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Energy Loss in the Absorber and Wedge

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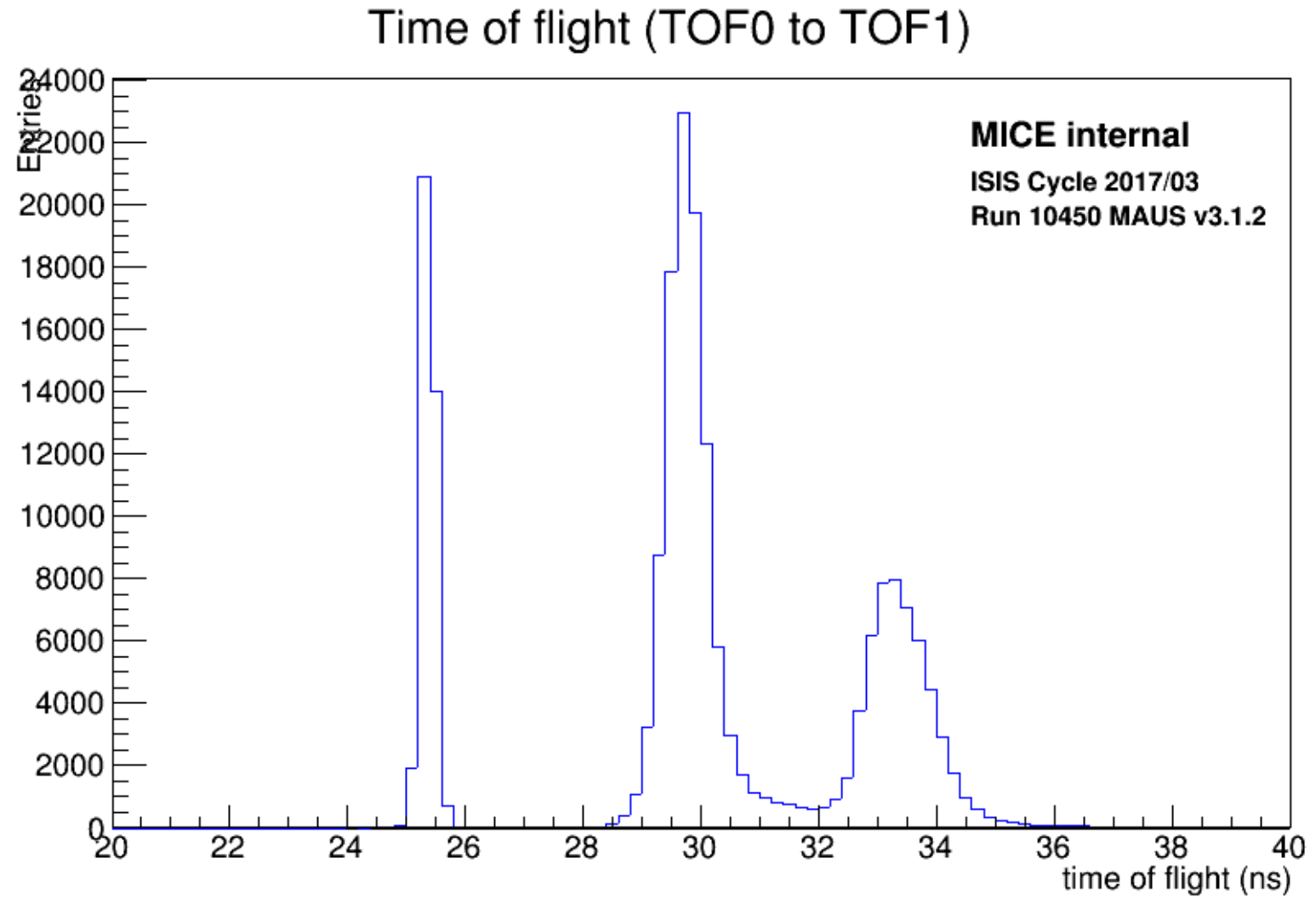
Data Sets

- Looking at three data sets
- Data sets with cooling channel 2017-02-7
- Data sets with Optics 6-140+M3-Test2

- Data Set 10450 has no absorber
- Data Set 09949 has liquid Hydrogen absorber
- Data Set 10537 has wedge

- Make Momentum Cut 135 to 145 MeV/c
- As well as a TOF Cut 28 to 32 ns
- 2 Tracks, one upstream and one downstream
- Using Station 1 and plane 0 of Sci Fi Trackers

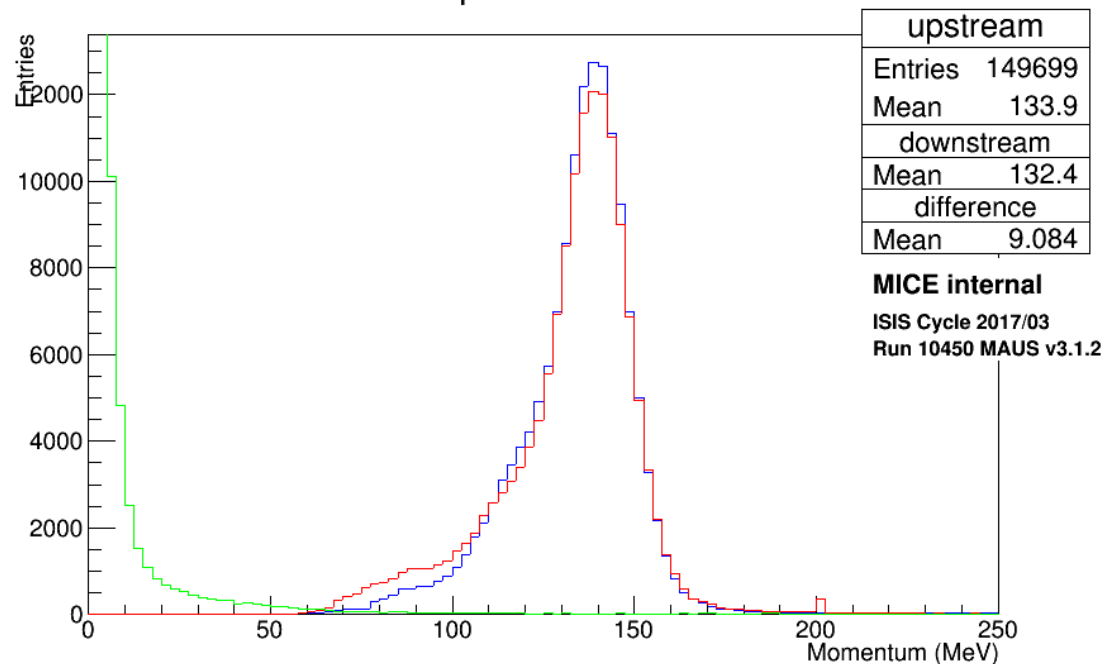
No Absorber



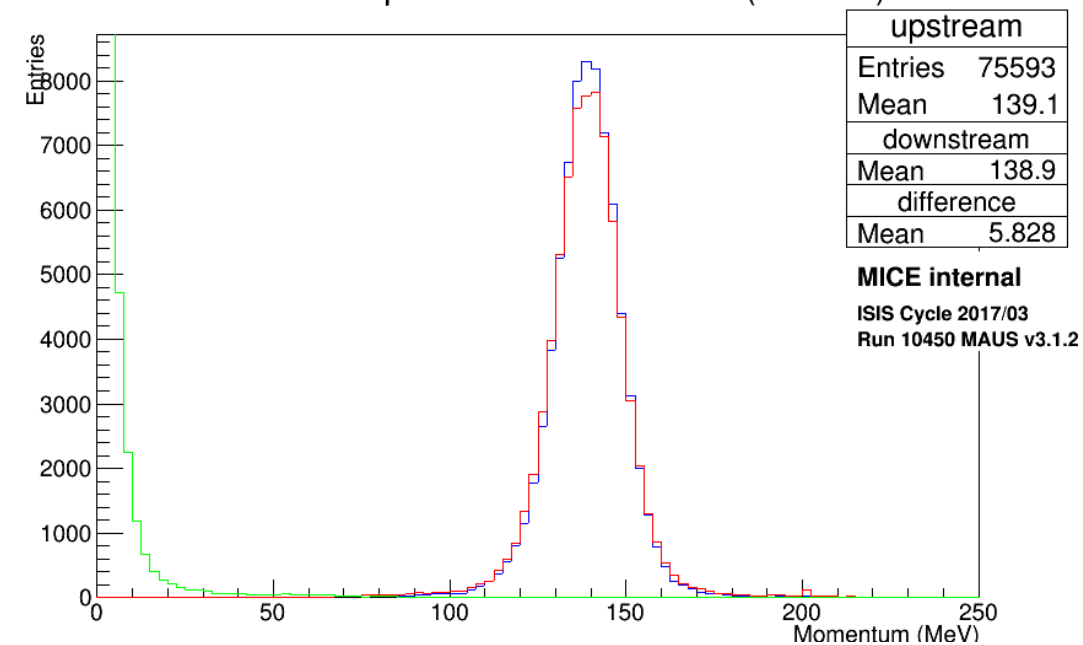
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No Absorber

