sPHENIX EMCAL Analysis Wrap Up

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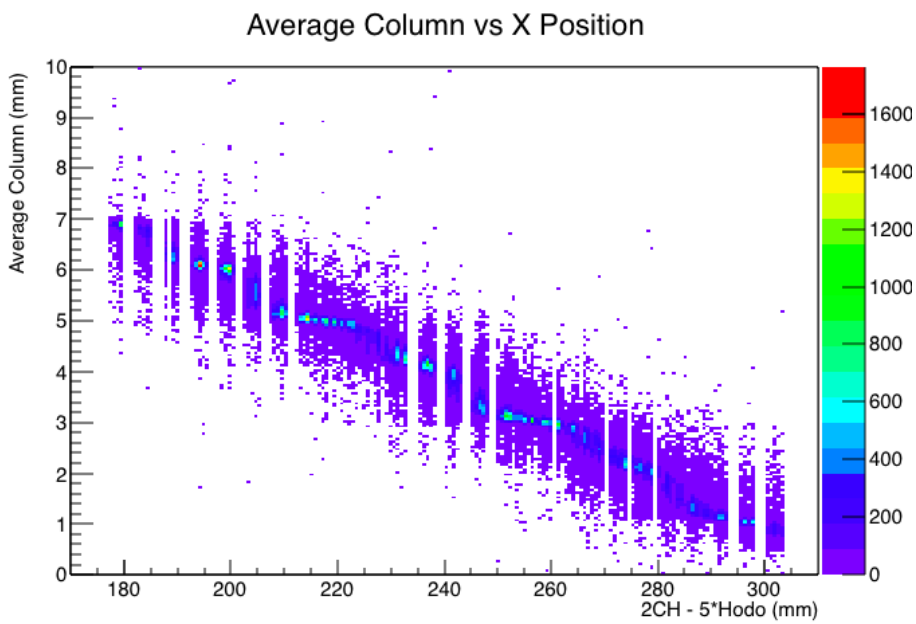
MIT

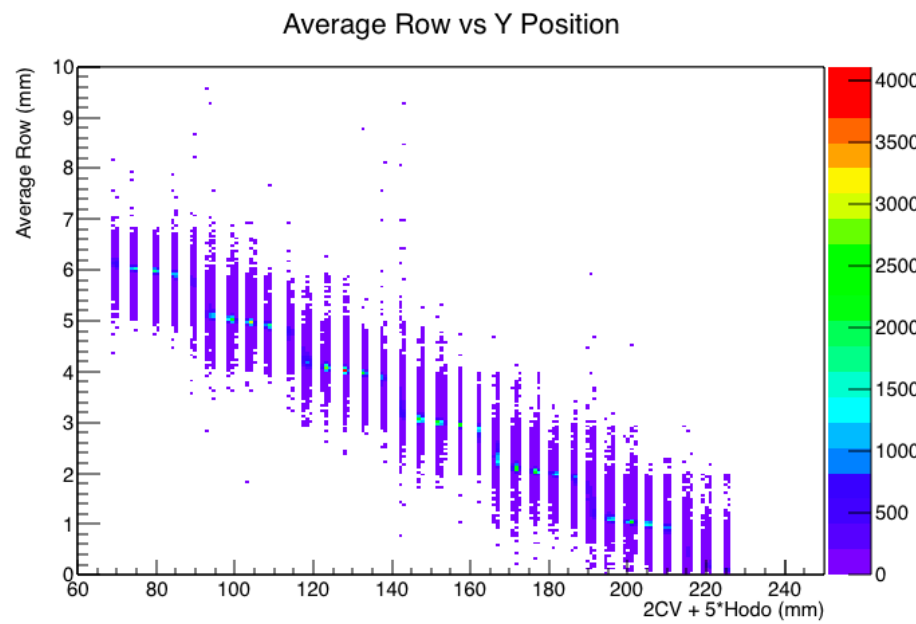
Content

- Hodoscope Correction
- Interpolation Results After ReCalibration
- Horizontal an Vertical Projection
- Energy Spectrum Check
- Codes can be found in

https://github.com/sPHENIX-Collaboration/analysis/tree/master/Prototype3/EMCal/EMCALmacros

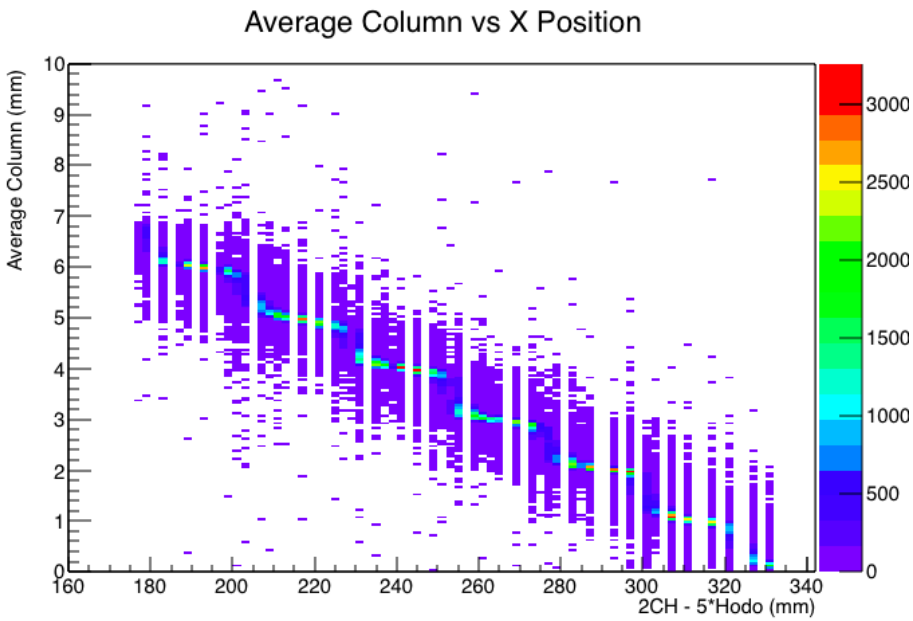
Hodoscope Correction for -10 Degree

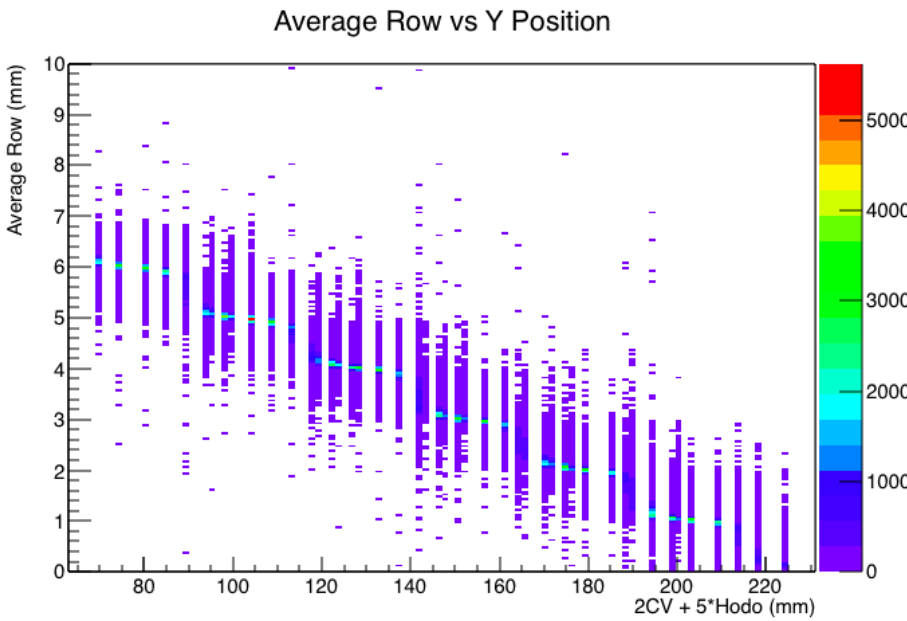




Plots can be found on https://wiki.bnl.gov/sPHENIX/index.php/2017_calorimeter_beam_test/EMCal_runs_and_analysis#EMCAL3_second_position_scans_.28-10_degree.29

Hodoscope Correction for 0 Degree

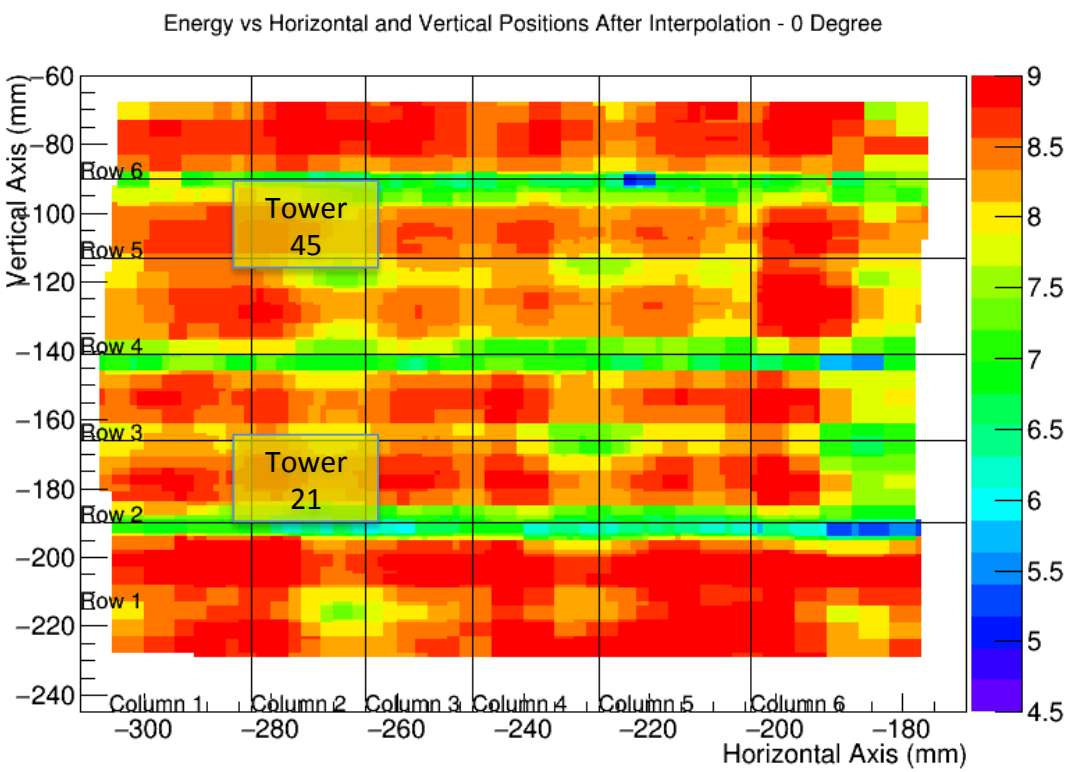




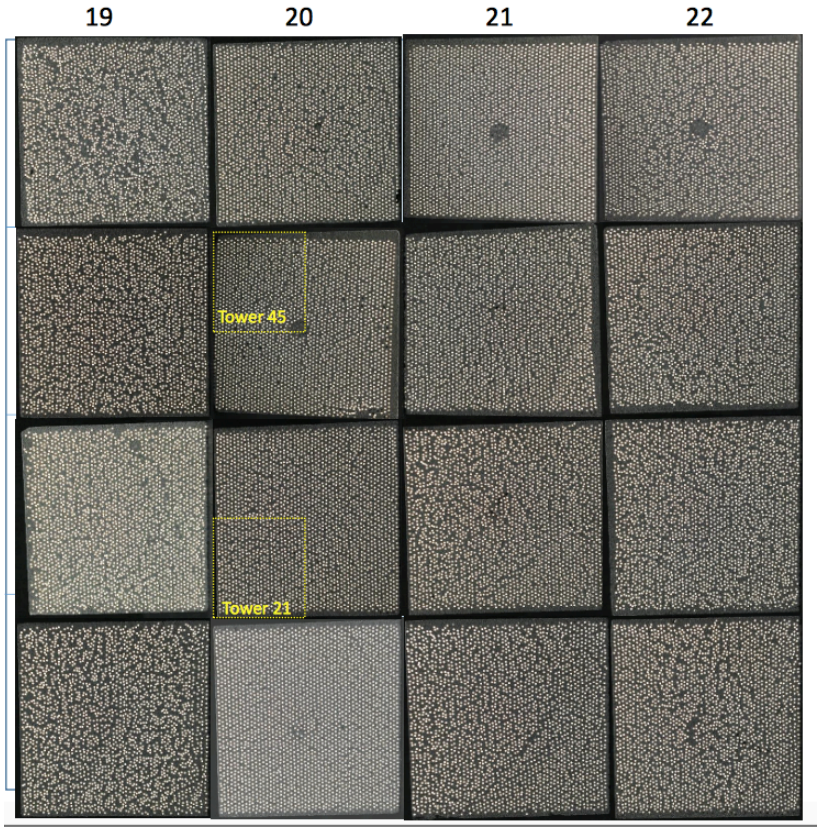
Plots can be found on https://wiki.bnl.gov/sPHENIX/index.php/2017_calorimeter_beam_test/EMCal_runs_and_analysis#EMCAL3_second_position_scans_.28-10_degree.29

