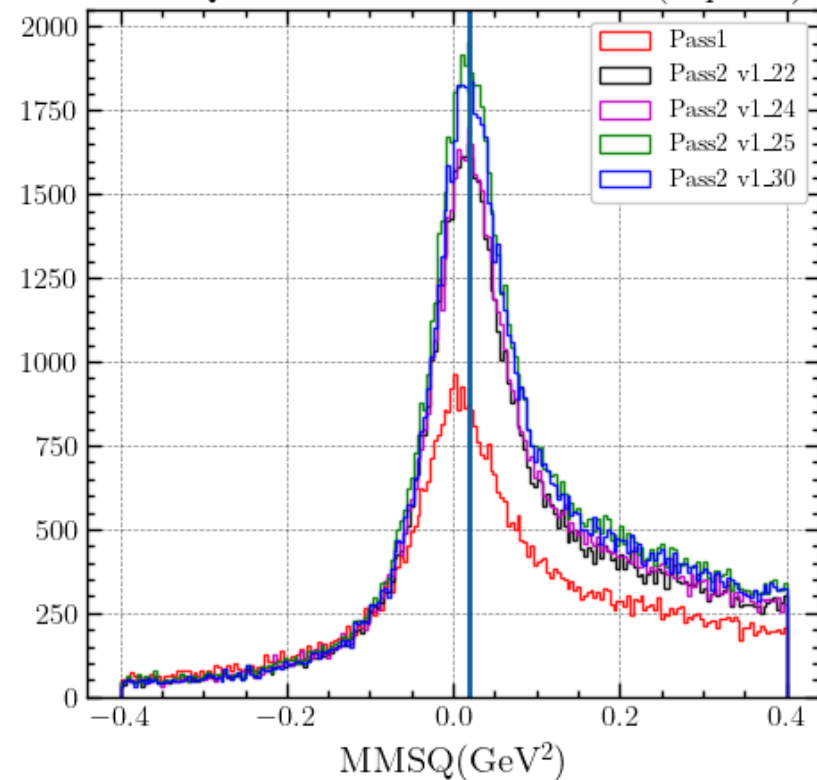
MMSQ mPim TwoPi Excl Events (Prot CD)



MMSQ mPim TwoPi Excl Events (Pim CD)

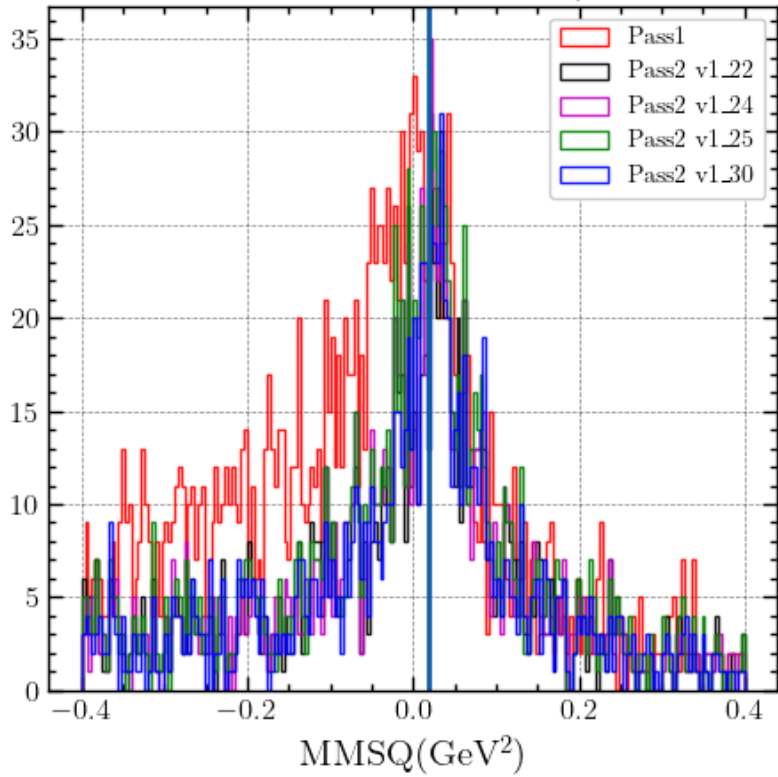


MMSQ mPim TwoPi Excl Events (Pip CD)