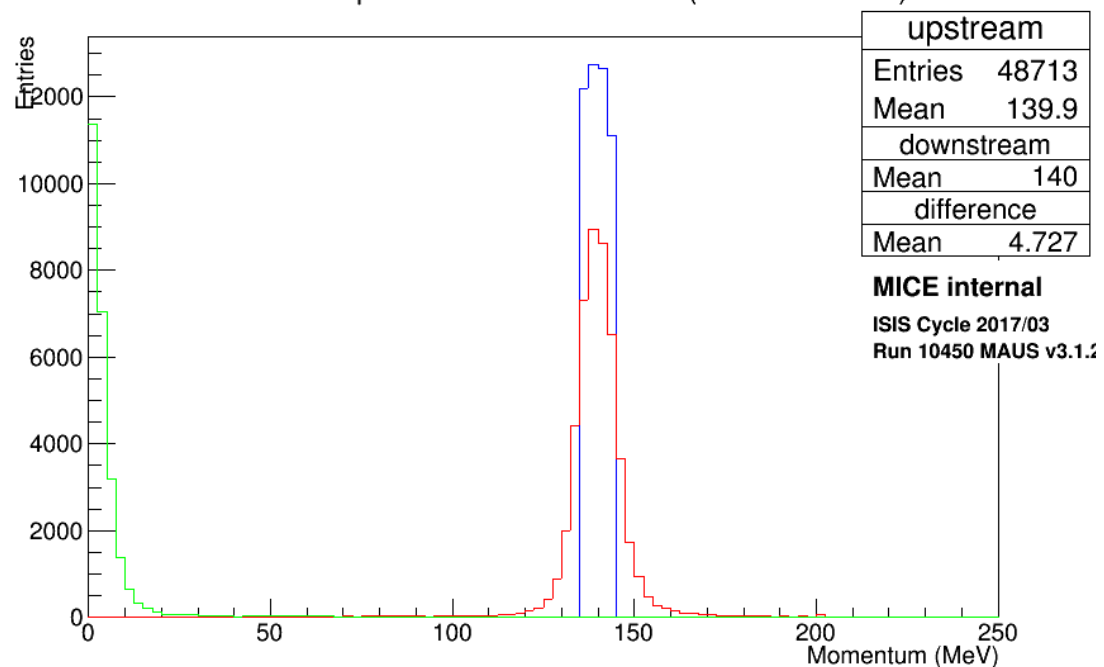
Momentum upstream vs downstream



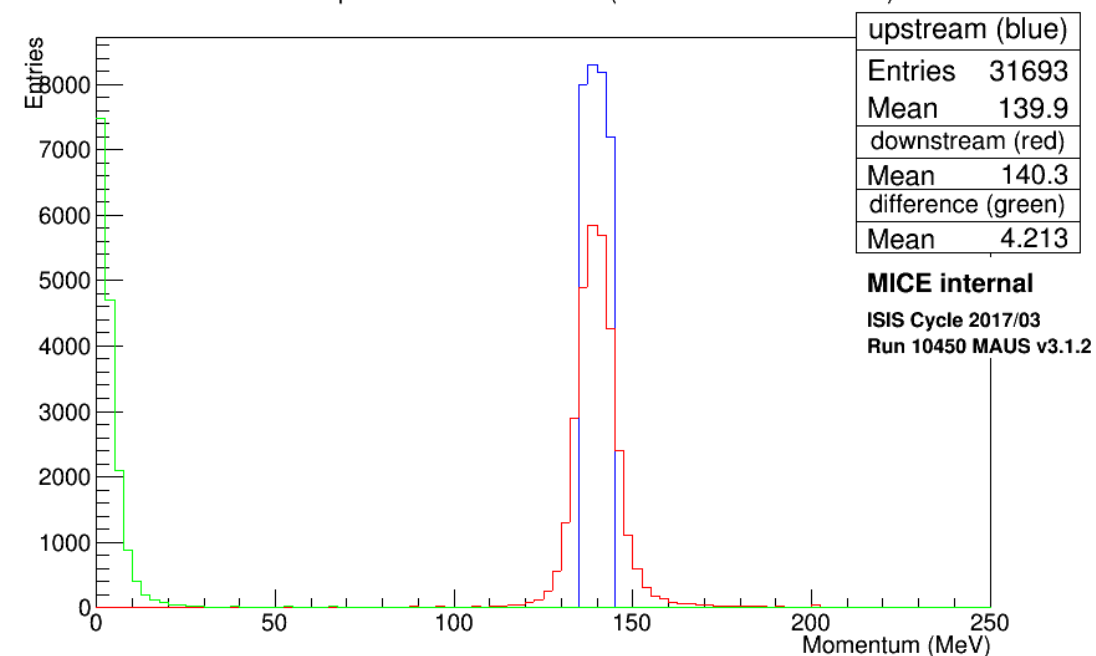
Momentum upstream vs downstream (TOF cut)



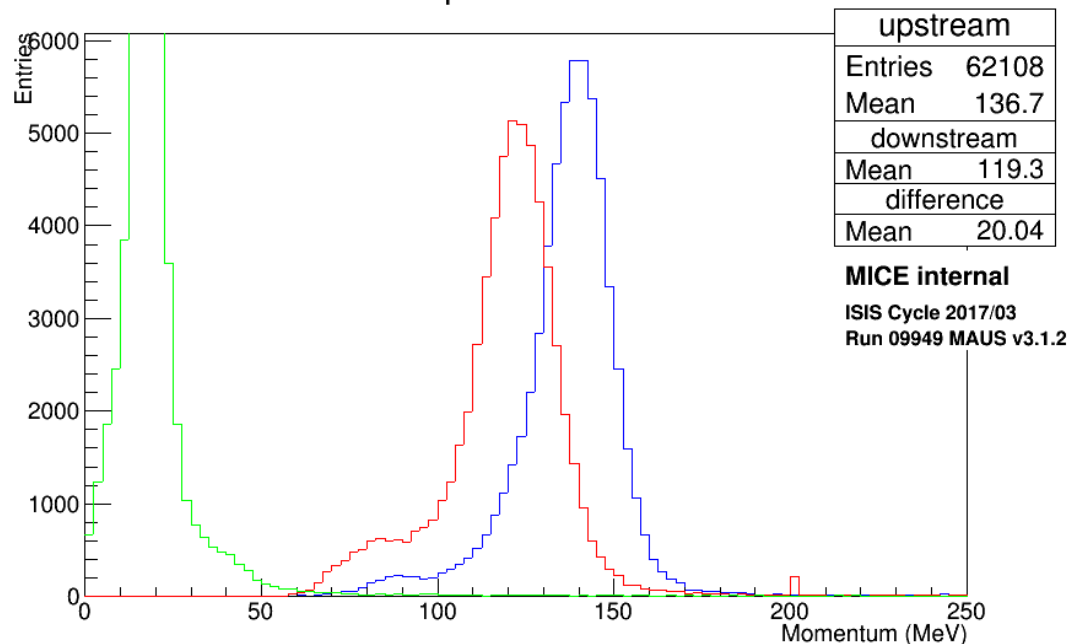
Momentum upstream vs downstream (momentum cut)



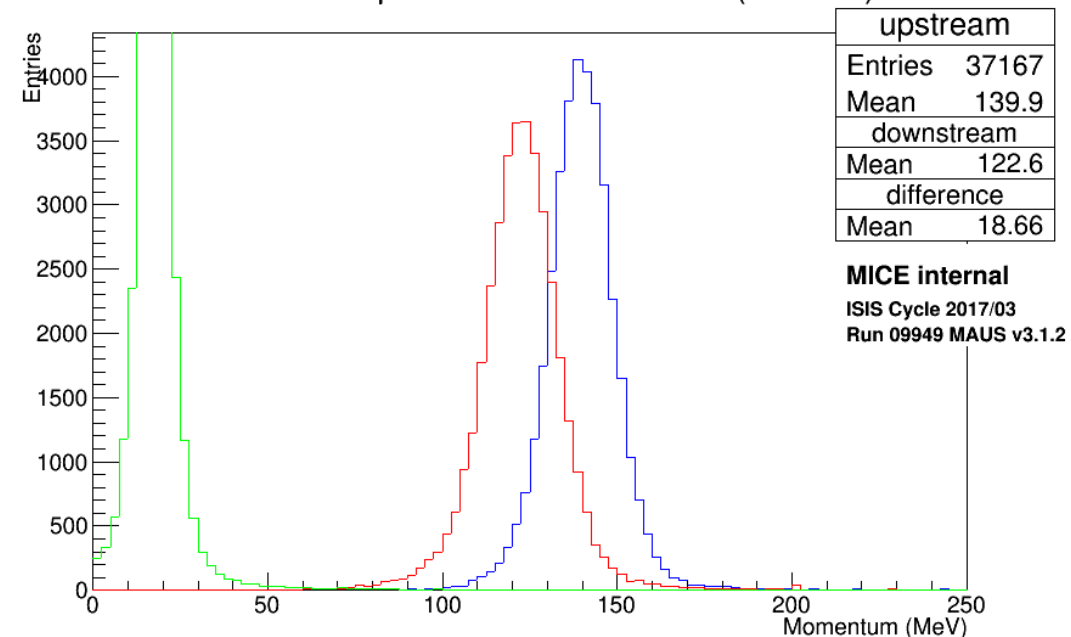
Momentum upstream vs downstream (TOF and Momentum cut)



