

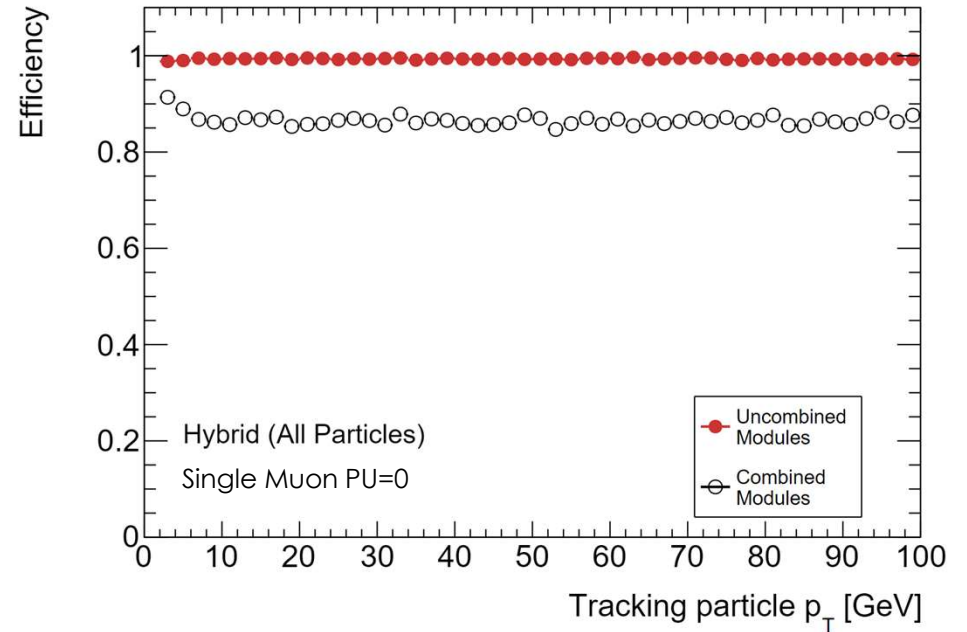
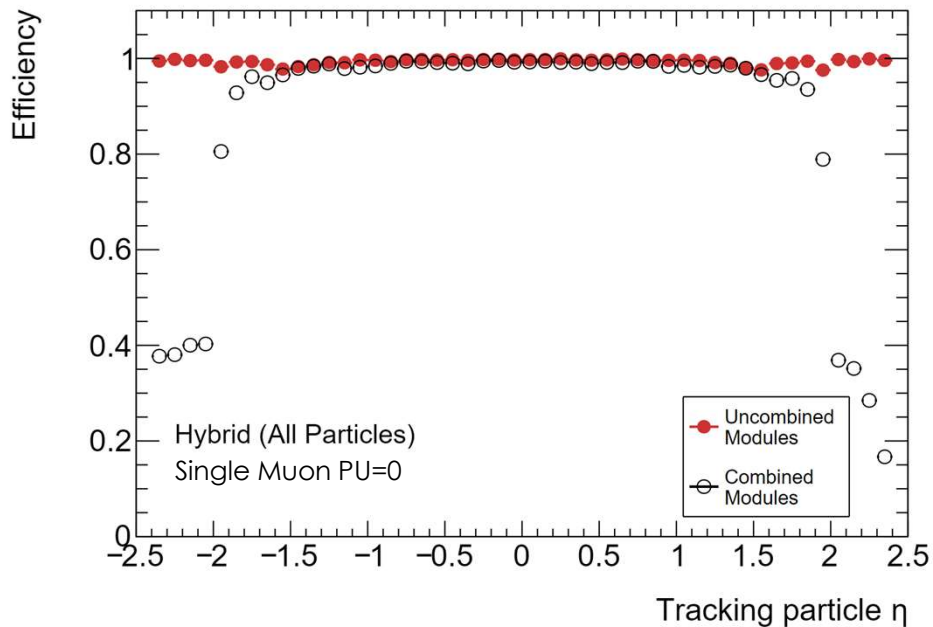
# Combined Module Endcap Efficiency Issue Bug Found

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# Issue Seen Previously

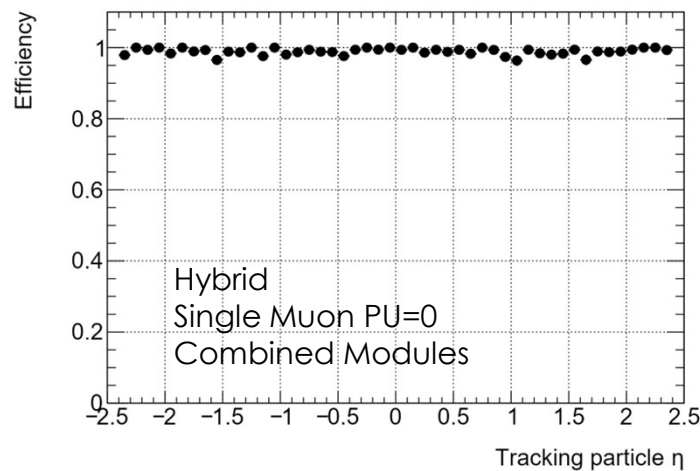
- Combined module efficiency decreased significantly in endcap regions