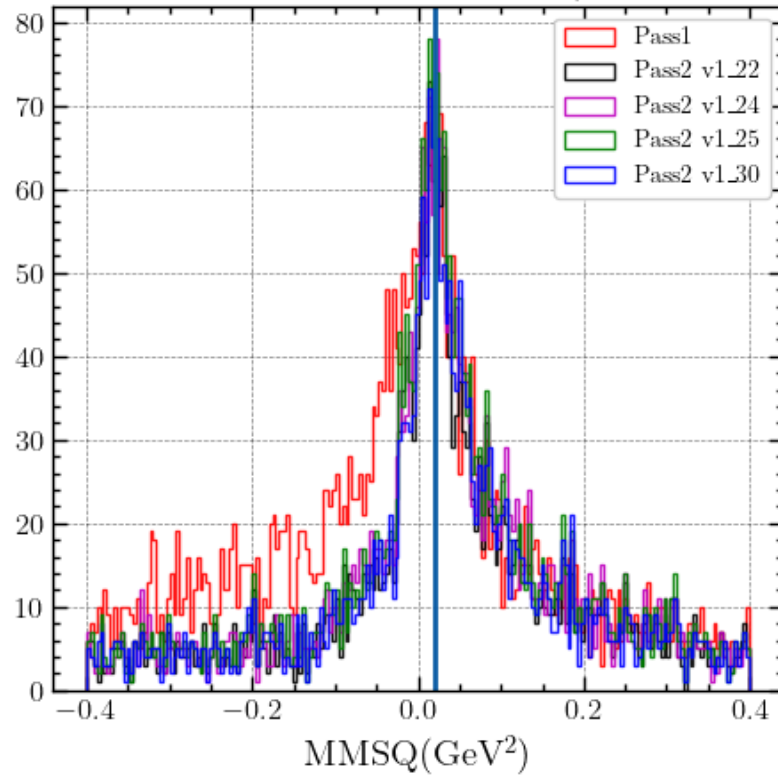


Two Particles Detected in Central Detector

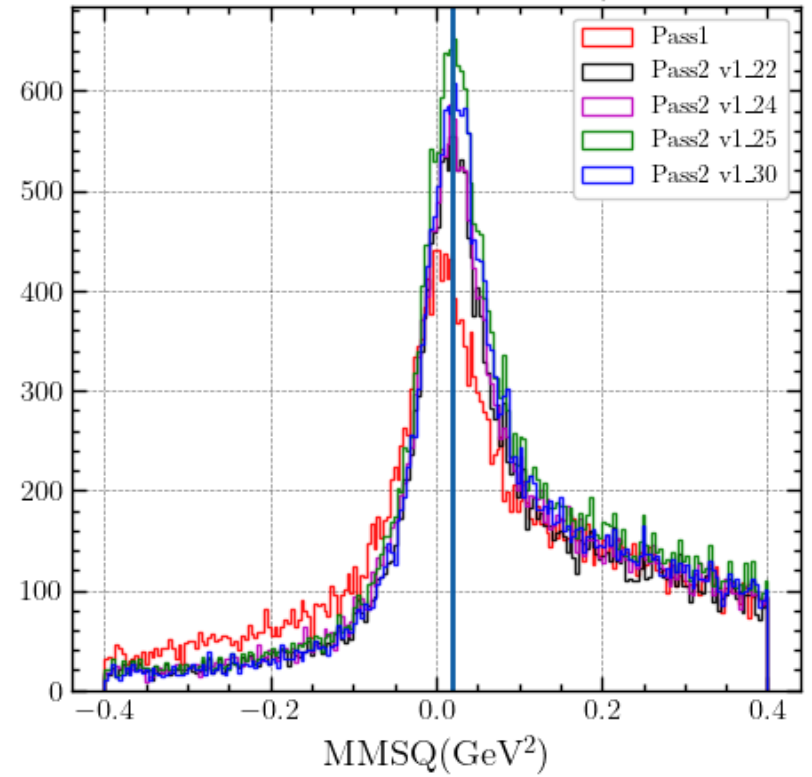
MMSQ mPim TwoPi Excl Events (Prot, Pip CD)



MMSQ mPim TwoPi Excl Events (Prot, Pim CD)



MMSQ mPim TwoPi Excl Events (Pip, Pim CD)



Summary

1. Overall increase in statistics/efficiency from pass1 to pass2 is significant in all topologies (missing Pim, missing Pip, missing Prot and exclusive) in this channel
2. The v1_25 has slightly more statistics than other versions, final version is comparable to v1_25 as well
3. Difference between measured and missing momentum is much closer in CD pass2 in comparison to CD pass1
4. Statistics increased for most of the cases. However, if we demand 2 or more particles in CD the statistics does not increase