Interpolation Results After Recalibration
-10° Results

Analysis Results

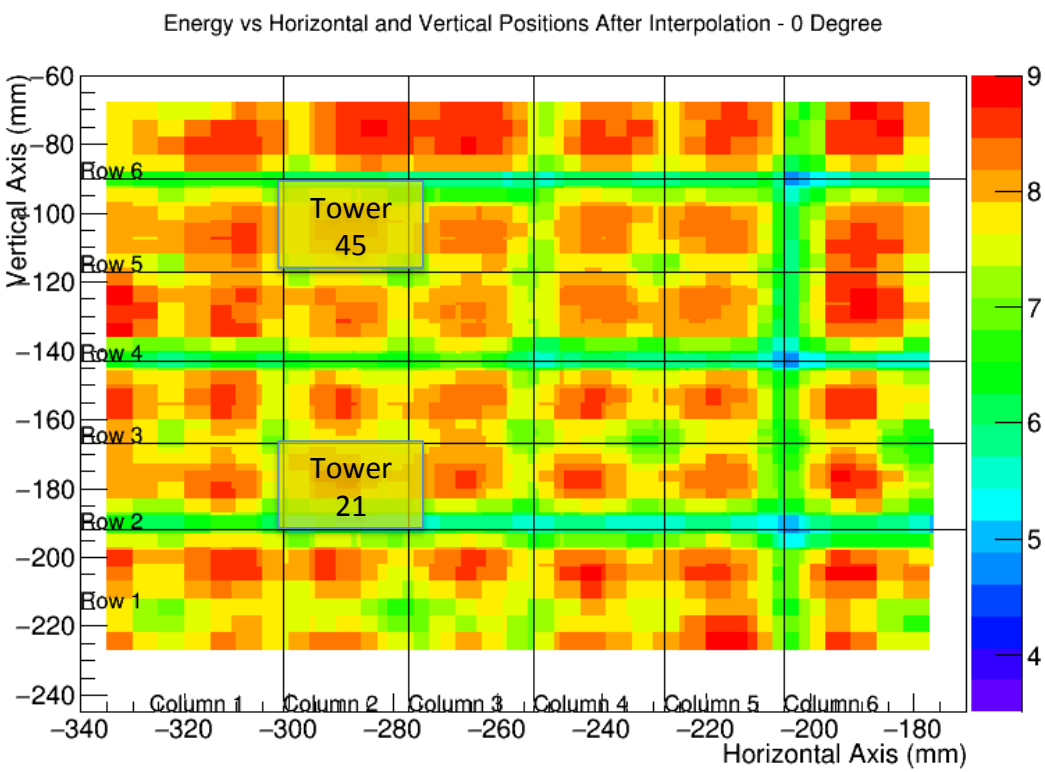


Actual Blocks

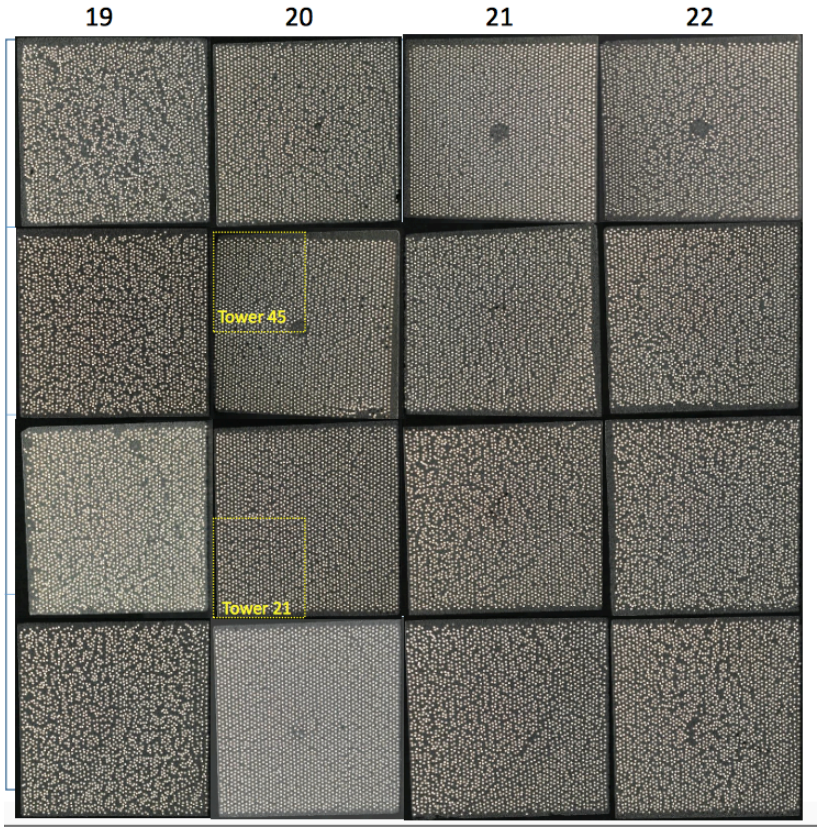


Interpolation Results Afrer Recalibration
0 Degree Results

Analysis Results

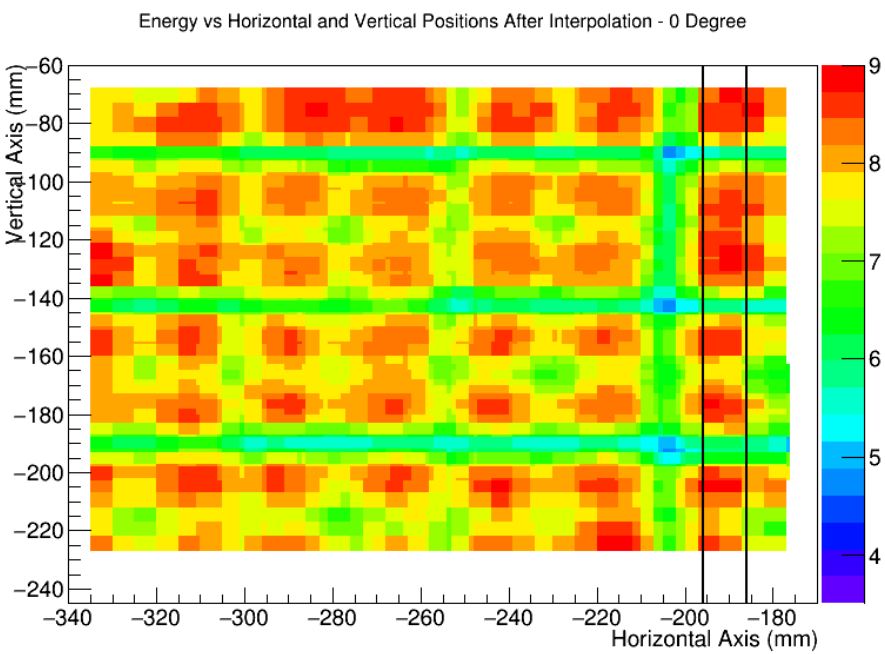


Actual Blocks

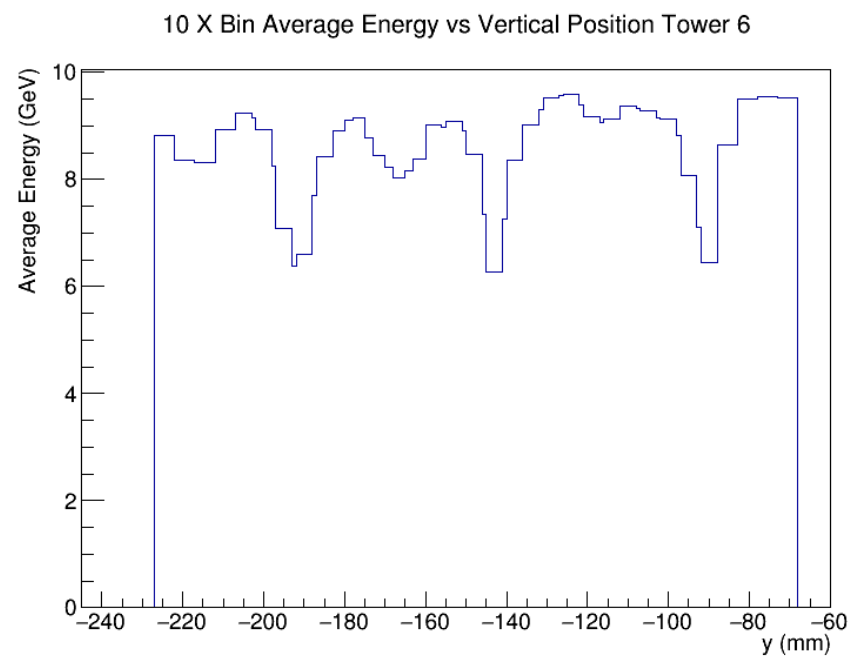


EMCAL Y-Axis Projection – Tower 6

Before Projection

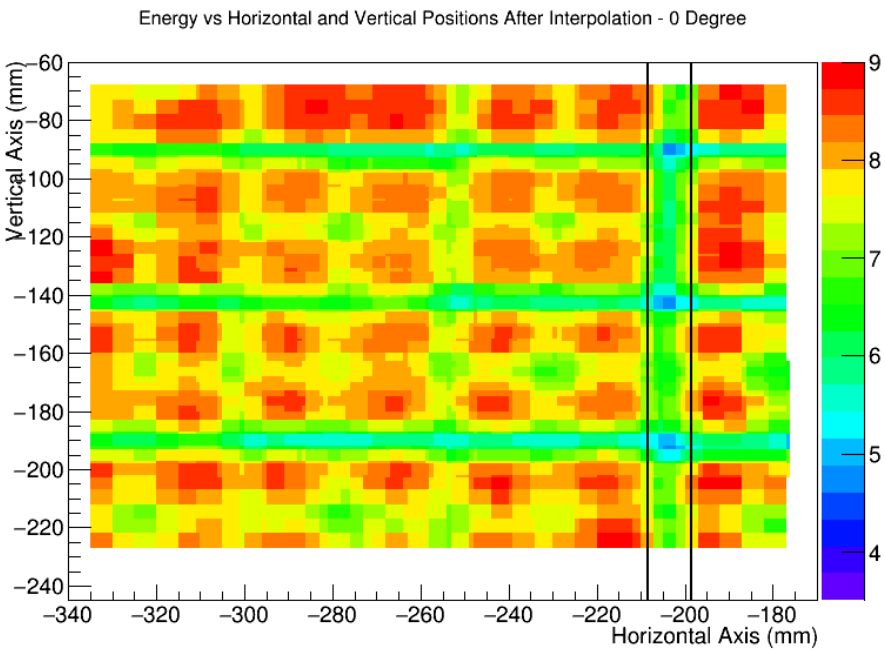


After Projection

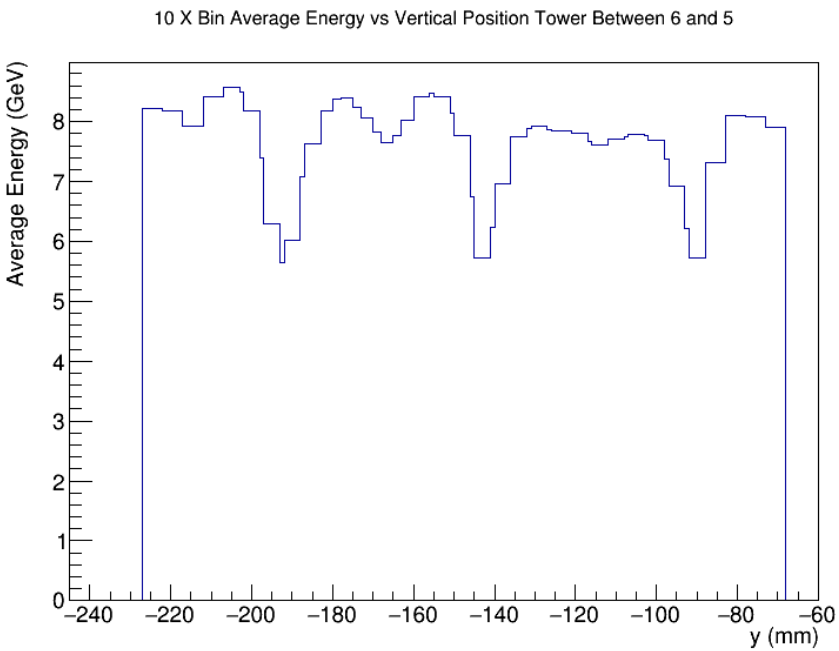


Between Tower 6 and Tower 5

Before Projection

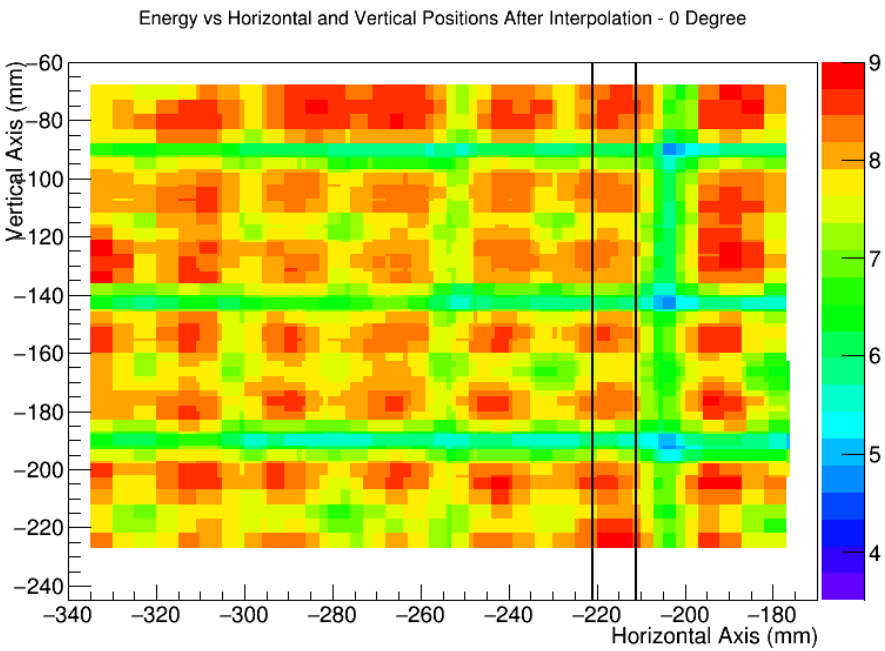


After Projection

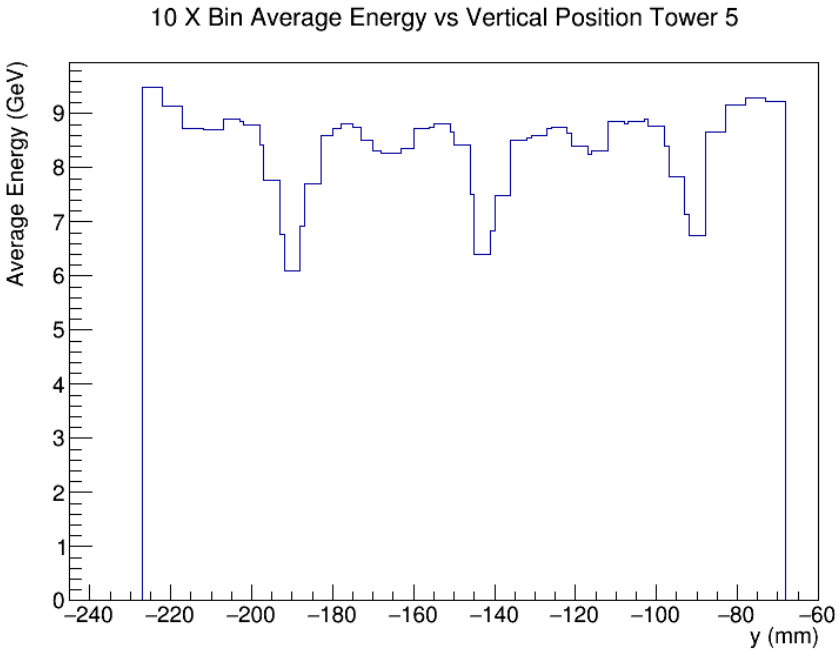


Tower 5

Before Projection

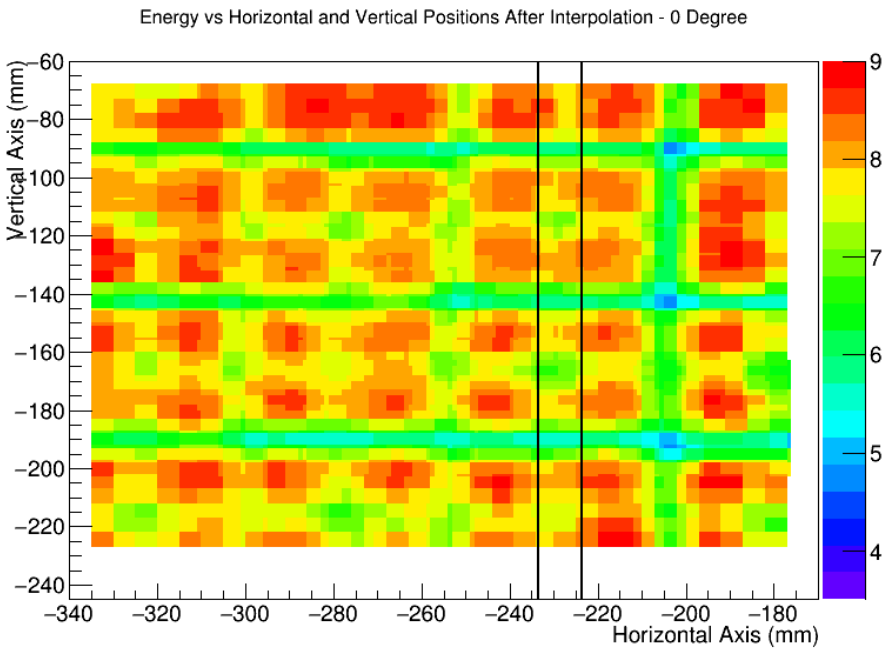


After Projection

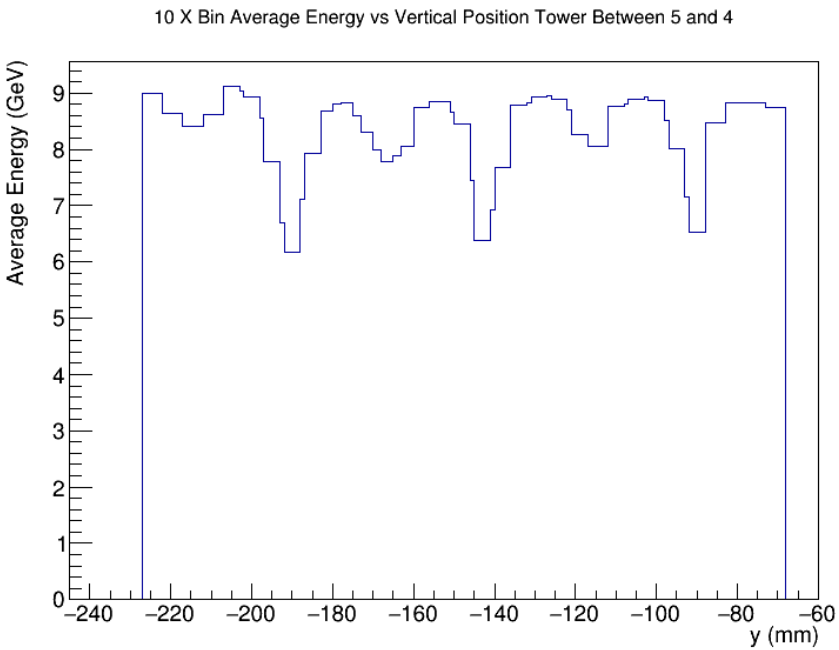


Between Tower 5 and Tower 4

Before Projection

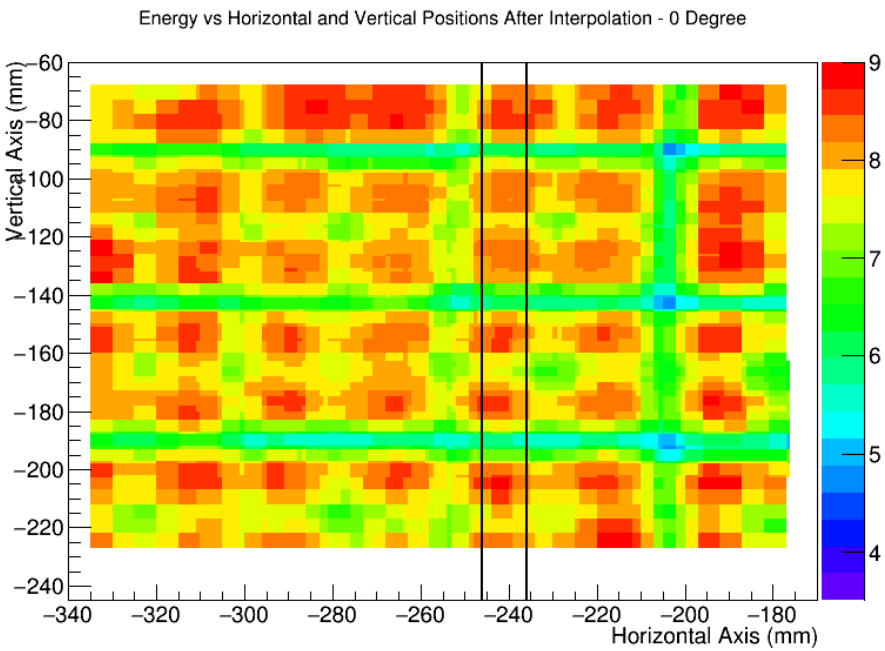


After Projection

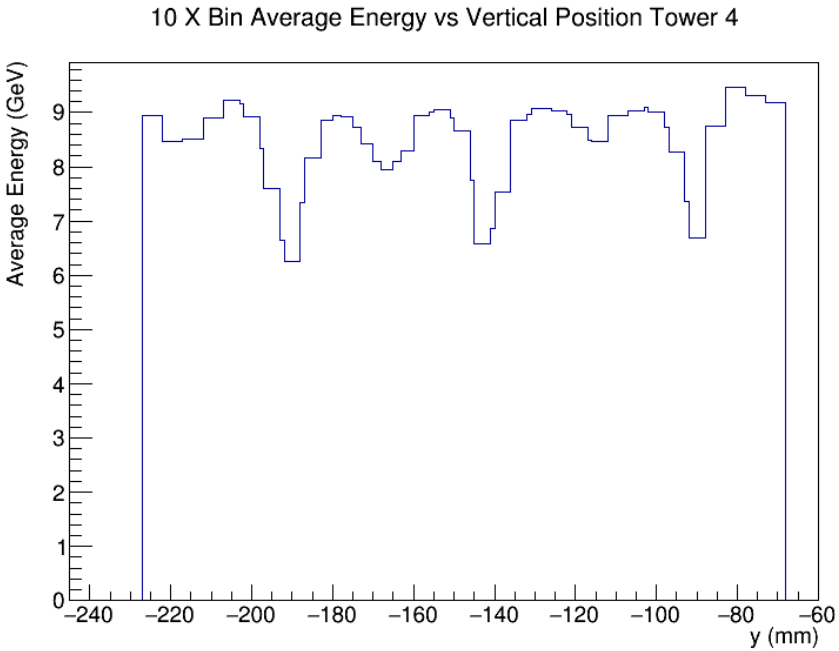


Tower 4

Before Projection