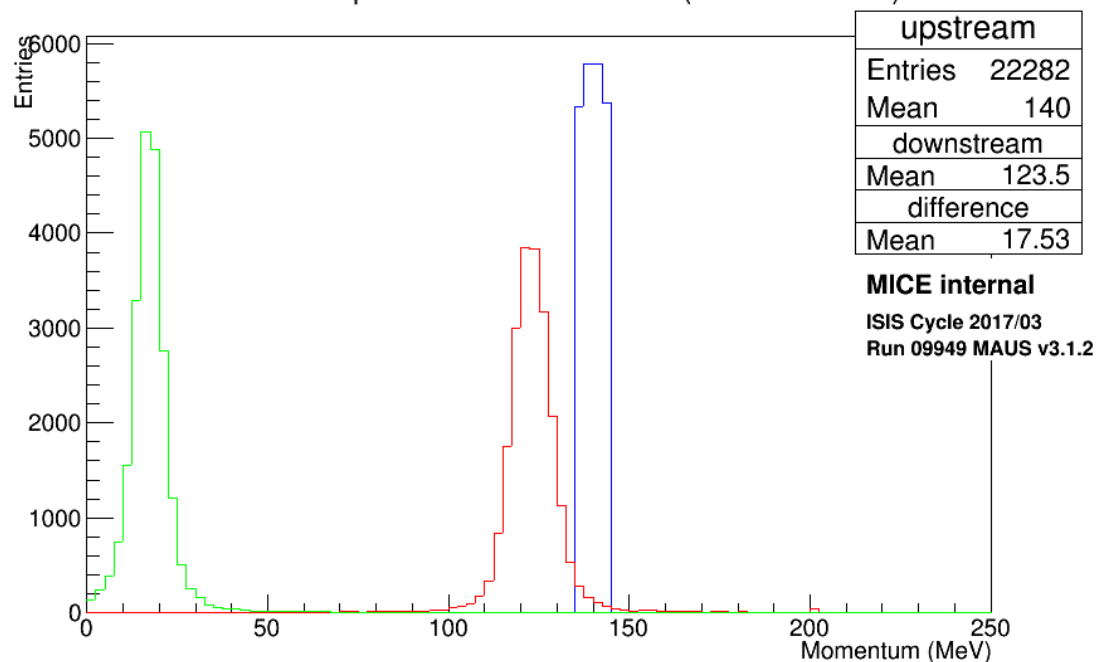
Momentum upstream vs downstream



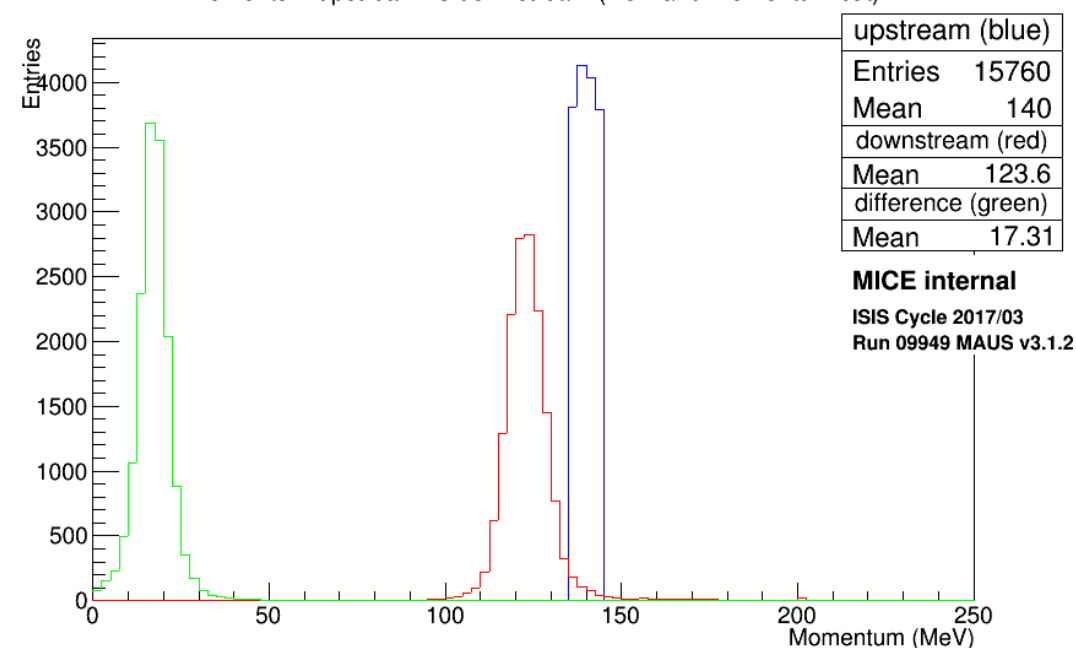
Momentum upstream vs downstream (TOF cut)



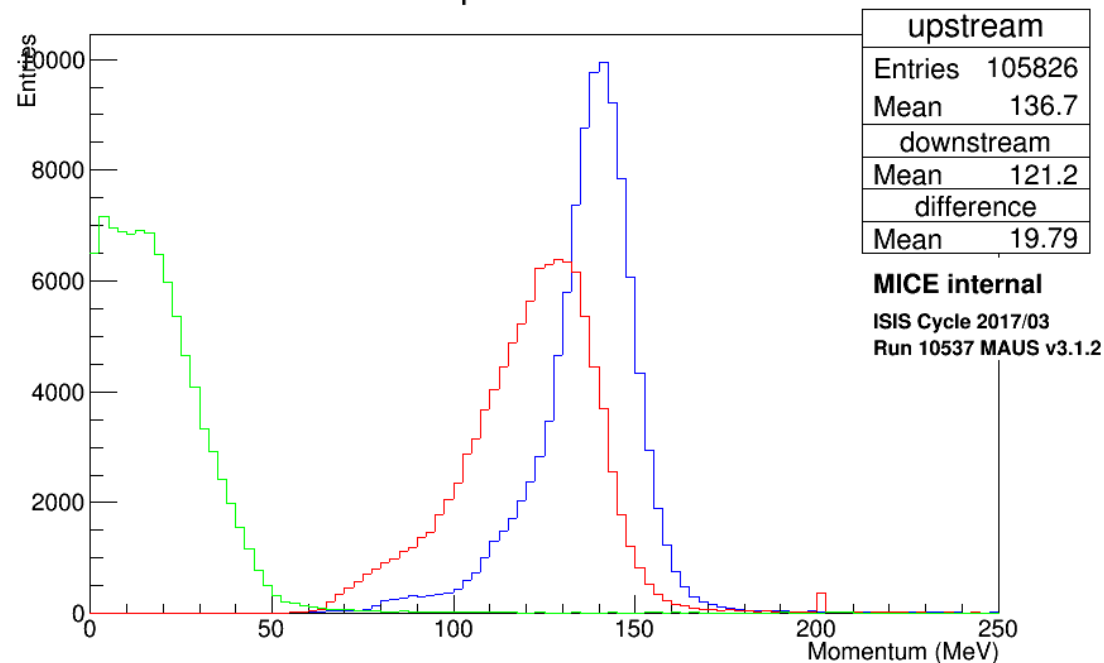
Momentum upstream vs downstream (momentum cut)



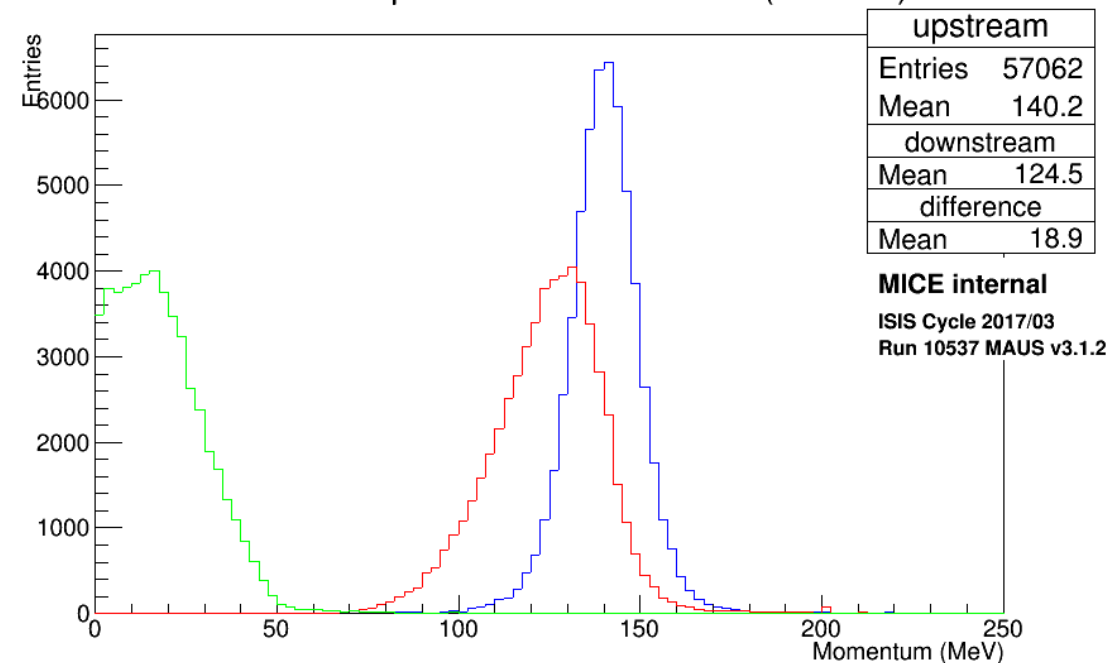
Momentum upstream vs downstream (TOF and Momentum cut)