# Commit Where Bug Originated

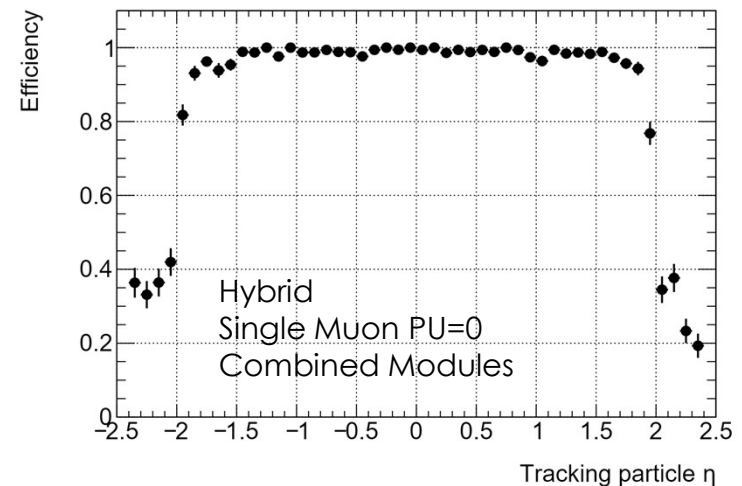
Bug was presented in Jan 29 commit [MP fix disk deltar](#)

**Before Commit**



Integrated efficiency for  $pt > 2 =$   
98.9243  $\pm$  0.116044

**After Commit**

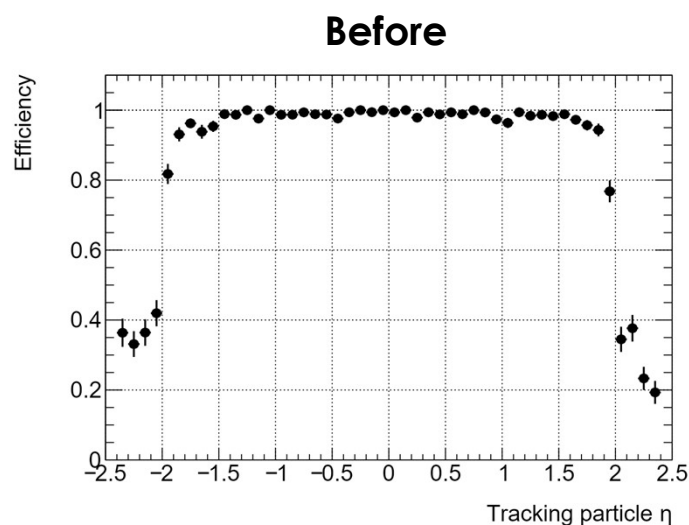


Integrated efficiency for  $pt > 2 =$   
86.7628  $\pm$  0.381238

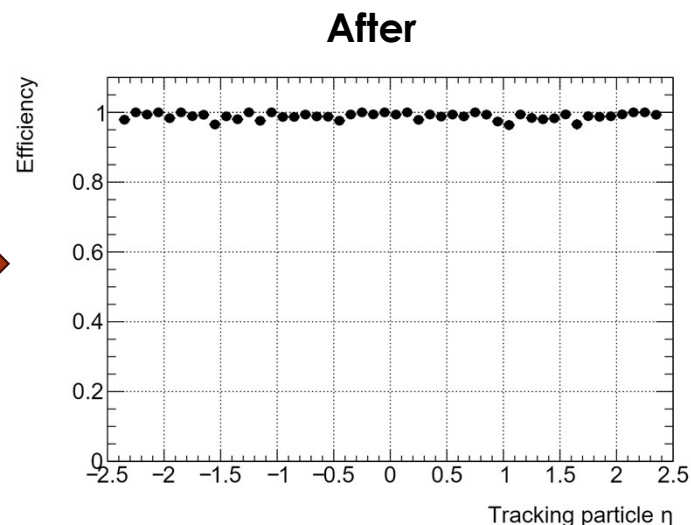
# Specific Line Where bug Originated

Using the latest L1TK-dev-12\_6\_0\_pre5 commit on Aug 8 ("add bit into AllStubInner for TP Disks"), I reverted just one line from the commit on Jan 29 ("MP fix disk deltar"). The line is in the link below. After changing it, the efficiency became good again.

<https://github.com/cms-L1TK/cmssw/commit/23a8a8cfaf3086866b503032b56d93578de8fcc1#diff-0c7cf803e613a94ff5b22deb42f152136d1c91cb933f889070380ae102f02094R125>



efficiency for  $pt > 2 =$   
 $86.7502 \pm 0.381392$



efficiency for  $pt > 2 =$   
 $98.9243 \pm 0.116044$