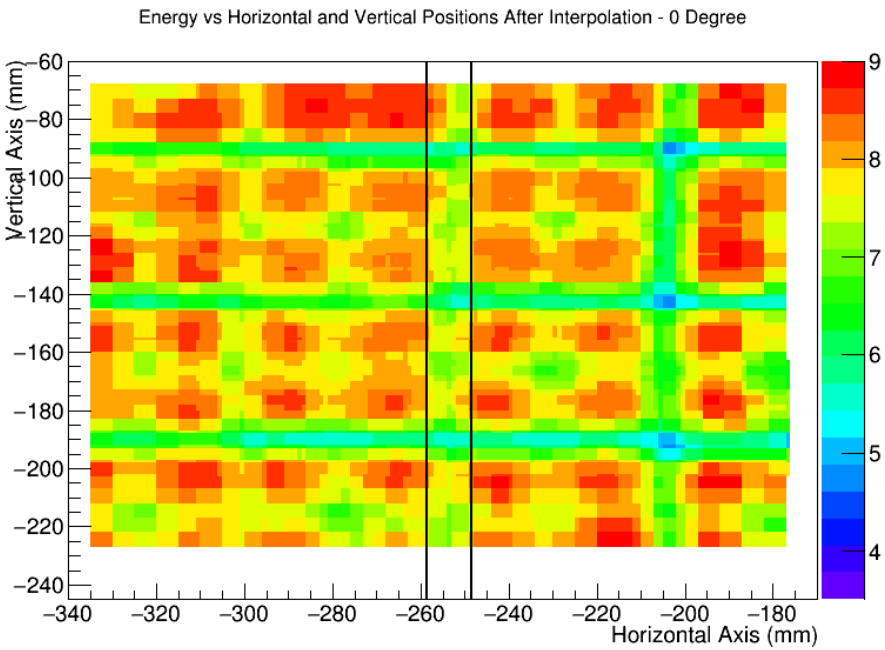


After Projection

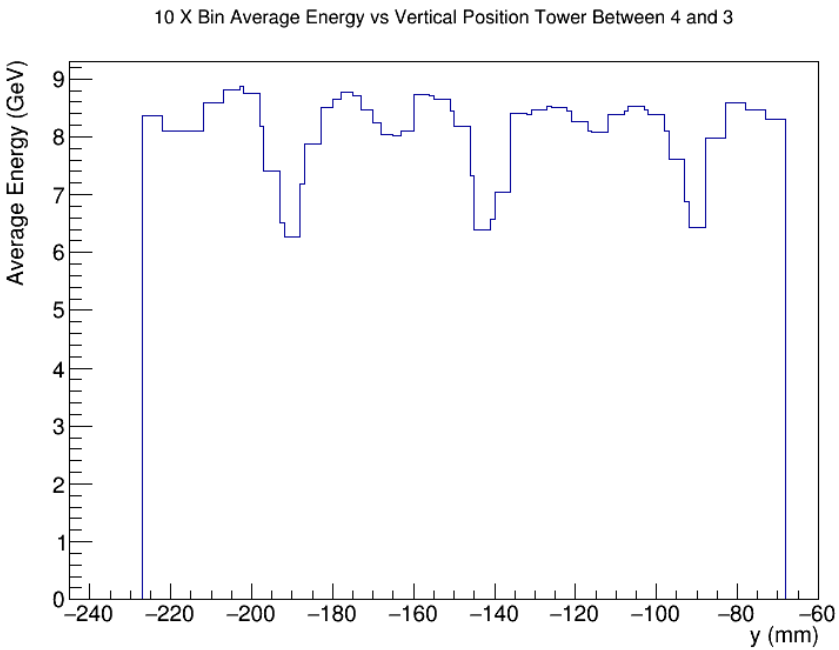


Between Tower 4 and Tower 3

Before Projection

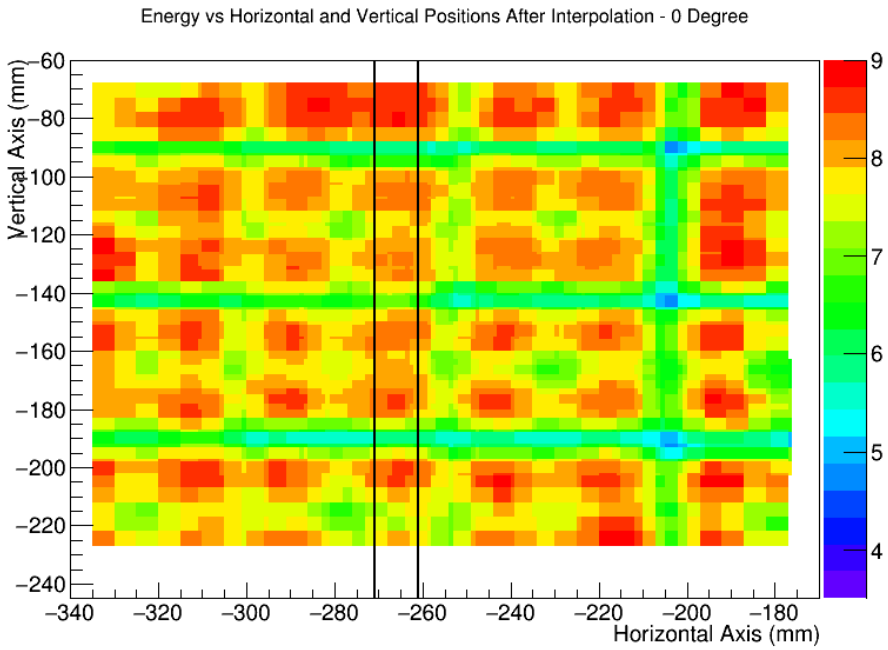


After Projection

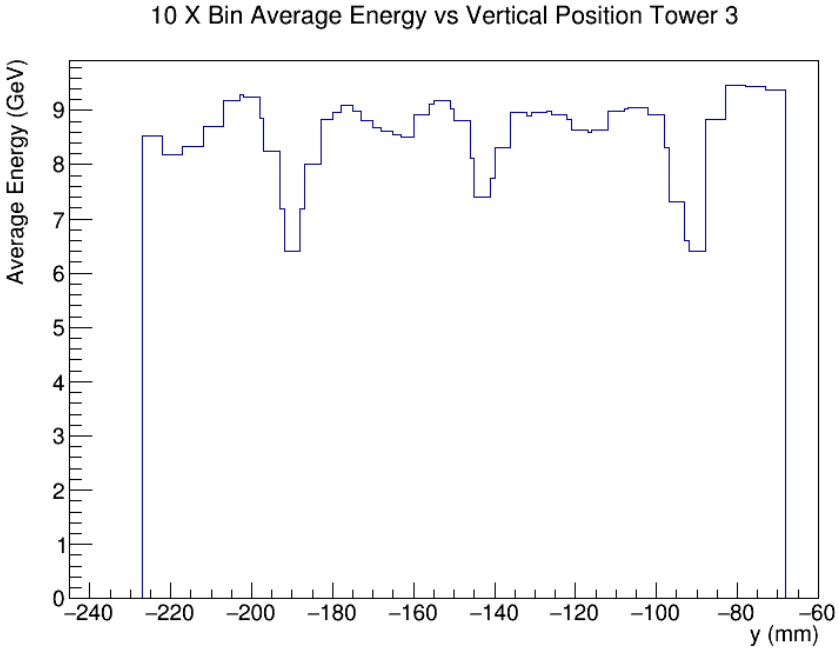


Tower 3

Before Projection

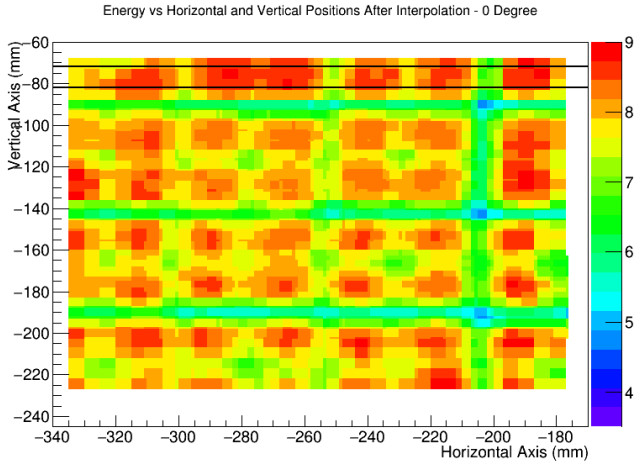


After Projection

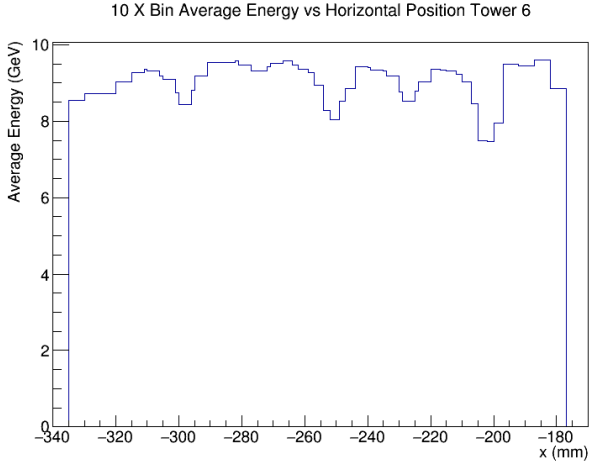


EMCAL X-Axis Projection – Tower 6 – 2 Inch Light Guides

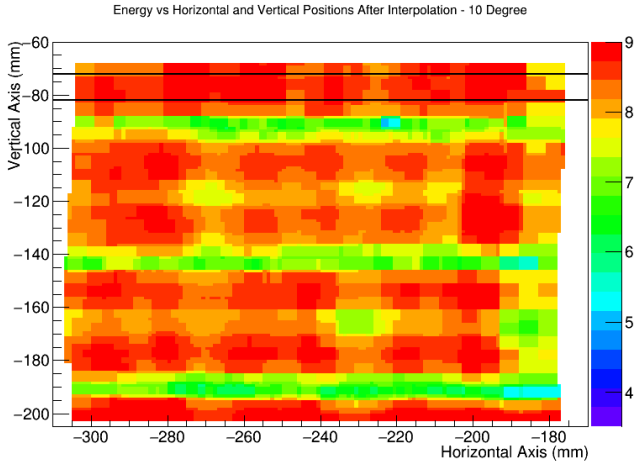
0 Degree Before Projection



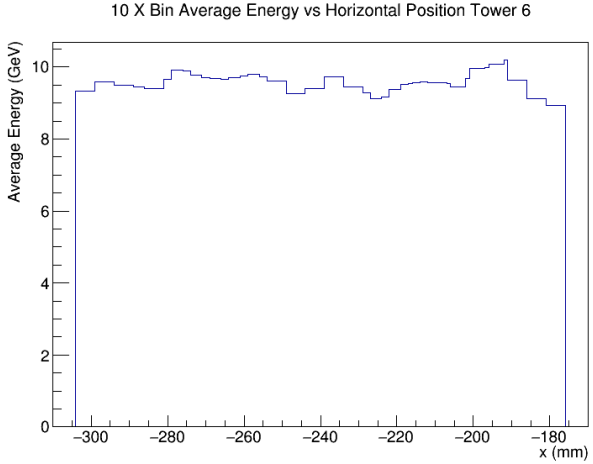
0 Degree After Projection



10 Degree Before Projection

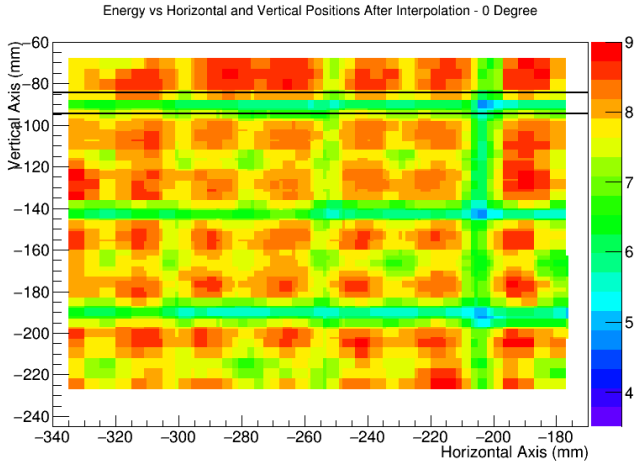


10 Degree After Projection

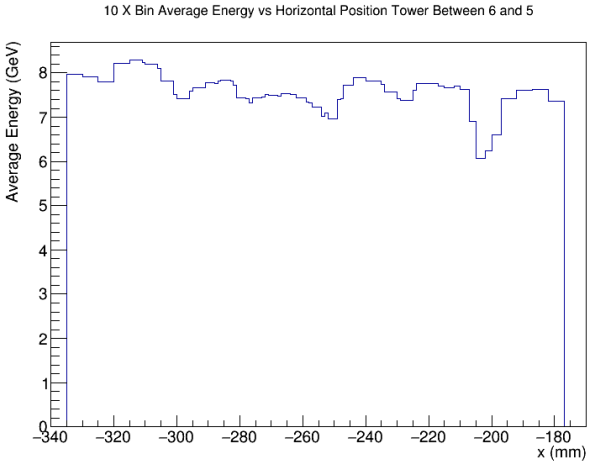


Between Tower 6 and Tower 5

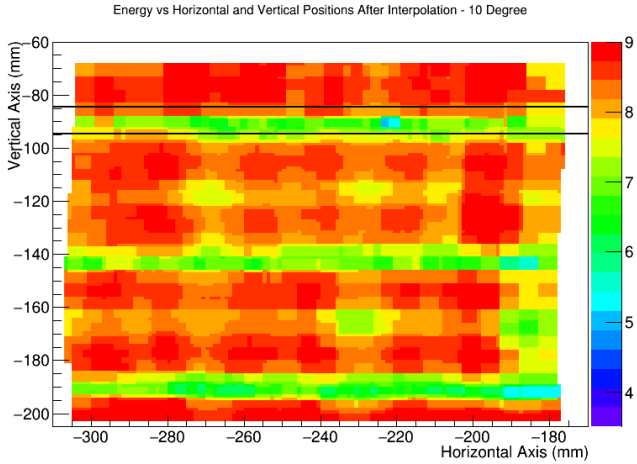
0 Degree Before Projection



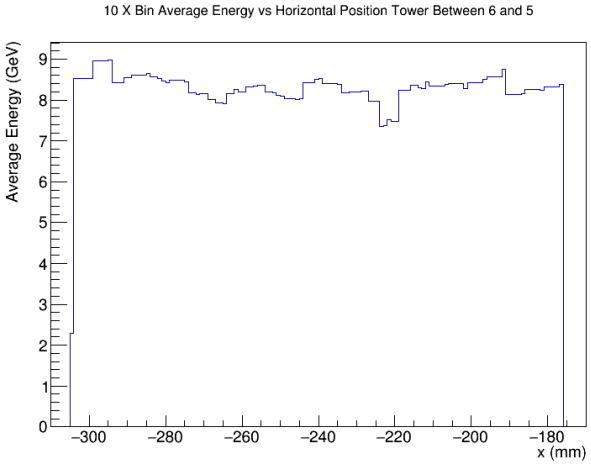
0 Degree After Projection



10 Degree Before Projection

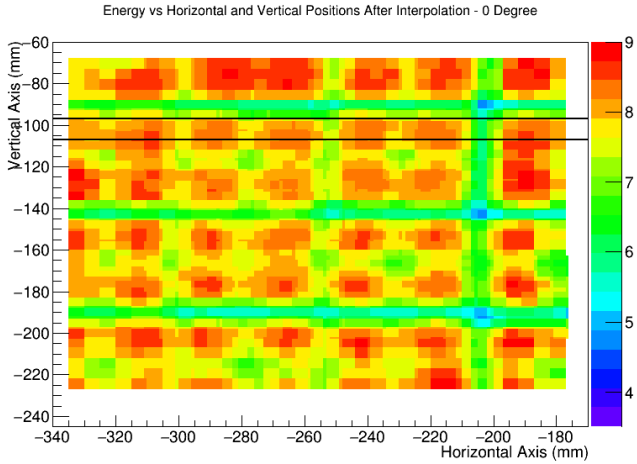


10 Degree After Projection