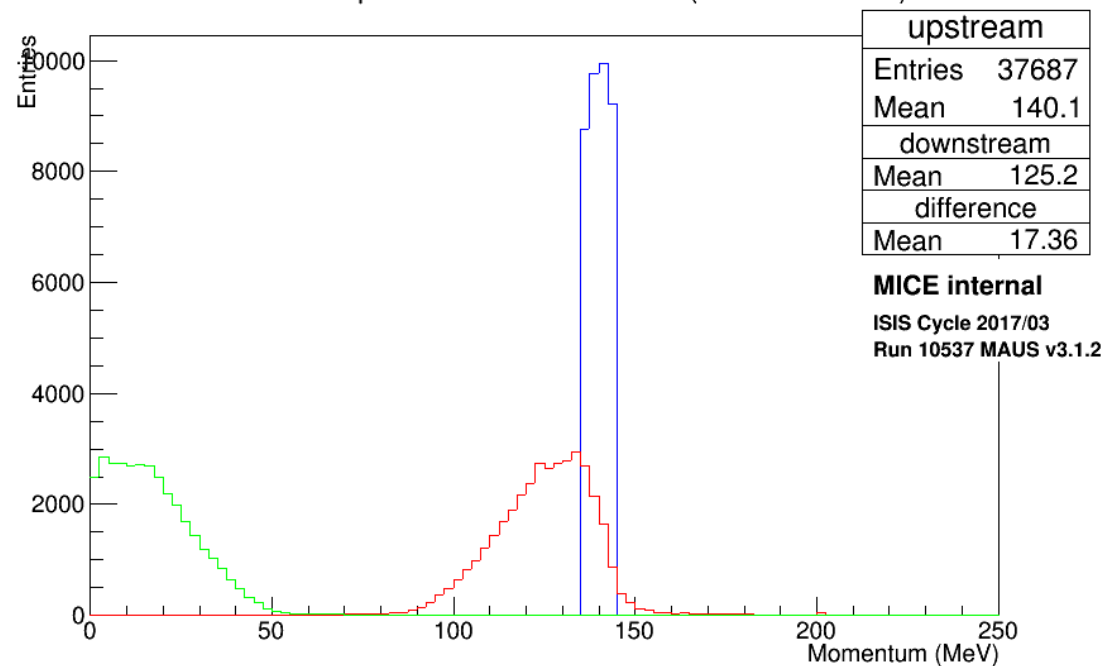
Momentum upstream vs downstream



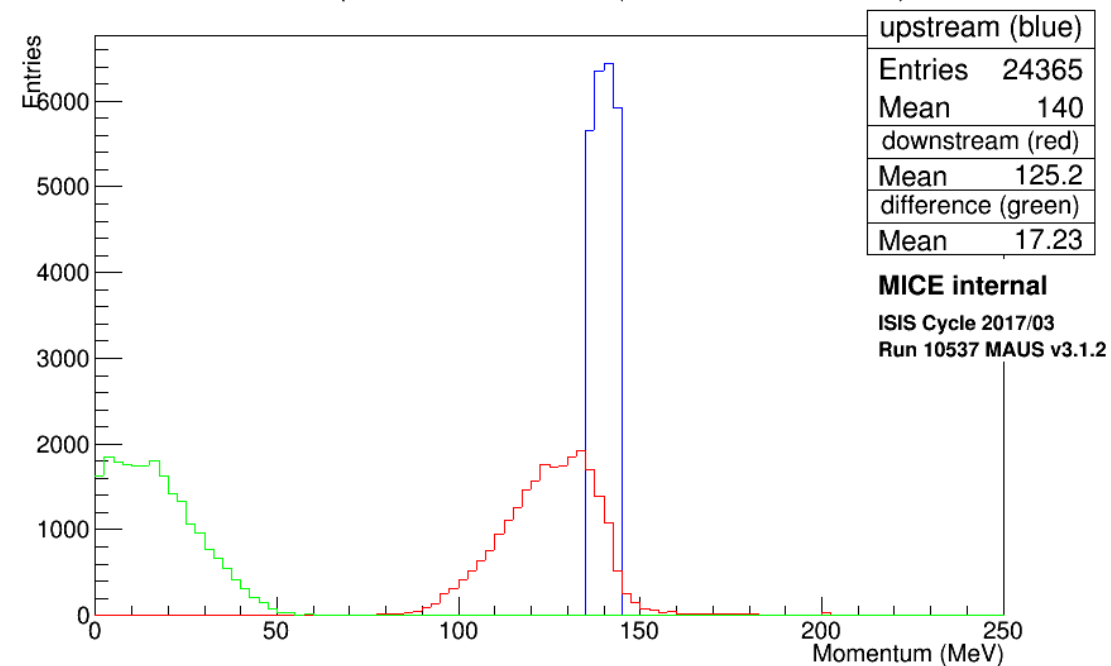
Momentum upstream vs downstream (TOF cut)



Momentum upstream vs downstream (momentum cut)



Momentum upstream vs downstream (TOF and Momentum cut)



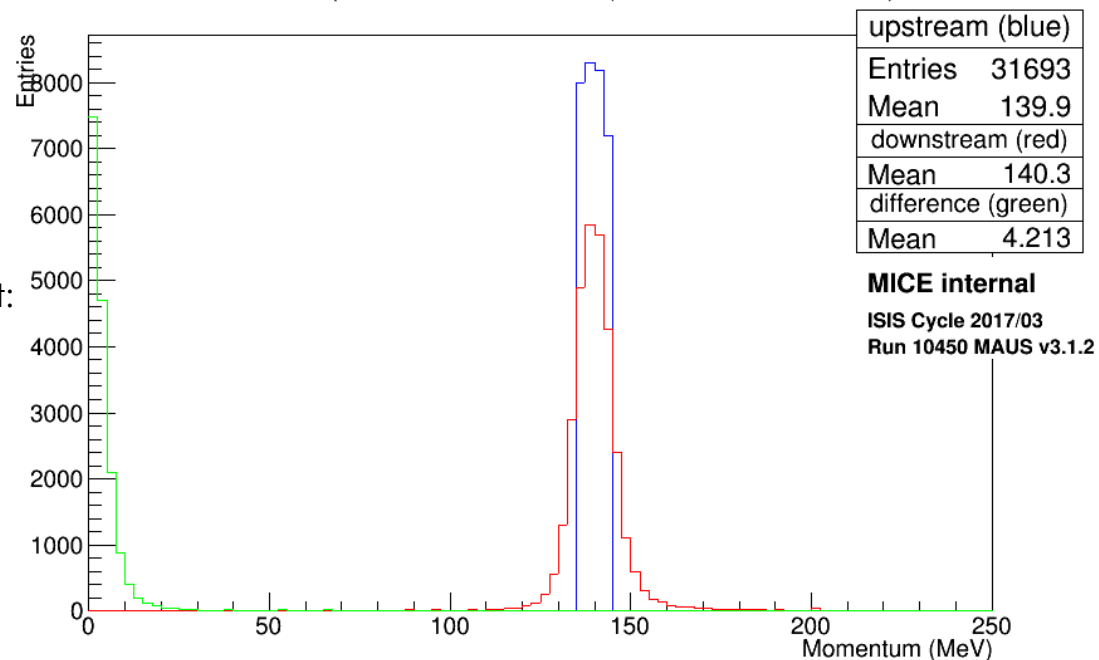
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Top Left and Right:
No Absorber

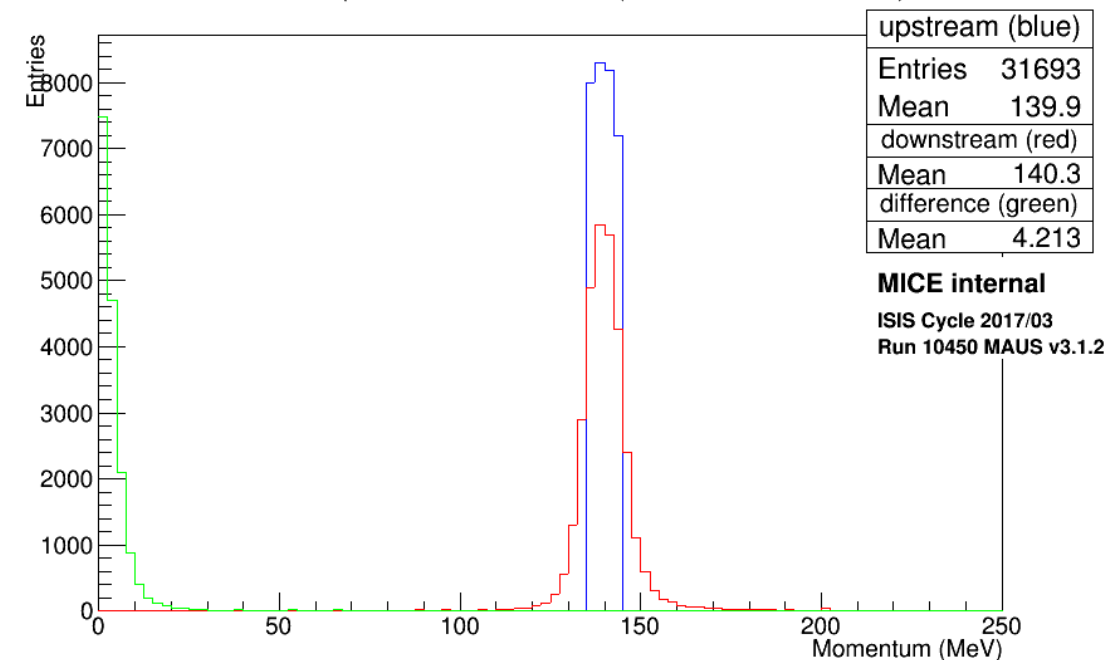
Bottom Left:
Liquid Hydrogen

Bottom Right:
Wedge

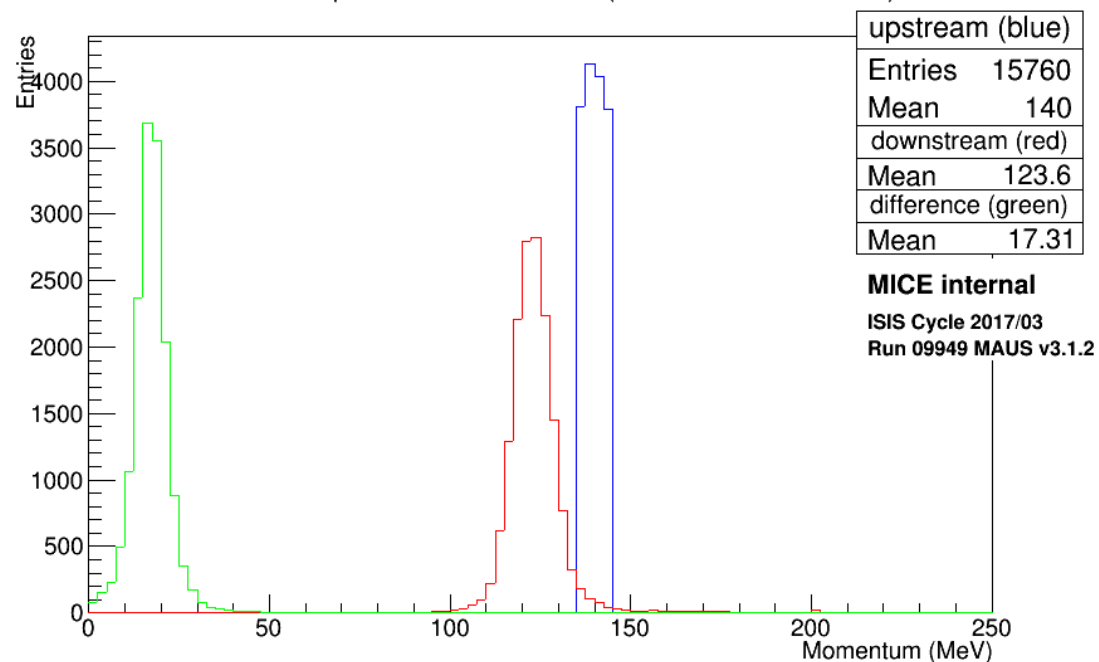
Momentum upstream vs downstream (TOF and Momentum cut)



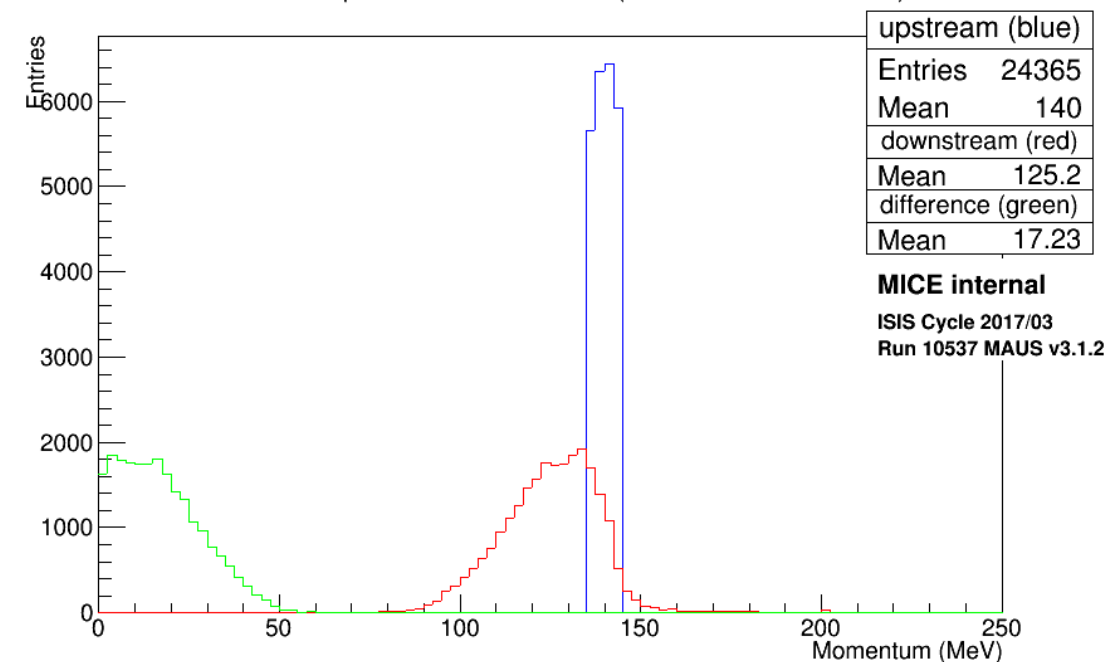
Momentum upstream vs downstream (TOF and Momentum cut)