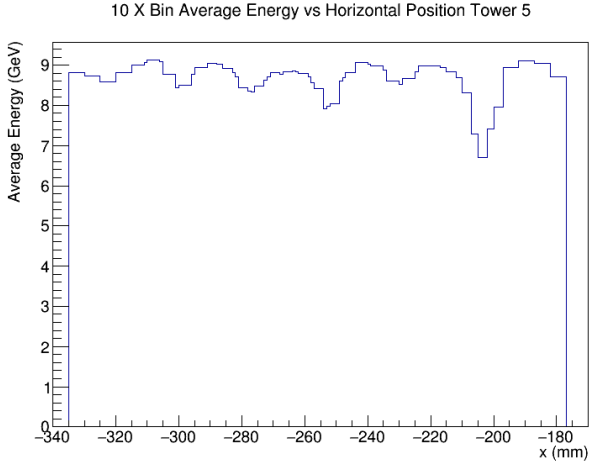


Tower 5

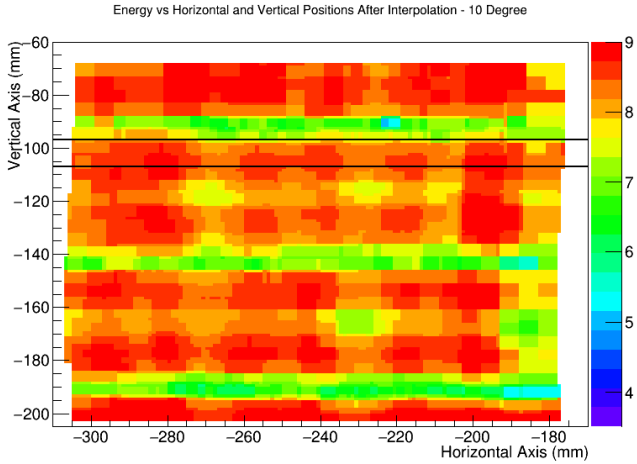
0 Degree Before Projection



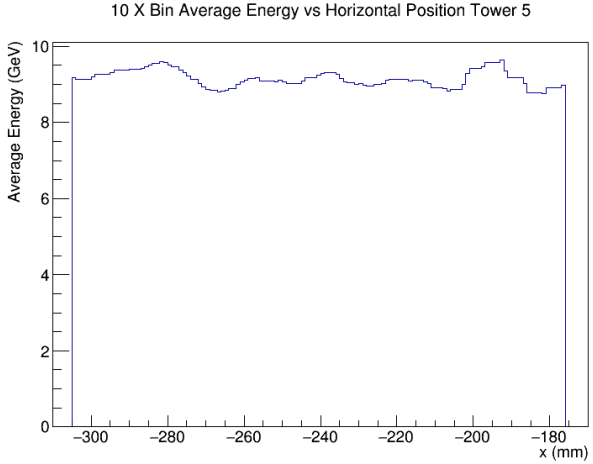
0 Degree After Projection



10 Degree Before Projection

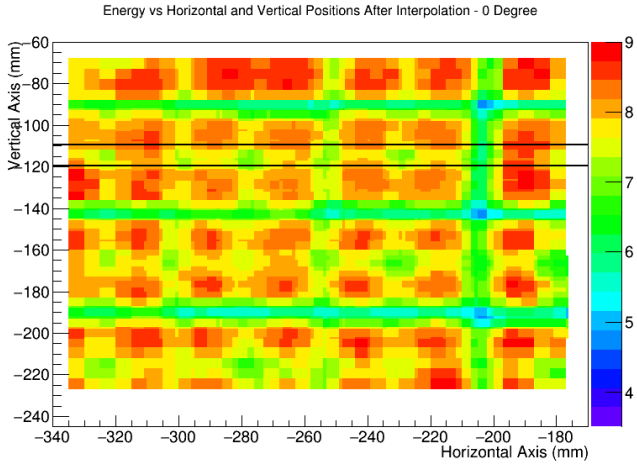


10 Degree After Projection

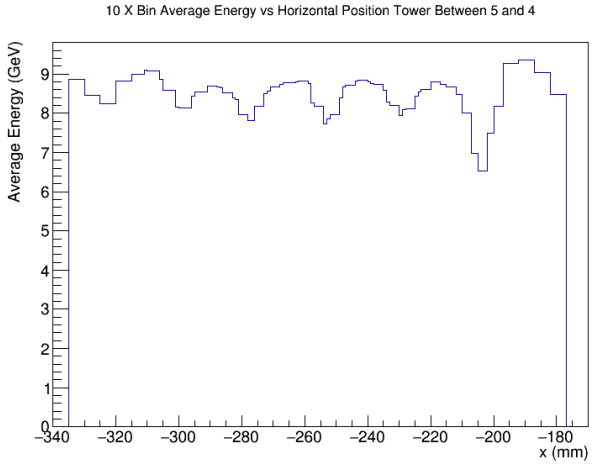


Between Tower 5 and Tower 4

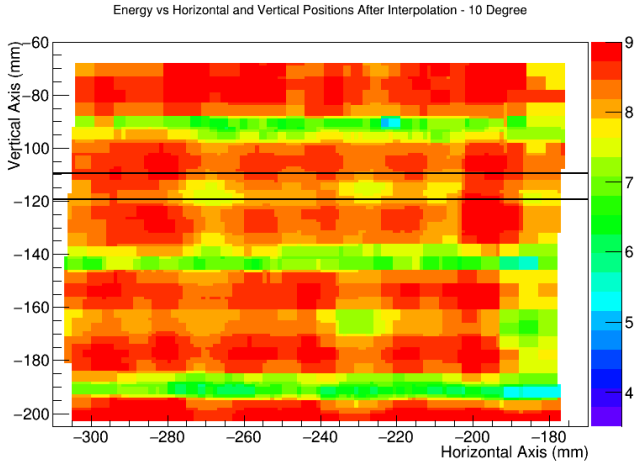
0 Degree Before Projection



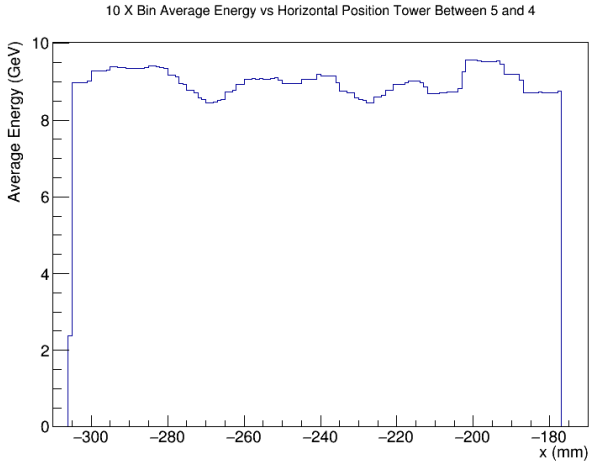
0 Degree After Projection



10 Degree Before Projection

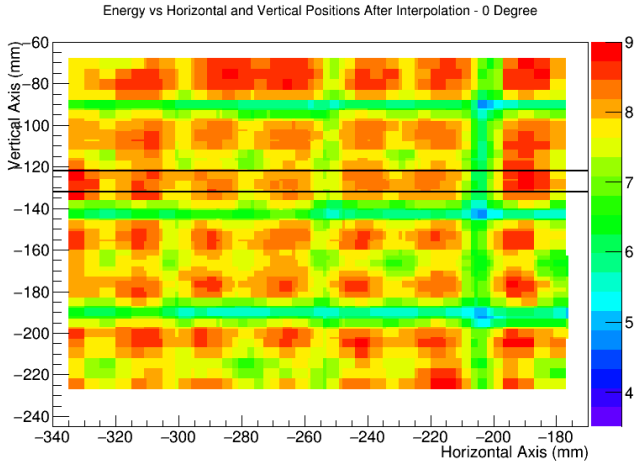


10 Degree After Projection

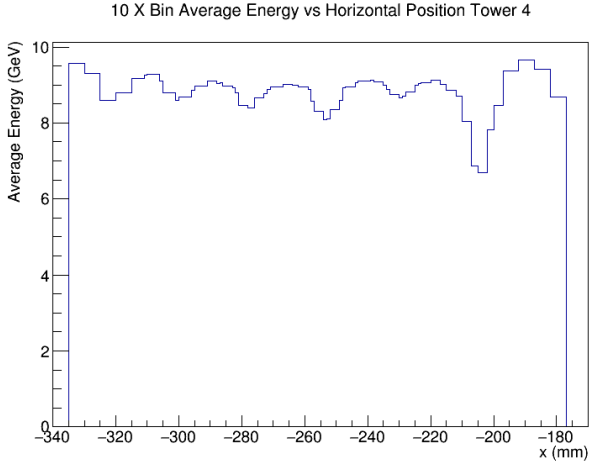


Tower 4

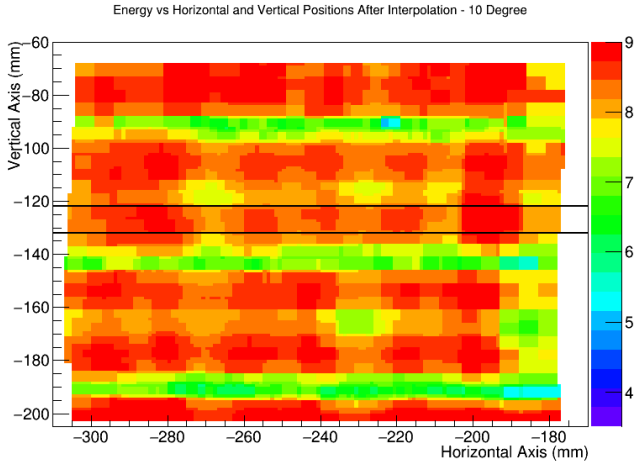
0 Degree Before Projection



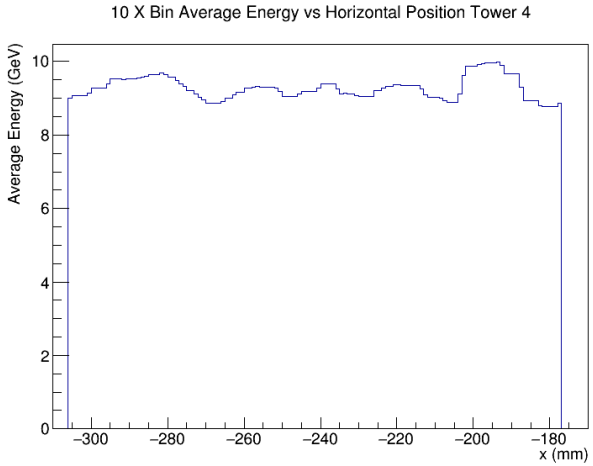
0 Degree After Projection



10 Degree Before Projection

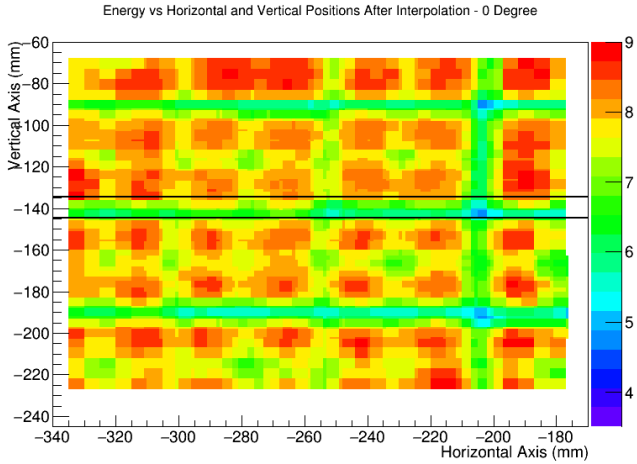


10 Degree After Projection

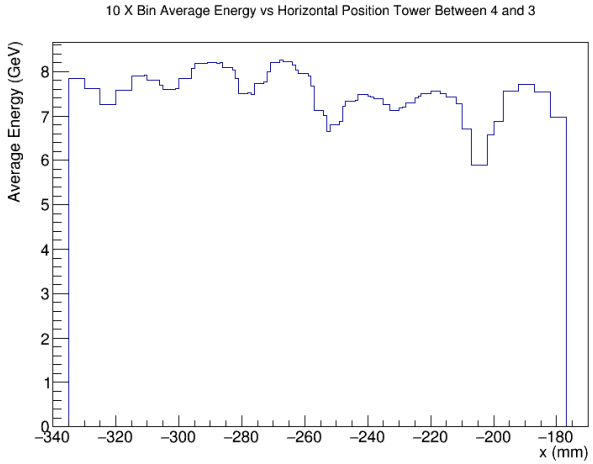


Between Tower 4 and Tower 3