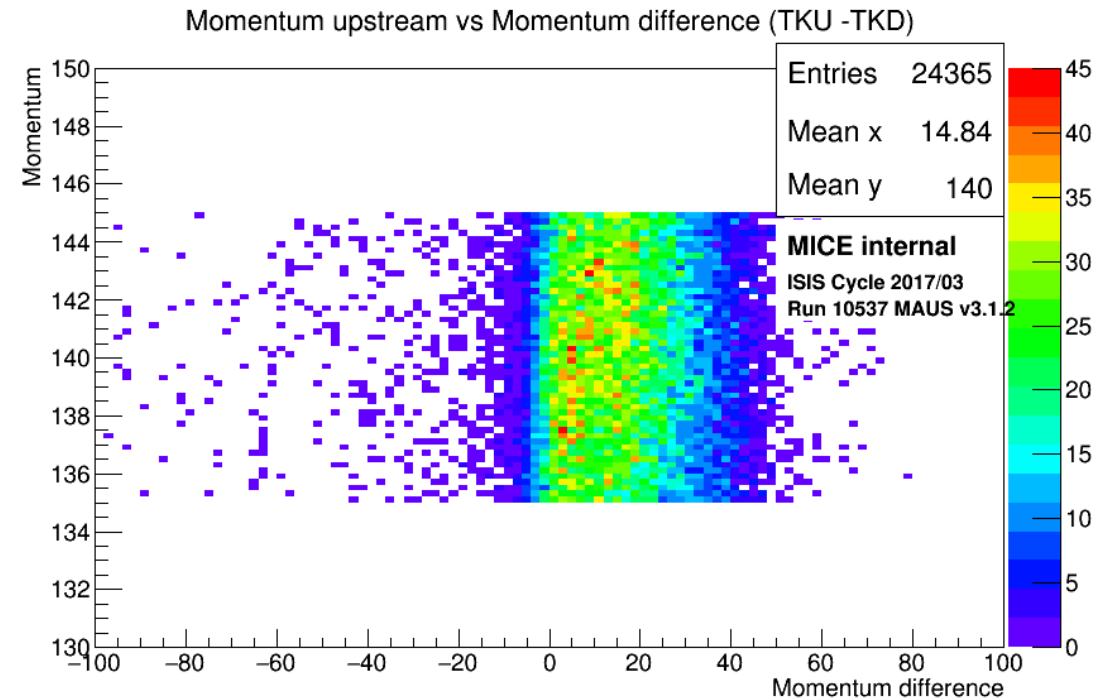
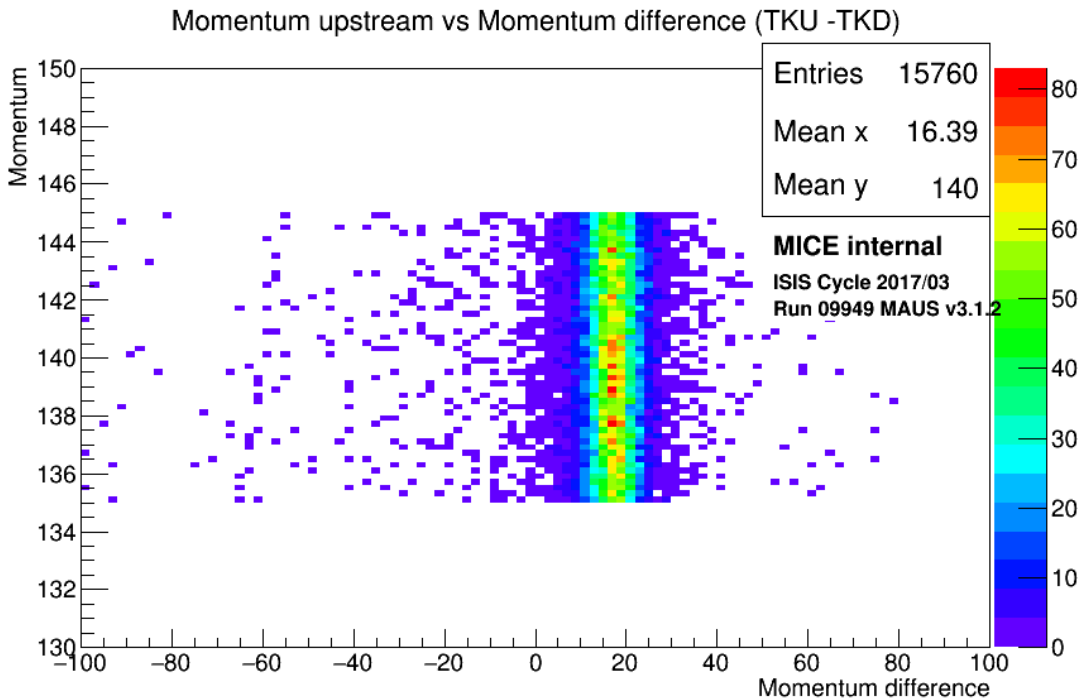
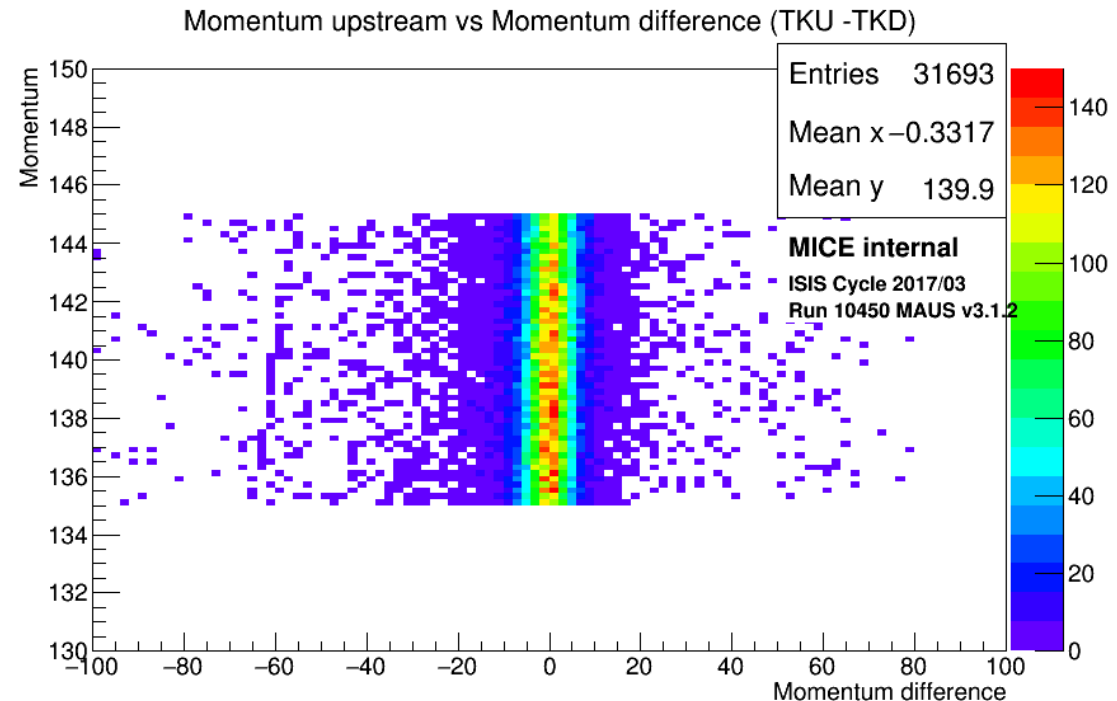
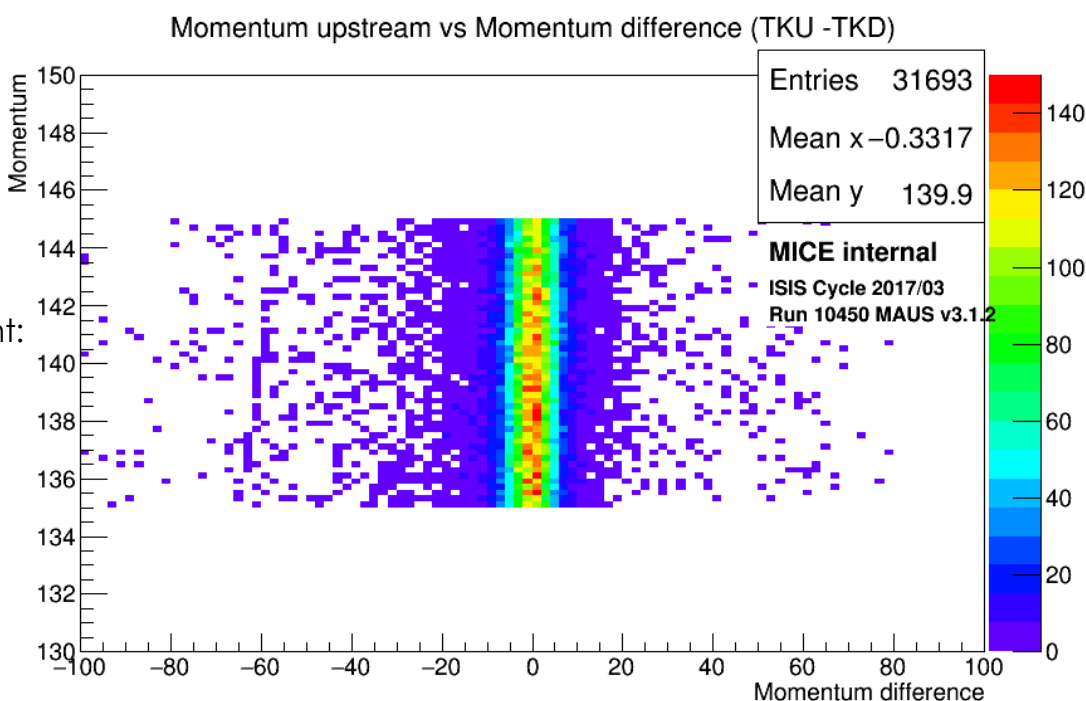
Momentum upstream vs downstream (TOF and Momentum cut)



Momentum upstream vs downstream (TOF and Momentum cut)



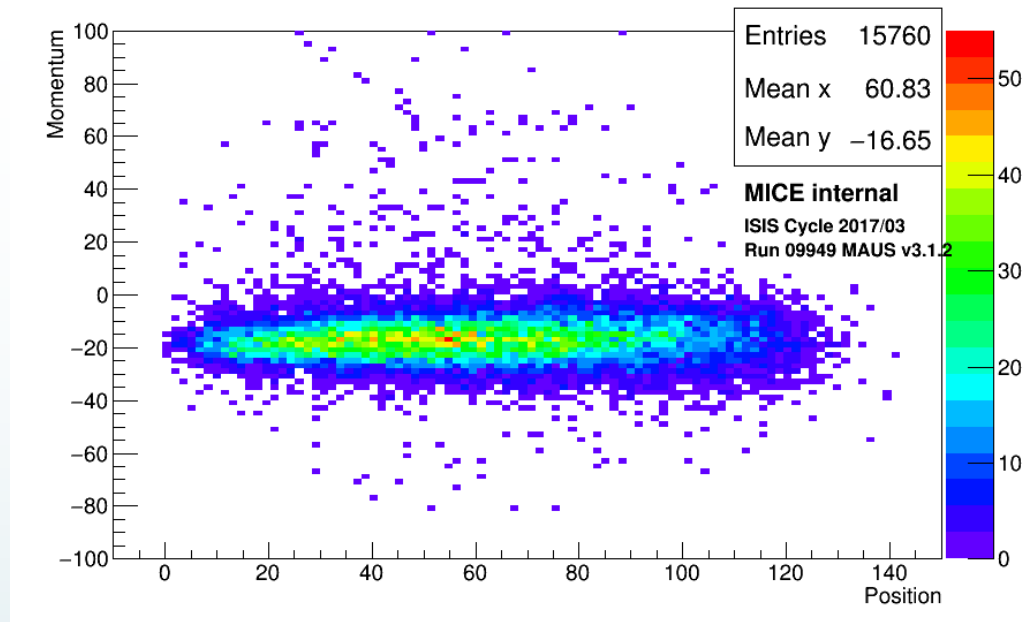
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Top Left and Right:
No AbsorberBottom Left:
Liquid HydrogenBottom Right:
Wedge

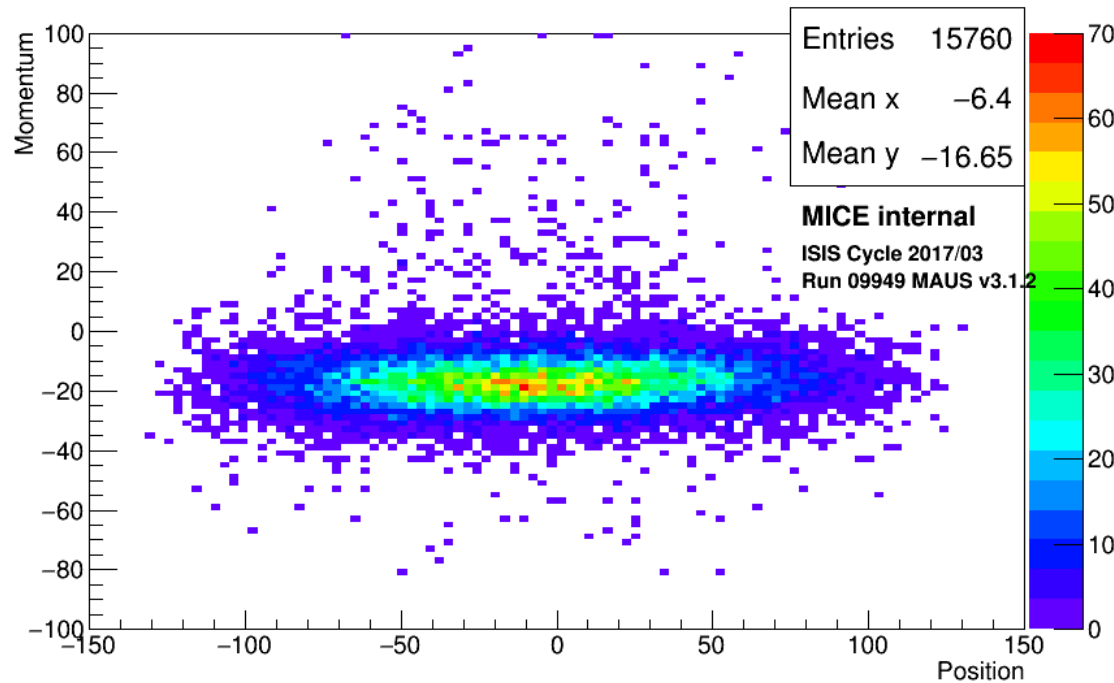
Momentum difference at the absorber/wedge