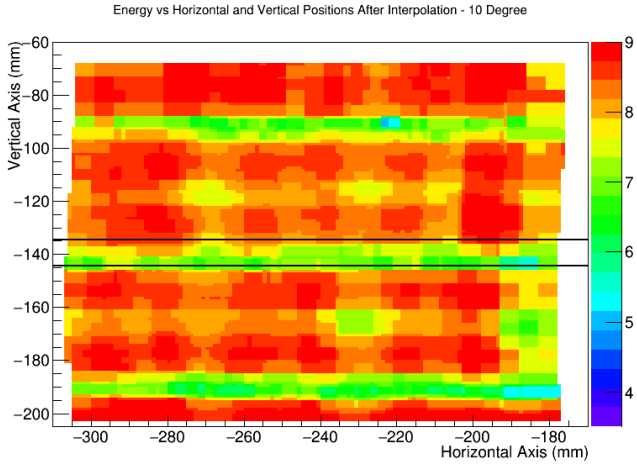
0 Degree Before Projection



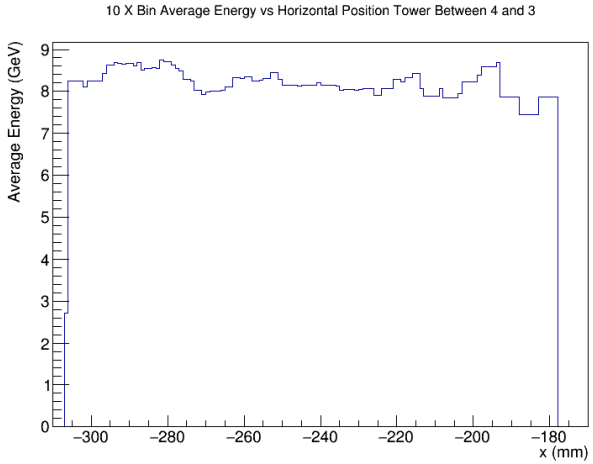
0 Degree After Projection



10 Degree Before Projection

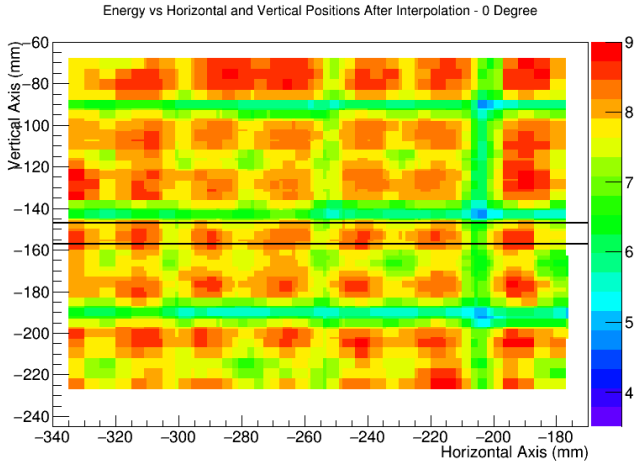


10 Degree After Projection

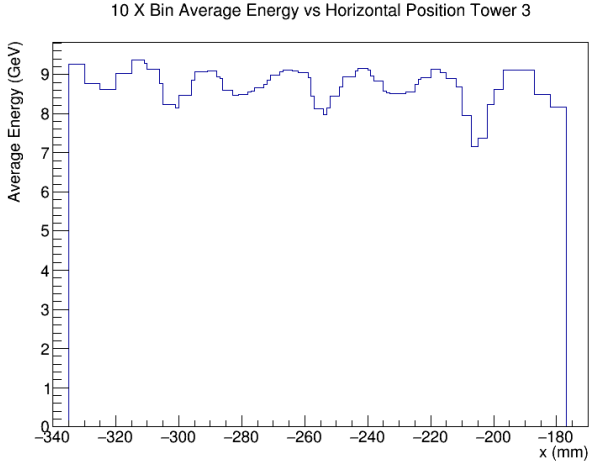


Tower 3 – 2 Inch Light Guides

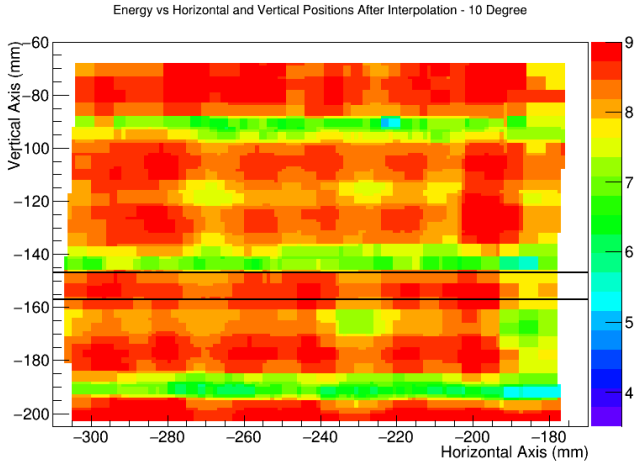
0 Degree Before Projection



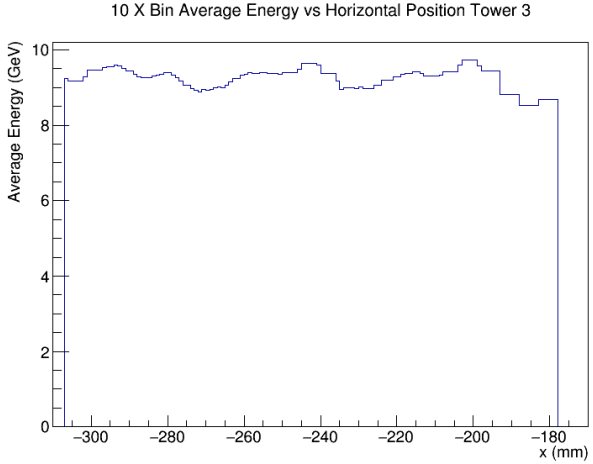
0 Degree After Projection



10 Degree Before Projection

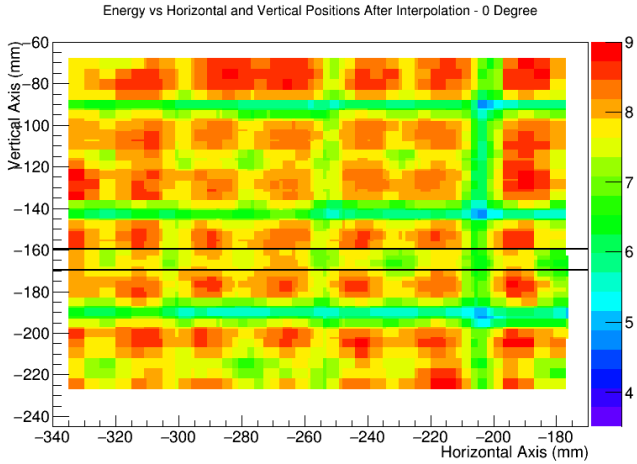


10 Degree After Projection

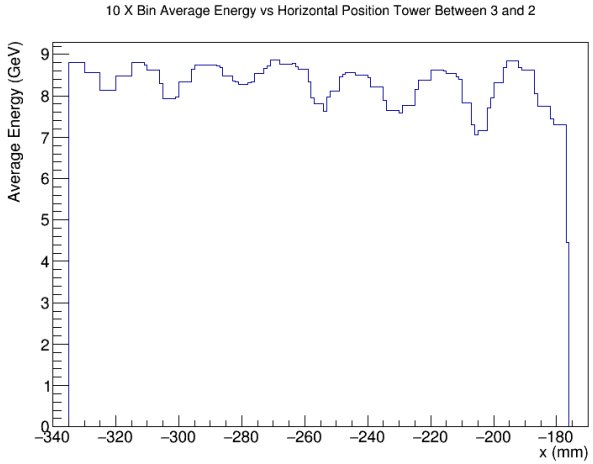


Between Tower 3 and Tower 2

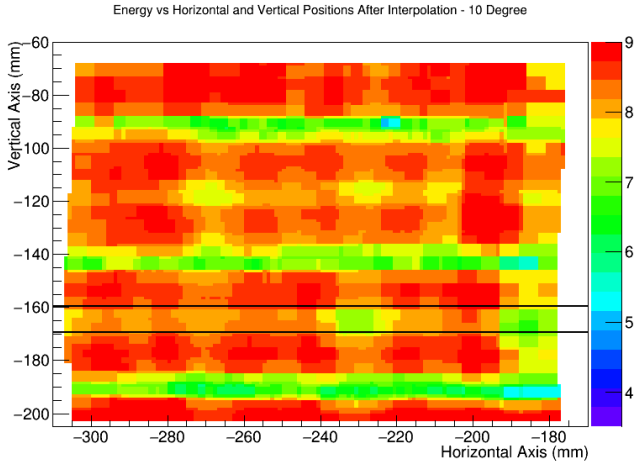
0 Degree Before Projection



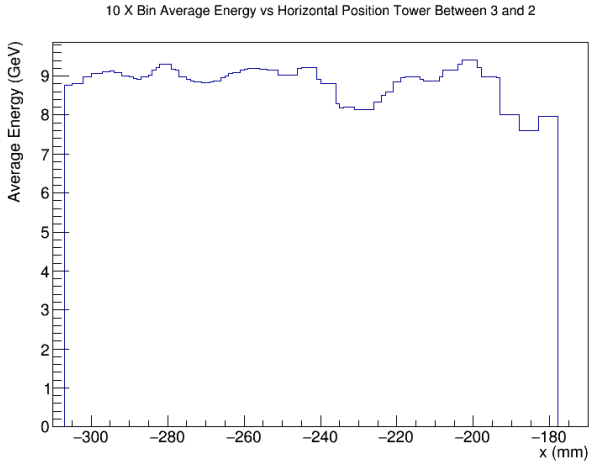
0 Degree After Projection



10 Degree Before Projection

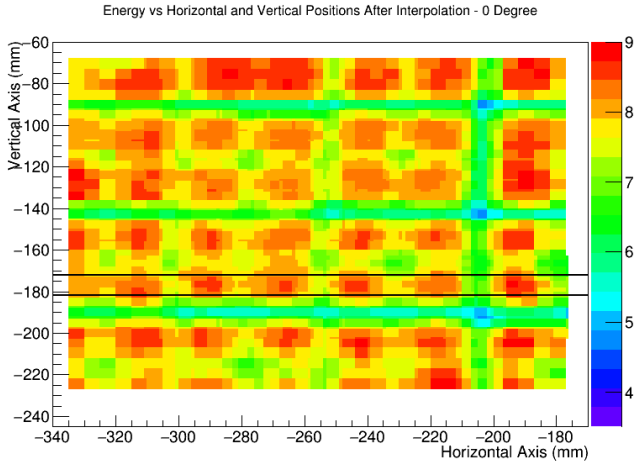


10 Degree After Projection

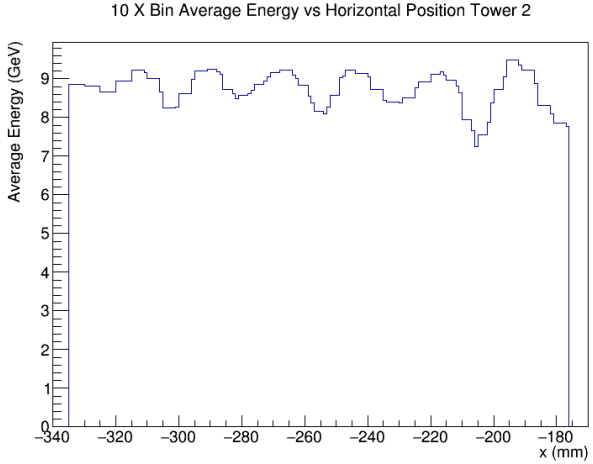


Tower 2

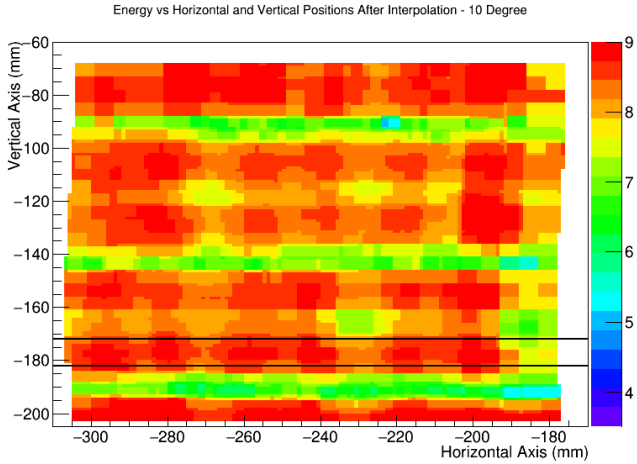
0 Degree Before Projection



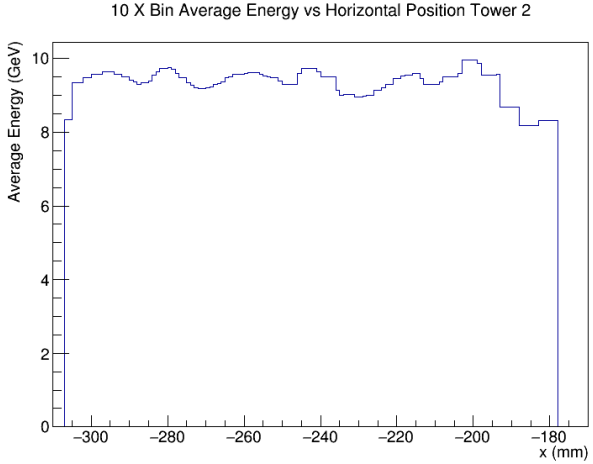
0 Degree After Projection



10 Degree Before Projection

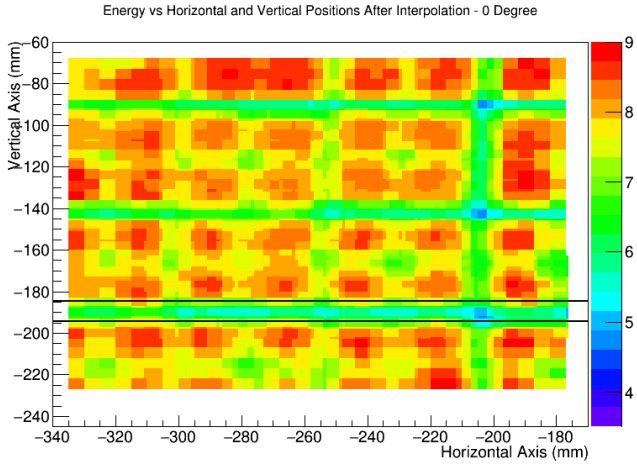


10 Degree After Projection

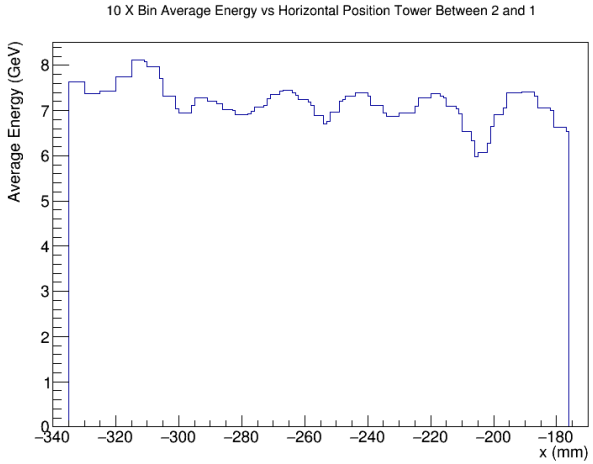


Between Tower 2 and Tower 1

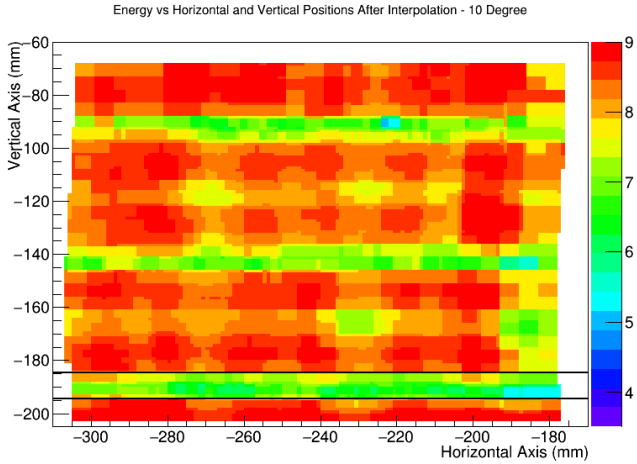
0 Degree Before Projection



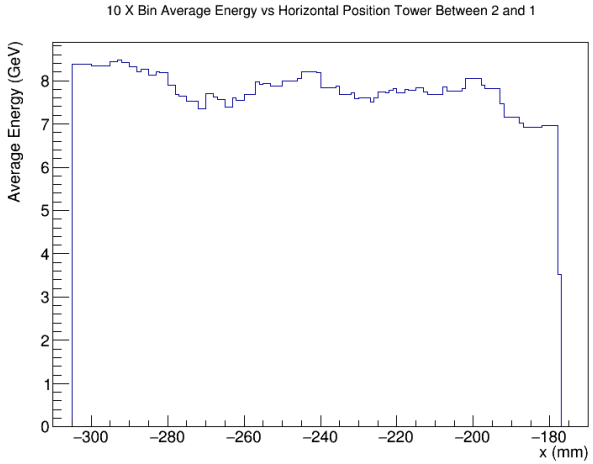
0 Degree After Projection



10 Degree Before Projection

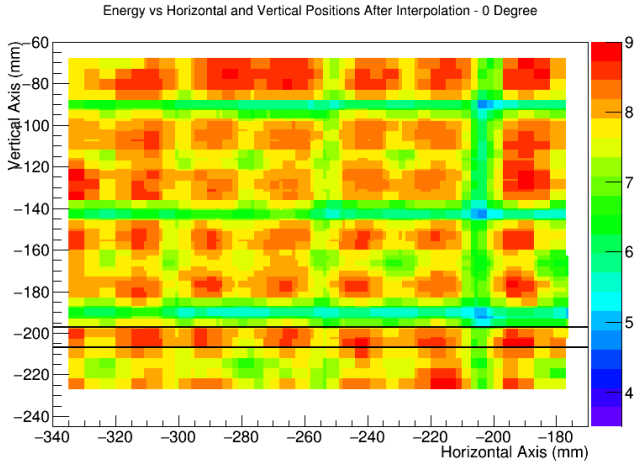


10 Degree After Projection

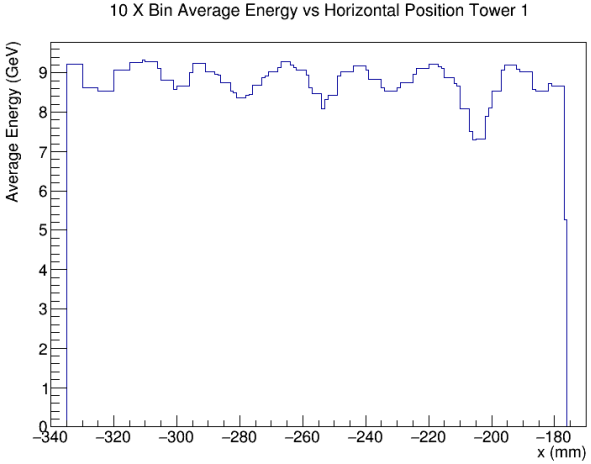


Tower 1

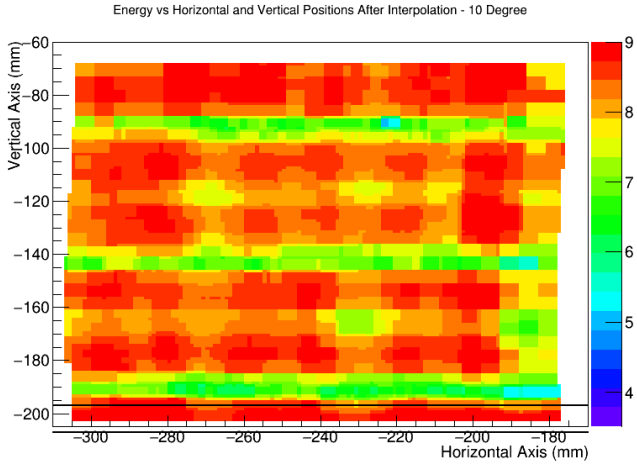
0 Degree Before Projection



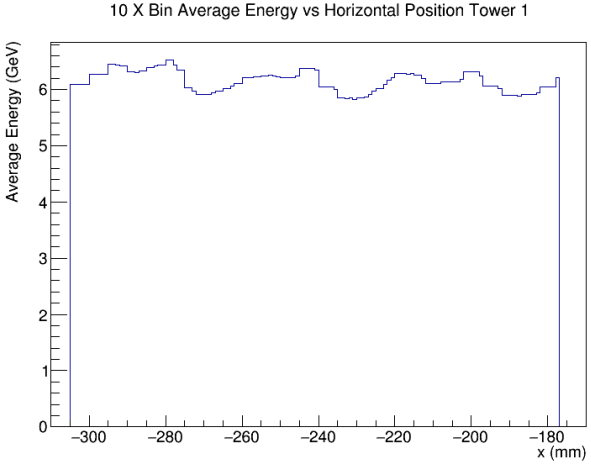
0 Degree After Projection



10 Degree Before Projection

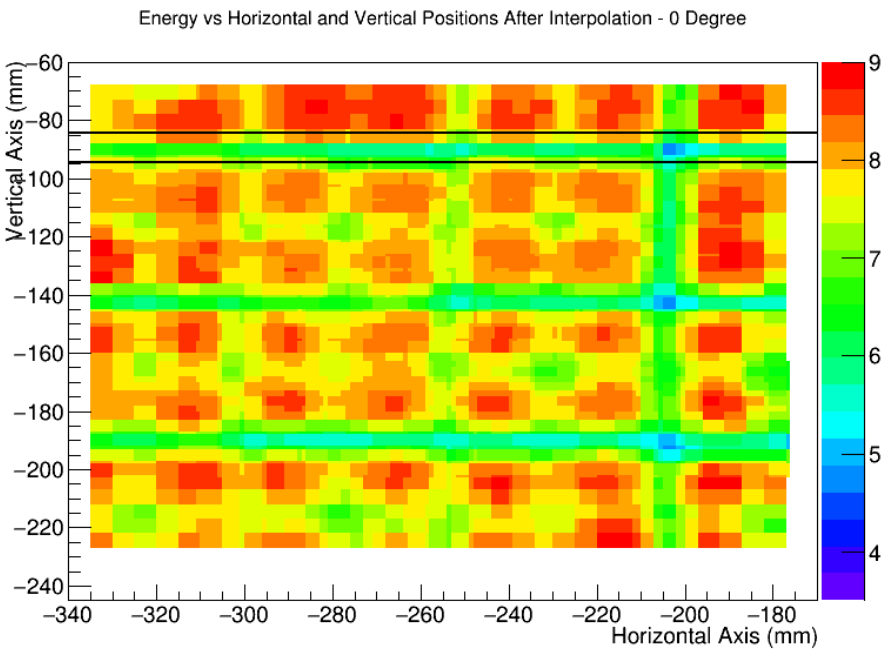


10 Degree After Projection

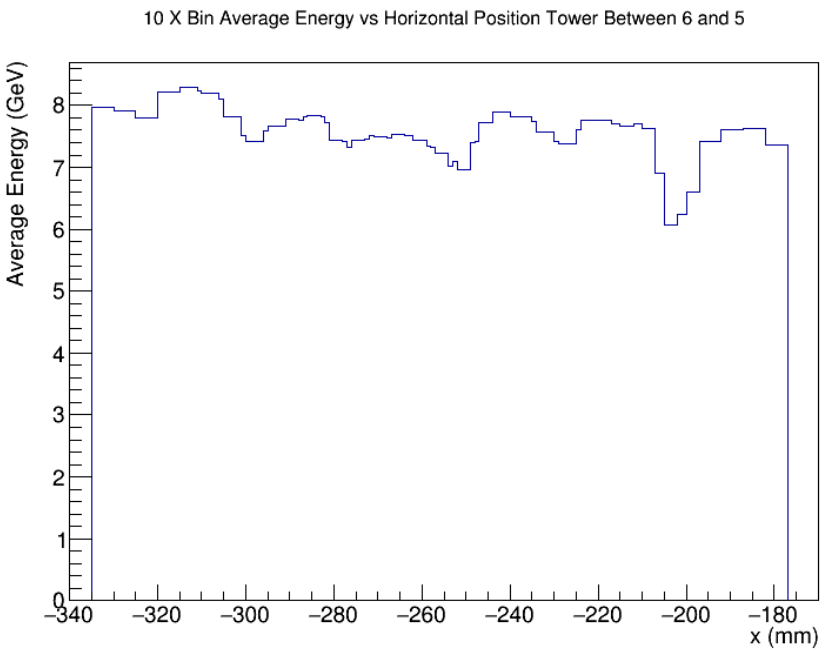


Between Tower 6 and Tower 5

Before Projection

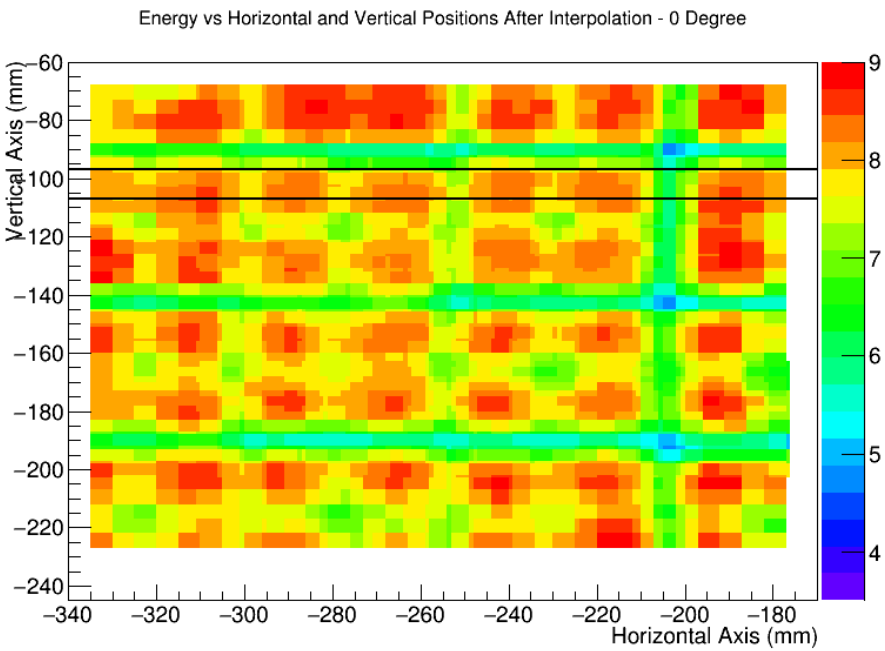


After Projection

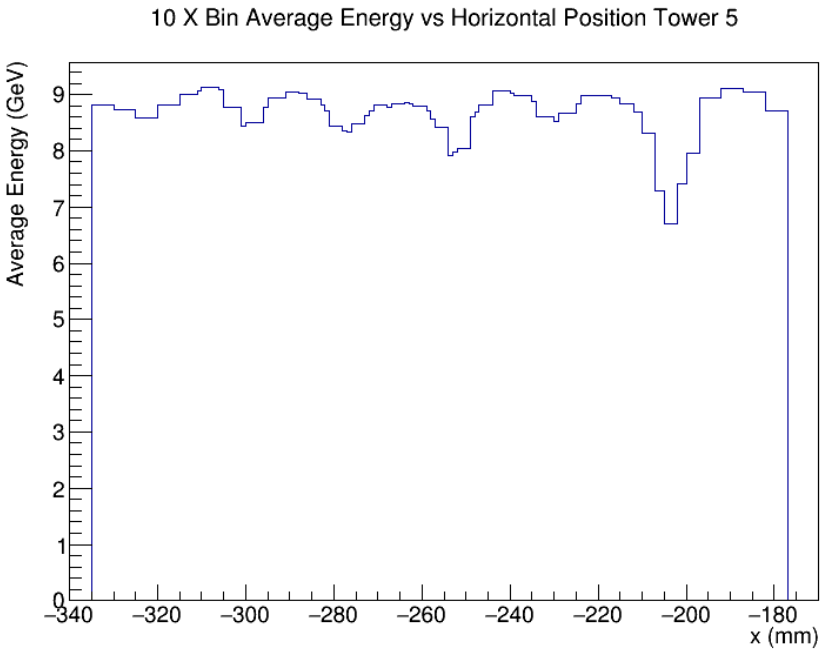


Tower 5

Before Projection