- ▶ Extrapolate data from TKU to absorber/wedge
- ▶ Showing Momentum difference for various radii, x and y position
- ▶ Caution: Extrapolation from TKU to TKD for no absorber data set shows slight variation to real data

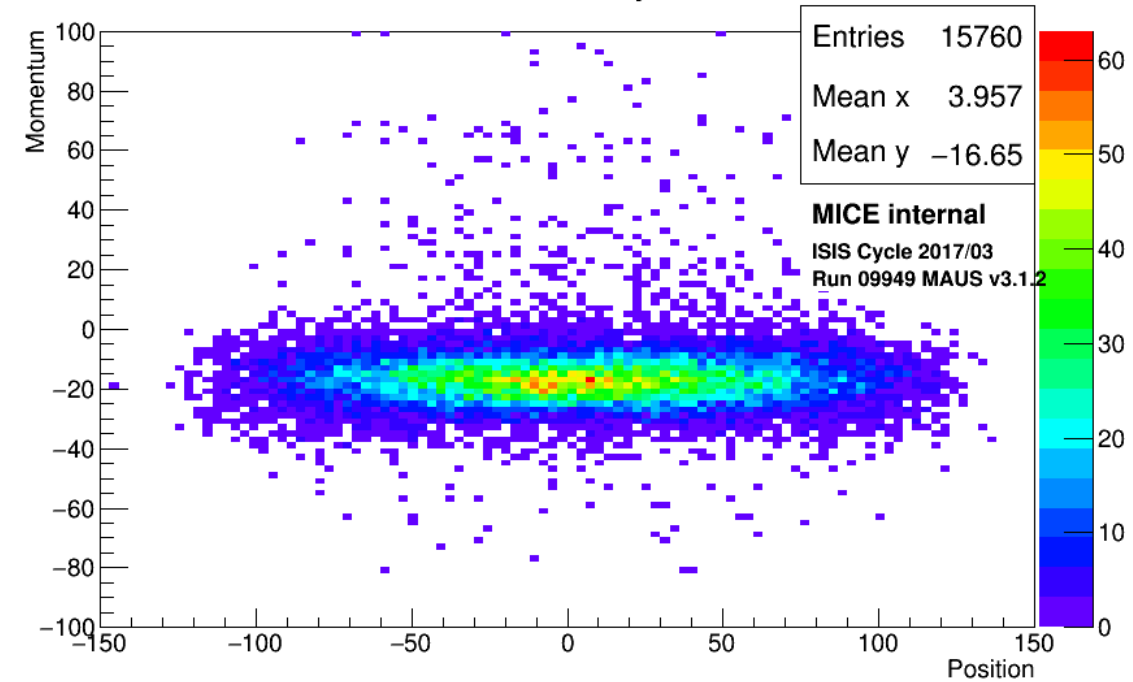
Momentum difference vs radius at the absorber



Momentum difference vs x at the absorber

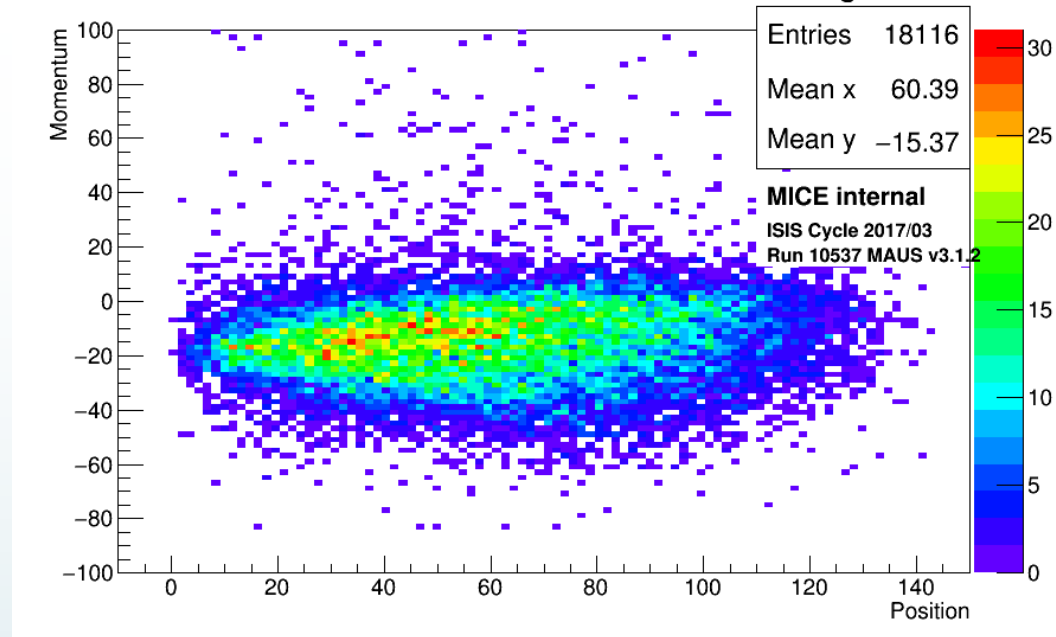


Momentum difference vs y at the absorber

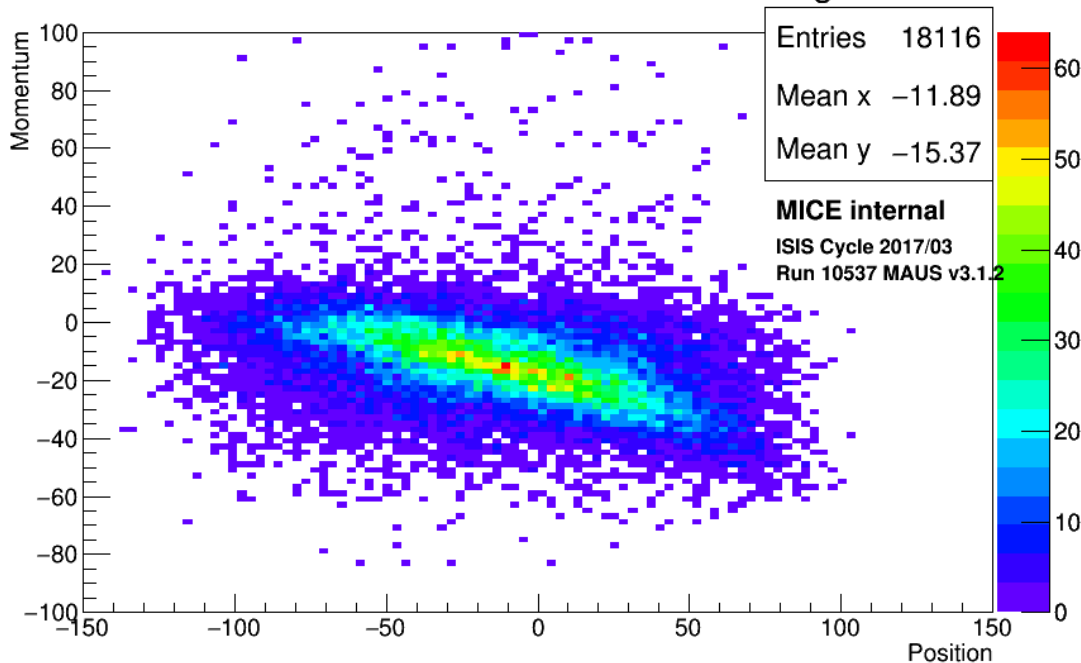


Sample of
Wedge Data

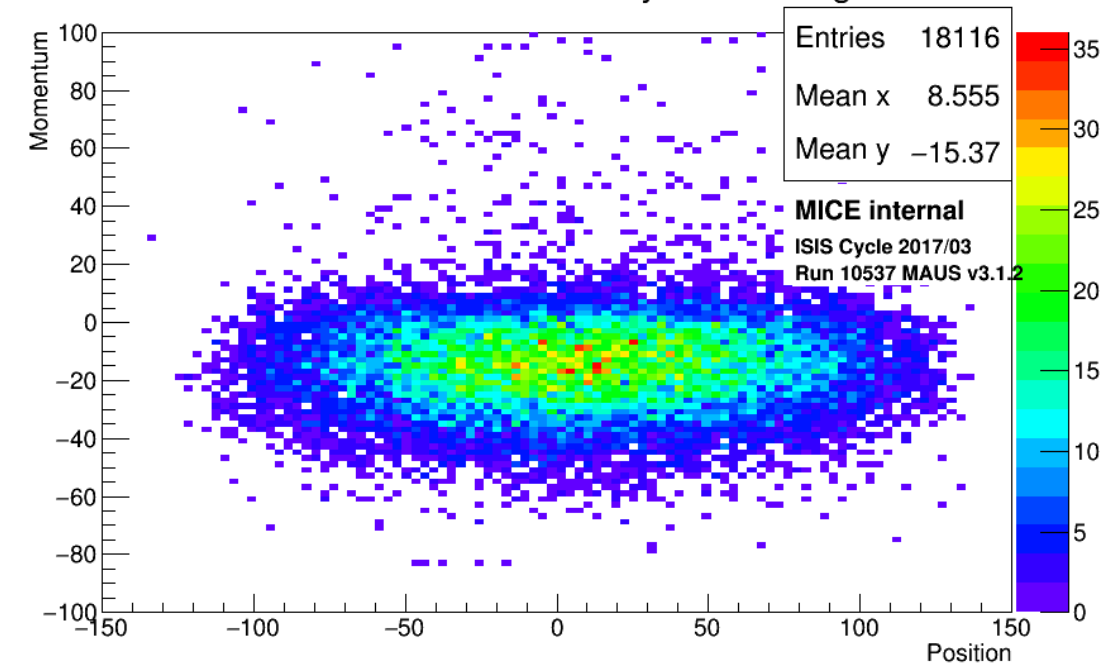
Momentum difference vs radius at the wedge