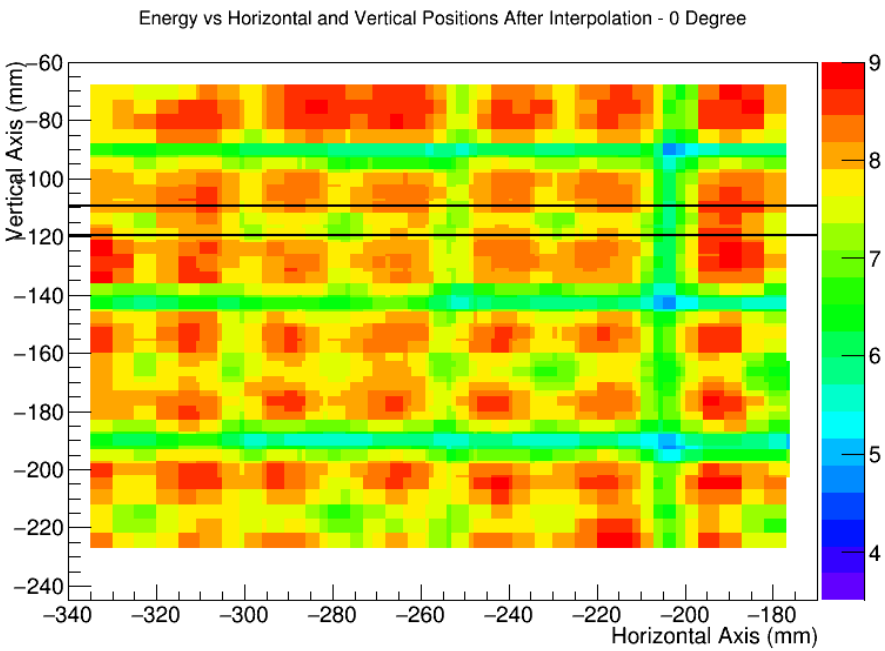


After Projection

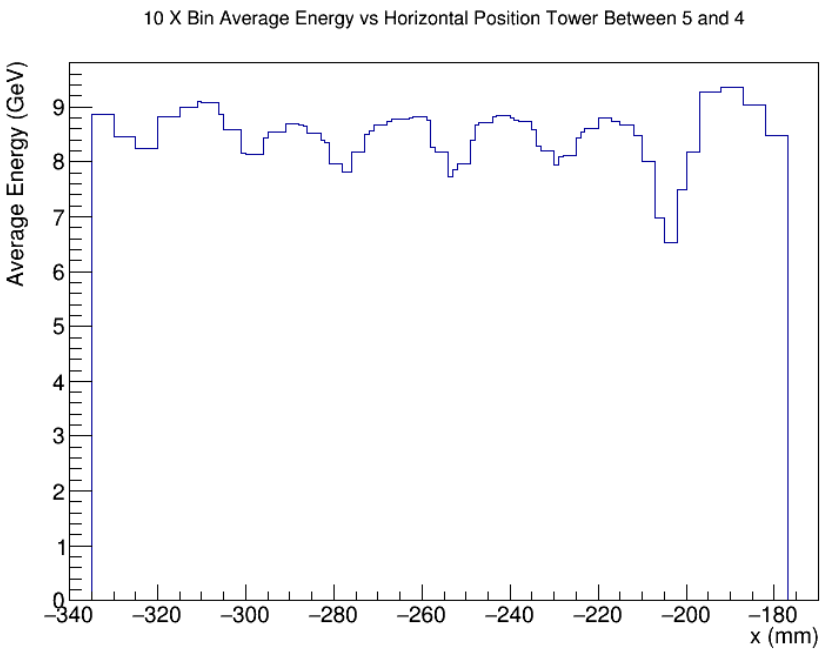


Between Tower 5 and Tower 4

Before Projection

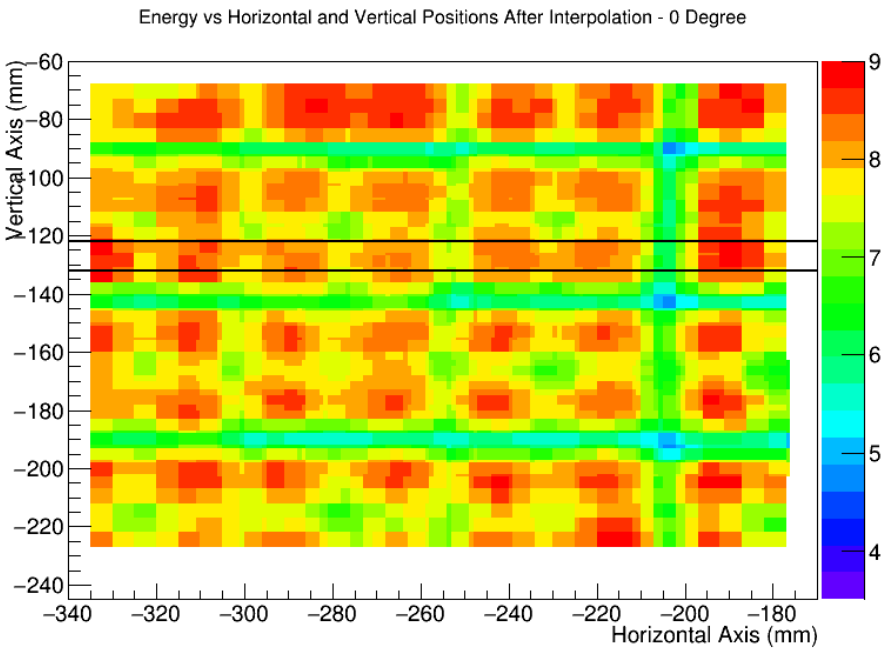


After Projection

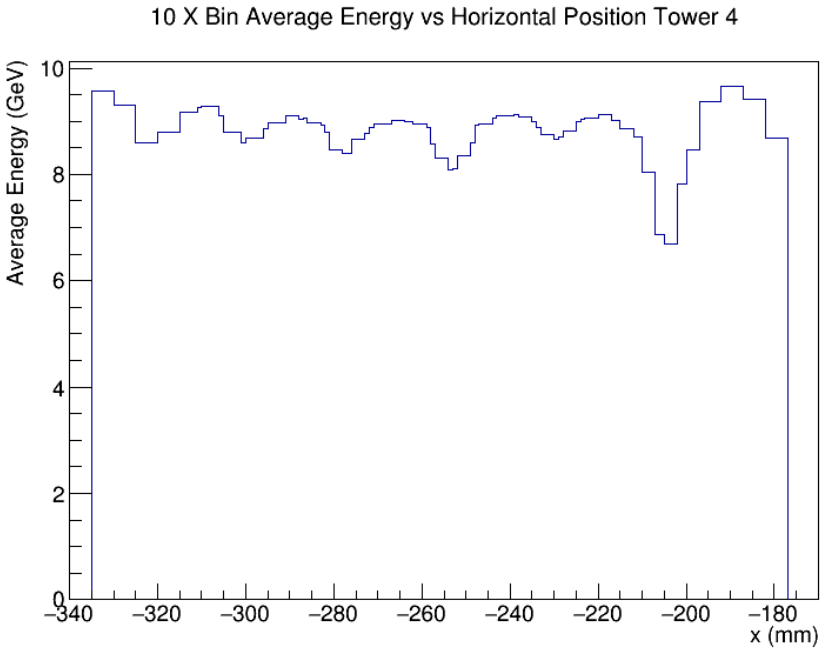


Tower 4

Before Projection

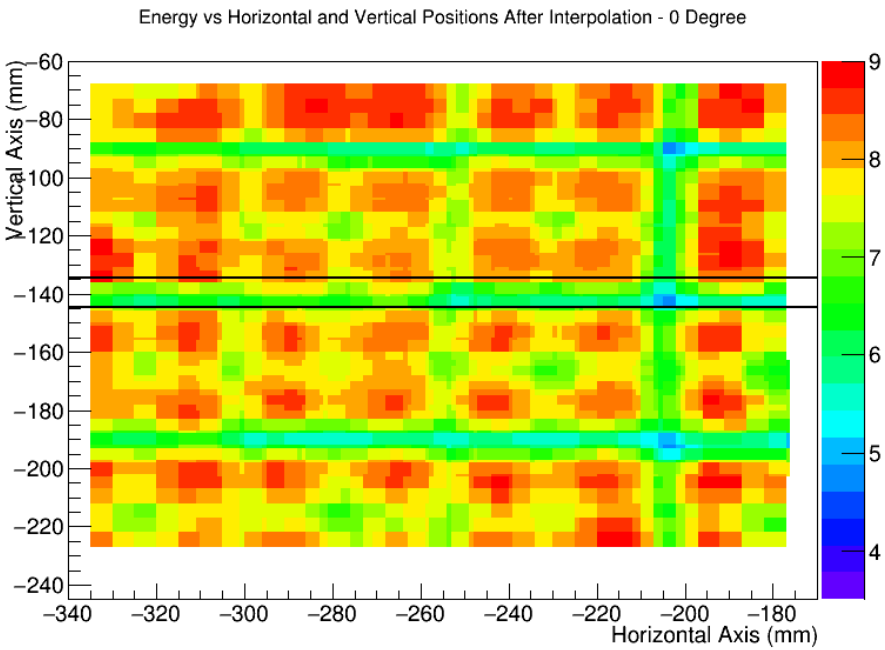


After Projection

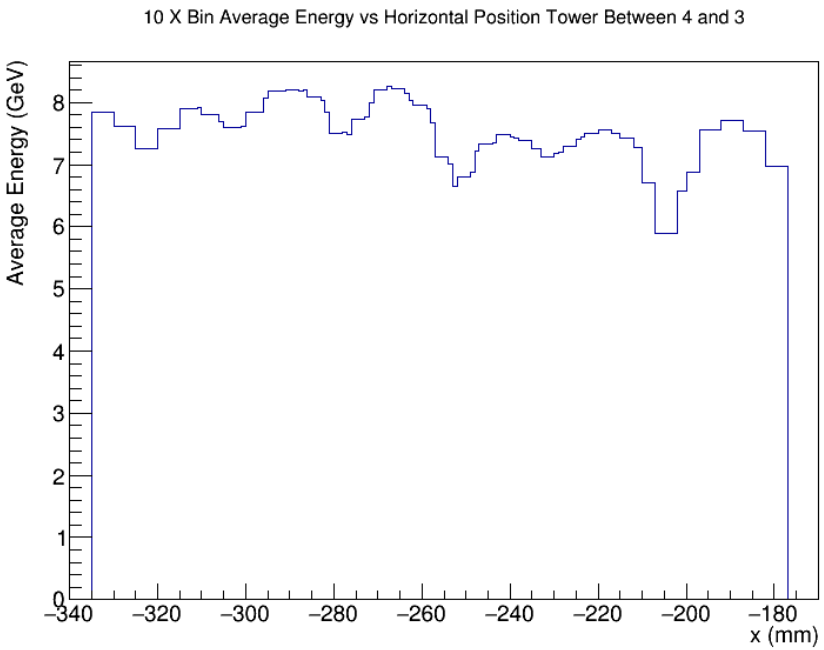


Between Tower 4 and Tower 3

Before Projection

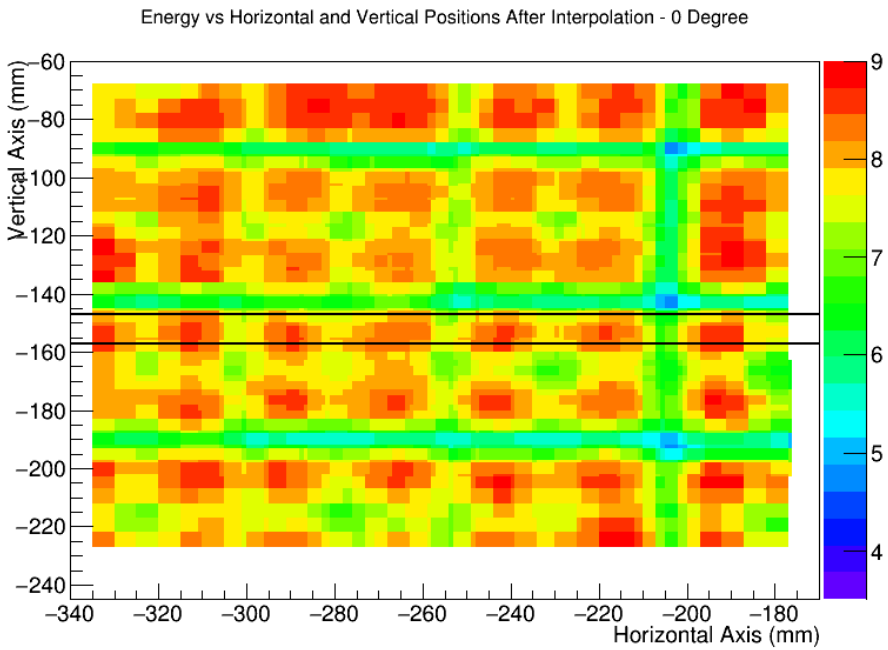


After Projection

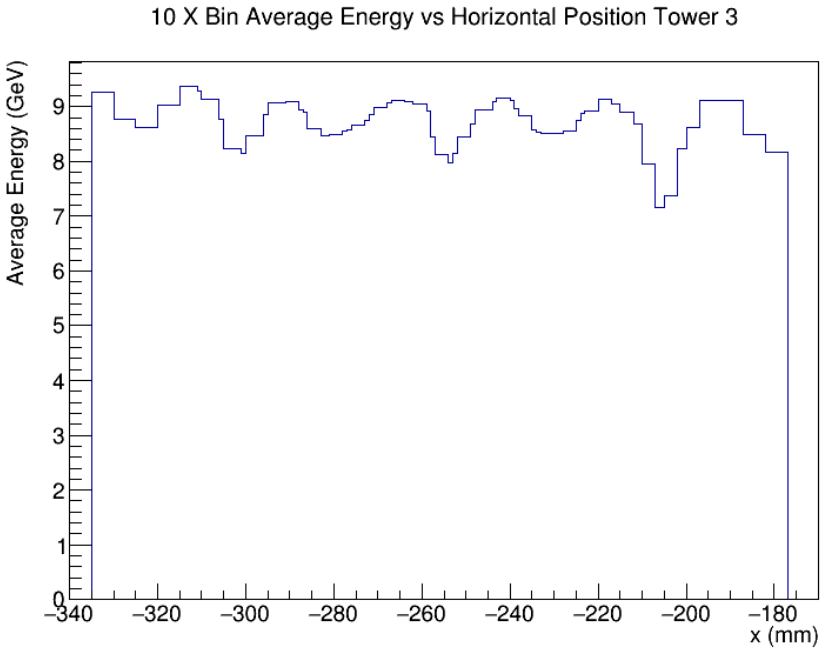


Tower 3 – 1 Inch Light Guides

Before Projection

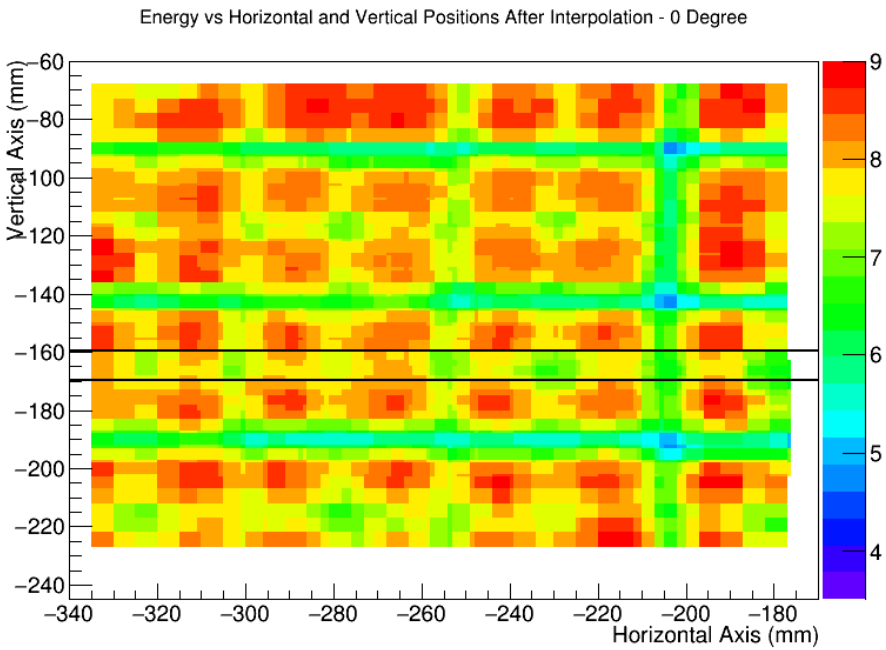


After Projection

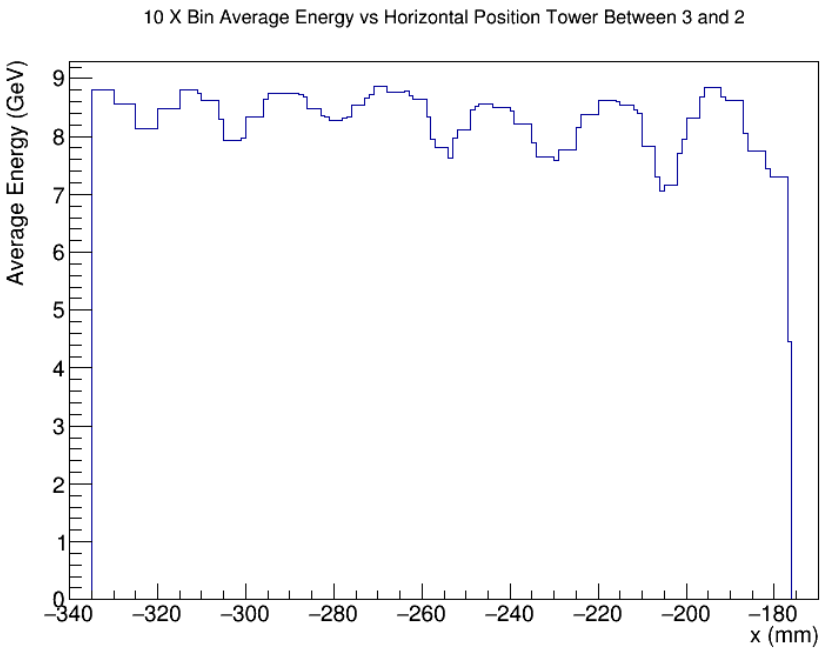


Between Tower 3 and 2

Before Projection

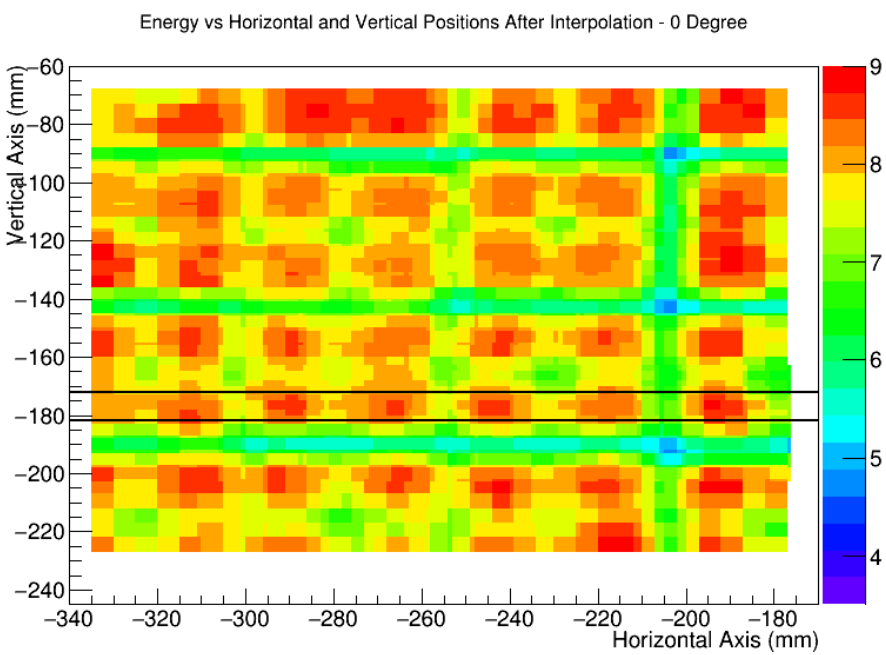


After Projection

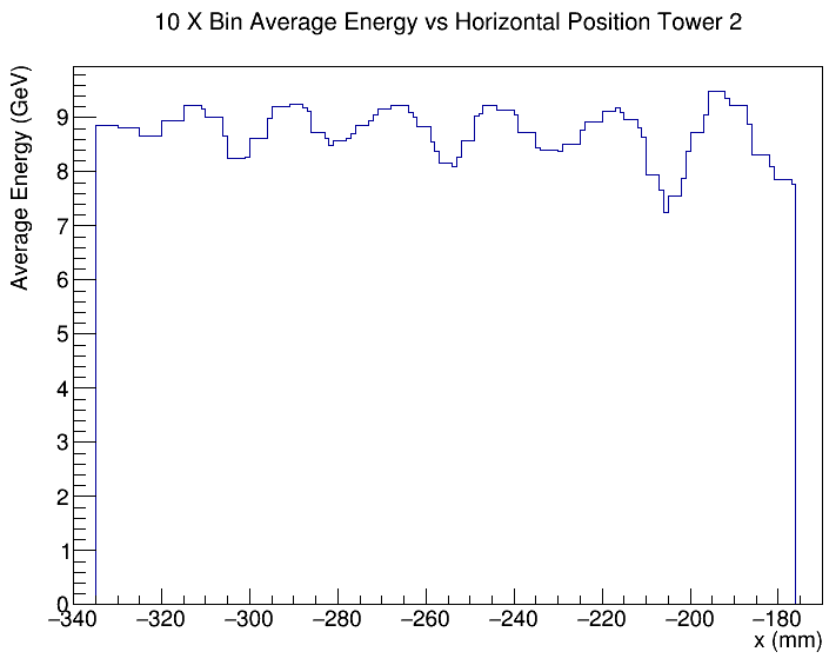


Tower 2

Before Projection

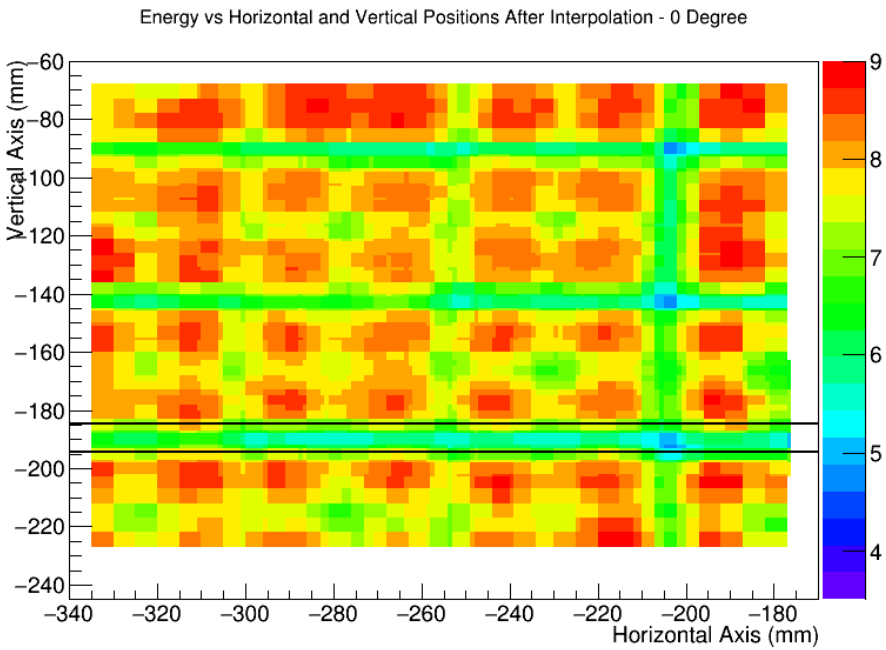


After Projection

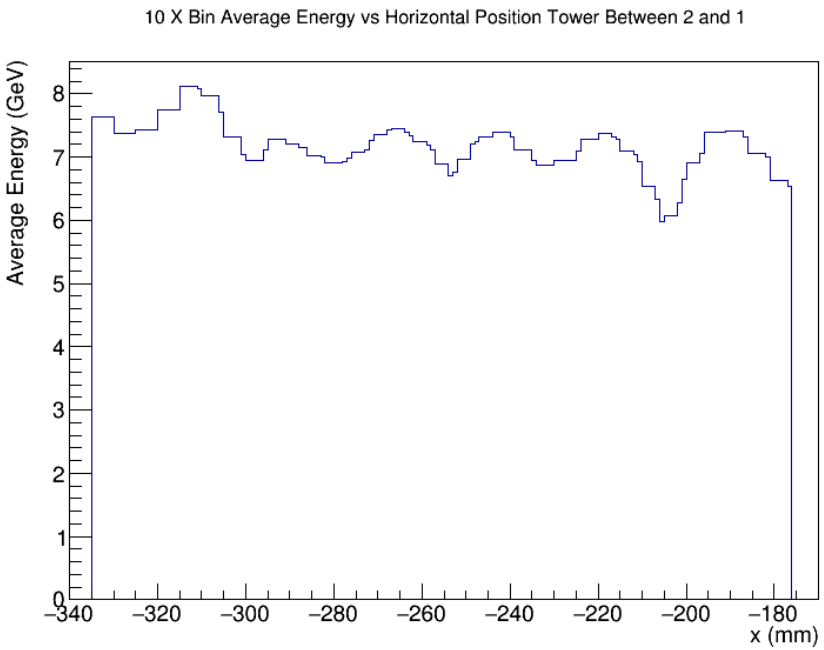


Between Tower 2 and Tower 1

Before Projection

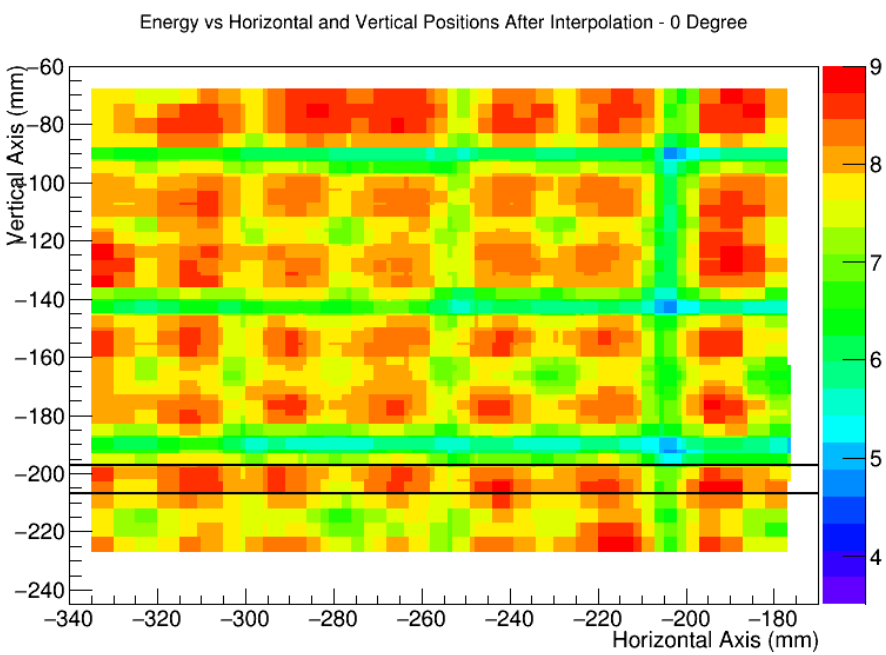


After Projection

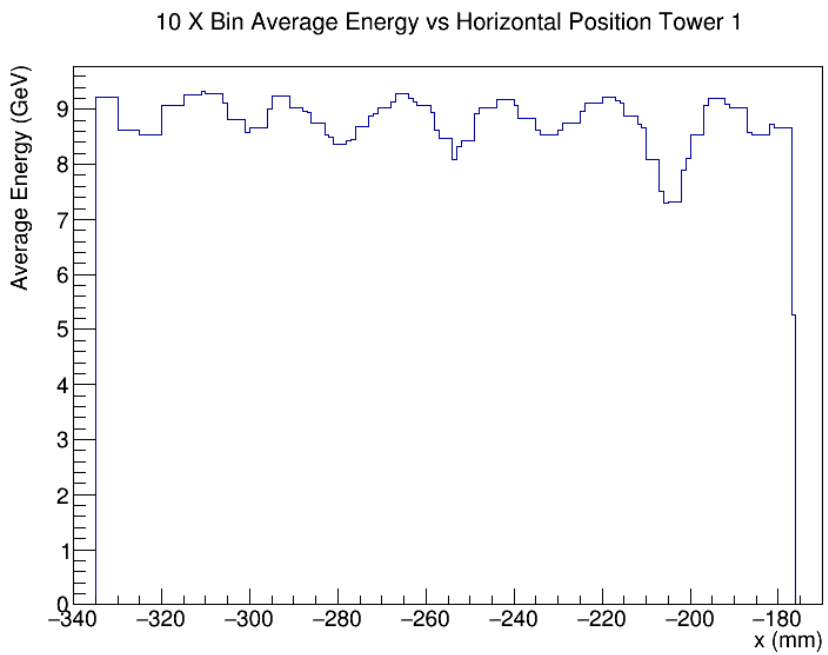


Tower 1

Before Projection

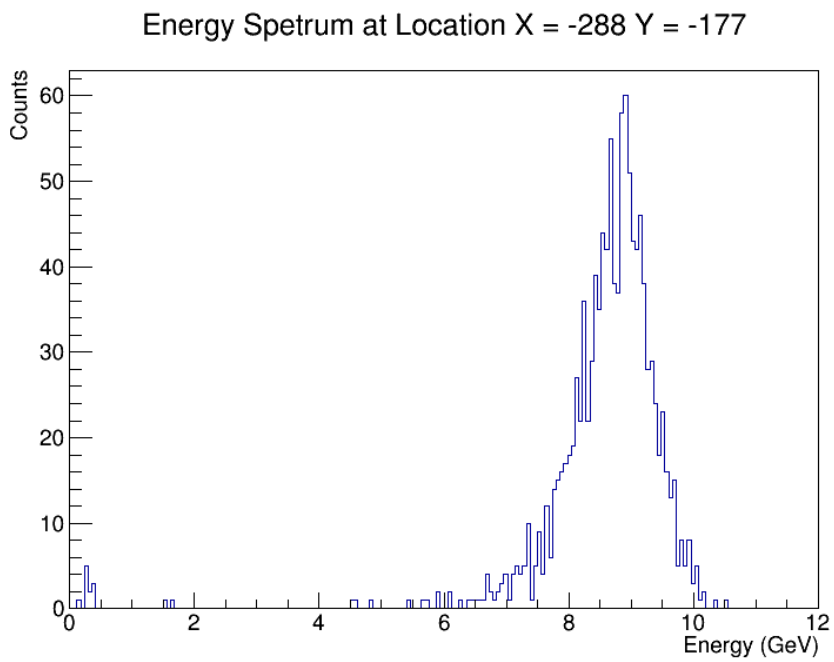


After Projection

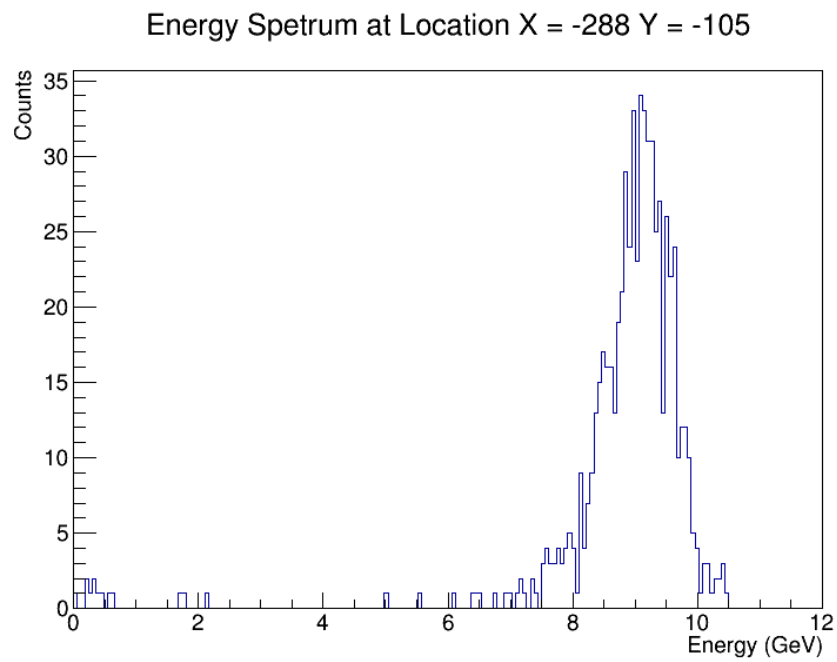


EMCAL 0 Degree Energy Spectrum – Tower Center

Tower 21

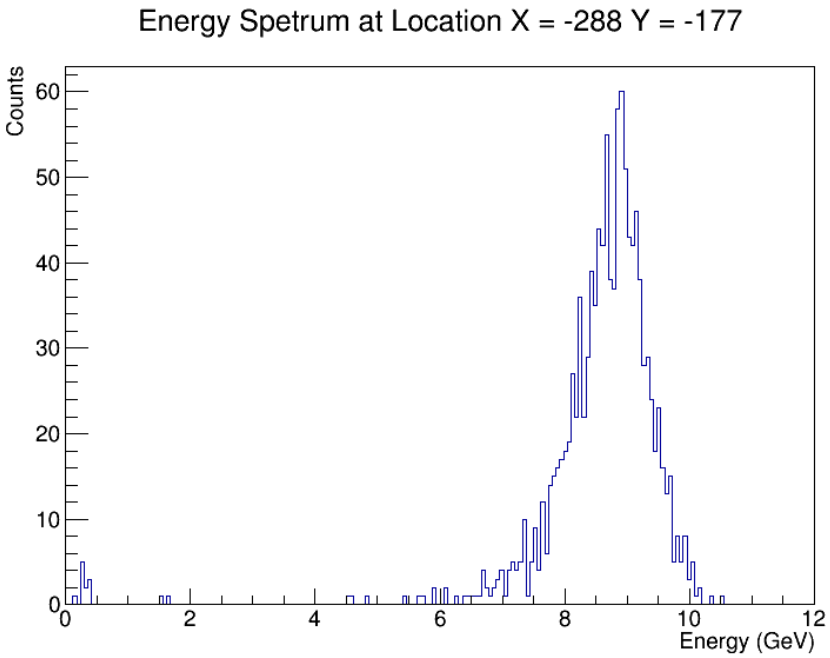


Tower 45

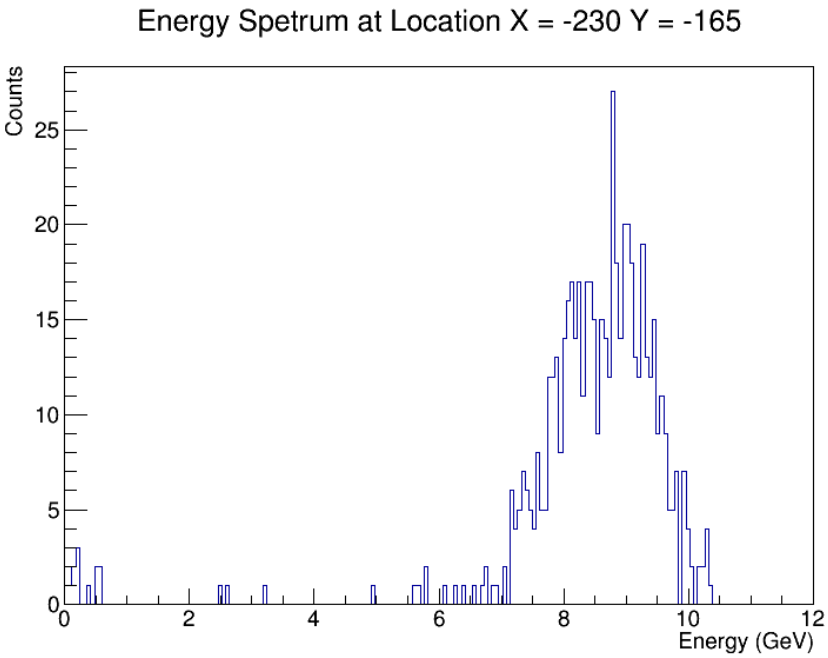


Center Between One Block

Block 20 - 1

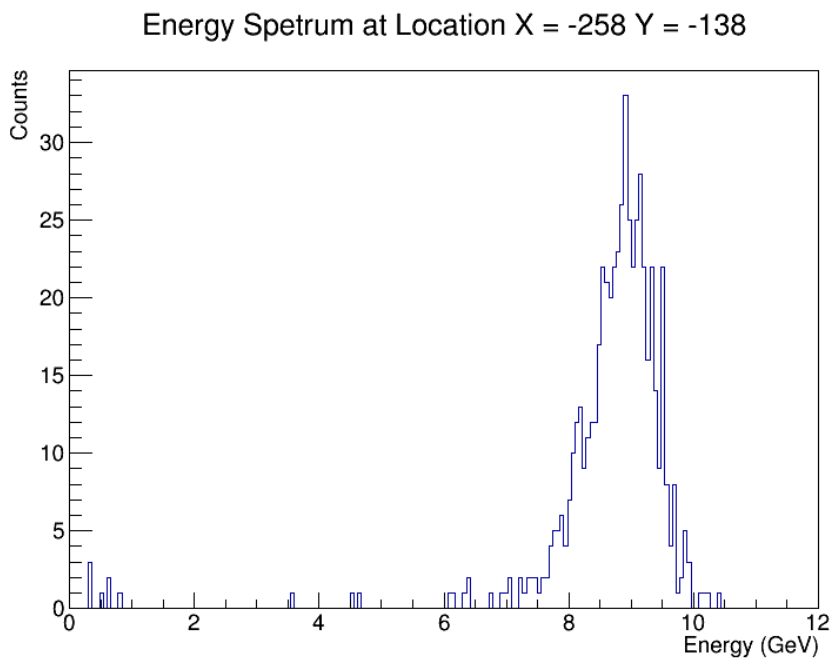


Block 21 - 3

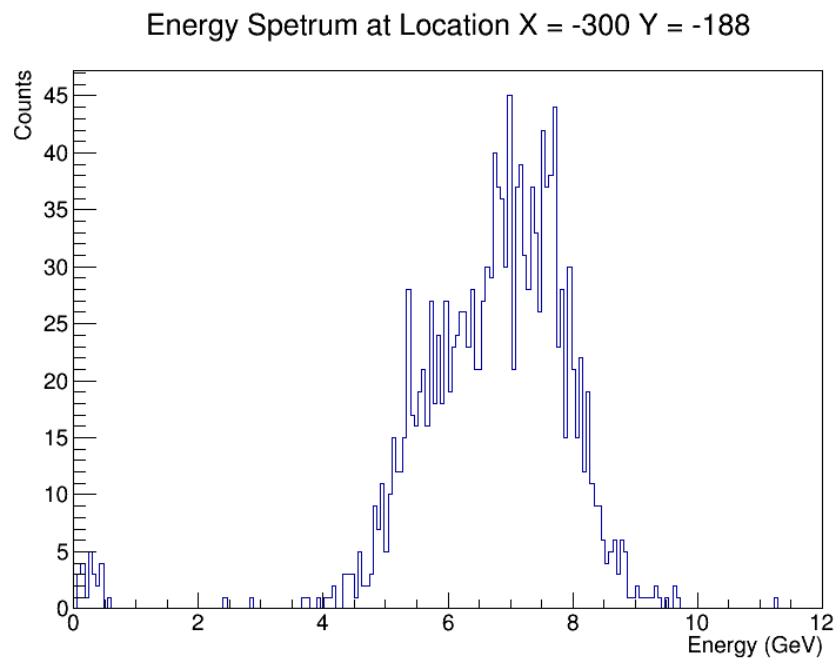


Center Between Four Blocks

Block 20 -1, 21 - 3,
21 - 3R, and 21 - 1



Block 19 - 4, 20 - 1,
19 – 3, and 20 - 2



Summary

- Hodoscope correction has been applied to correct in this analysis
- Interpolation of EMCAL position scan and the position correspondence to the actual blocks has been carried out
- 1D Projection analysis has been conducted
- Energy spectrum has been checked
- All codes are uploaded in sPHENIX github