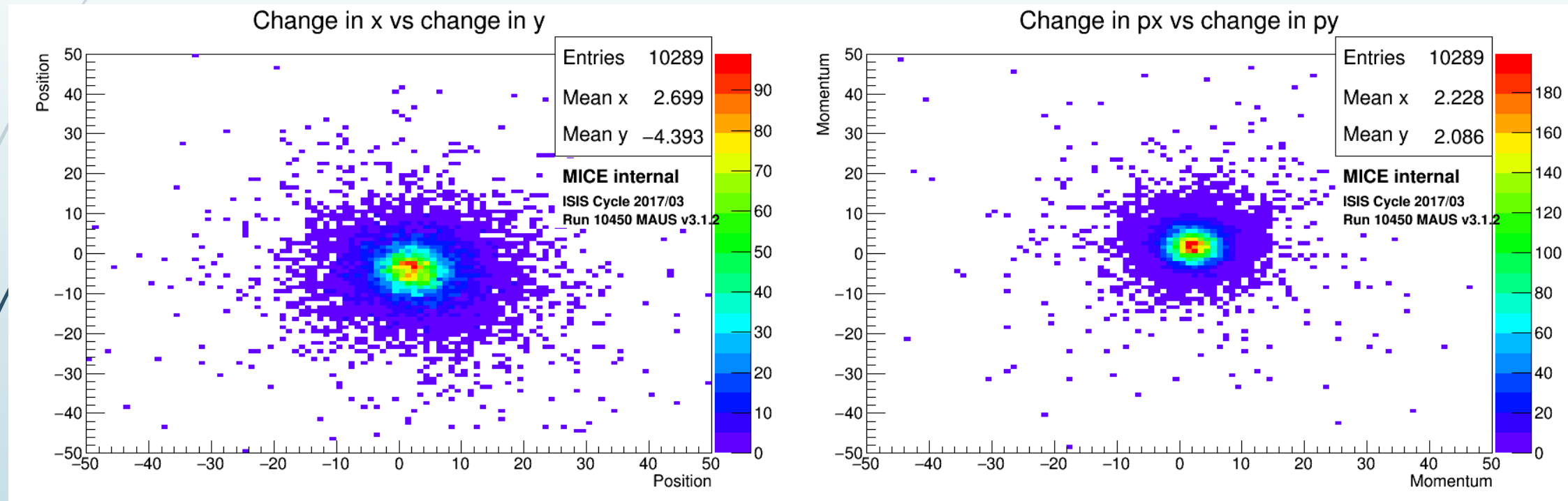
Momentum difference vs x at the wedge



Momentum difference vs y at the wedge

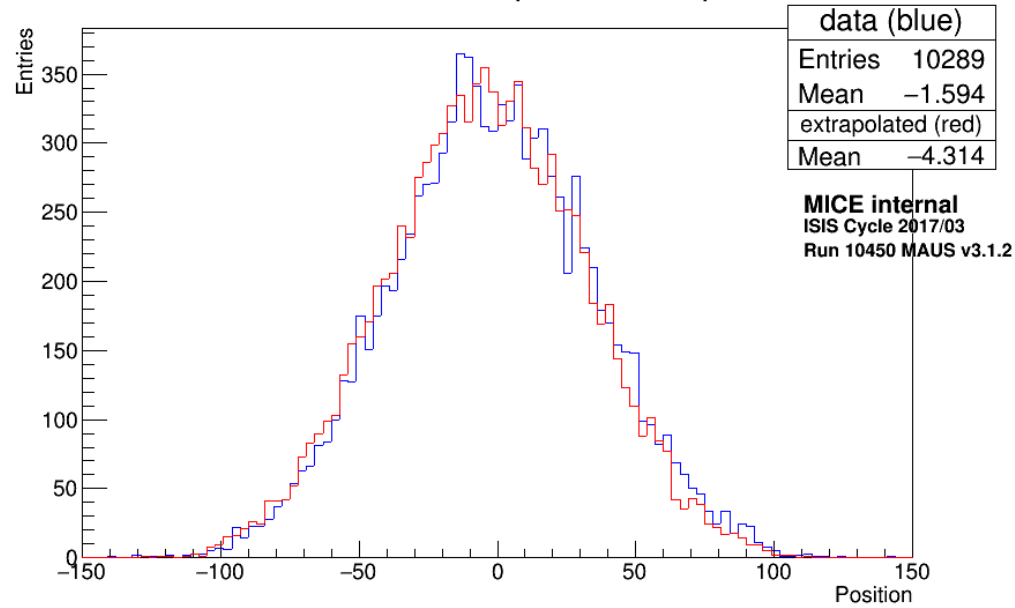


Caution: Comparing data extrapolated from TKU to TKD vs real data

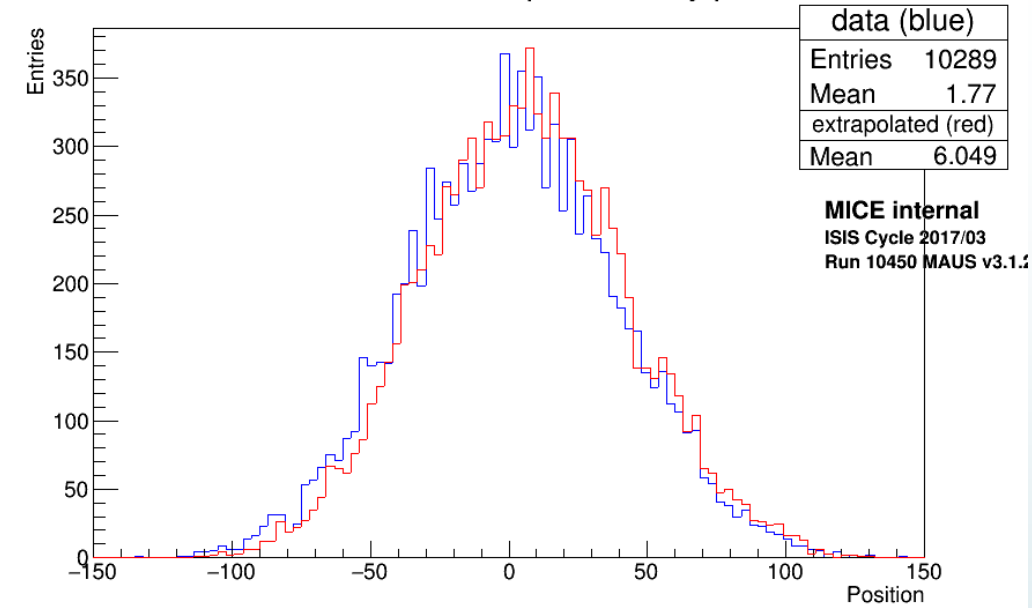


Sample of
No Absorber Data

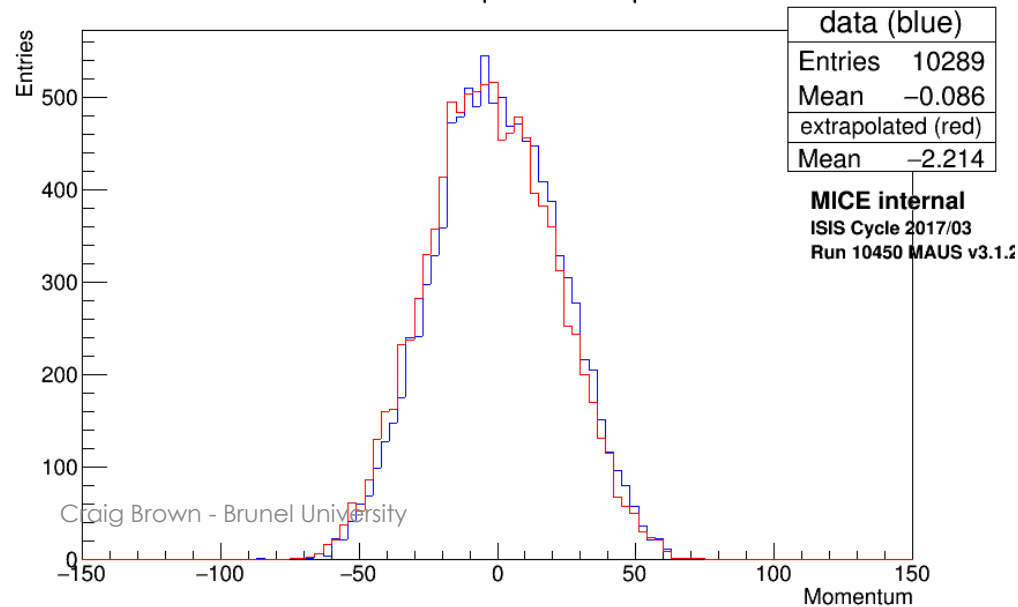
TKD data vs TKD extrapolated for x position



TKD data vs TKD extrapolated for y position



TKD data vs TKD extrapolated for px momentum



TKD data vs TKD extrapolated for py momentum

