

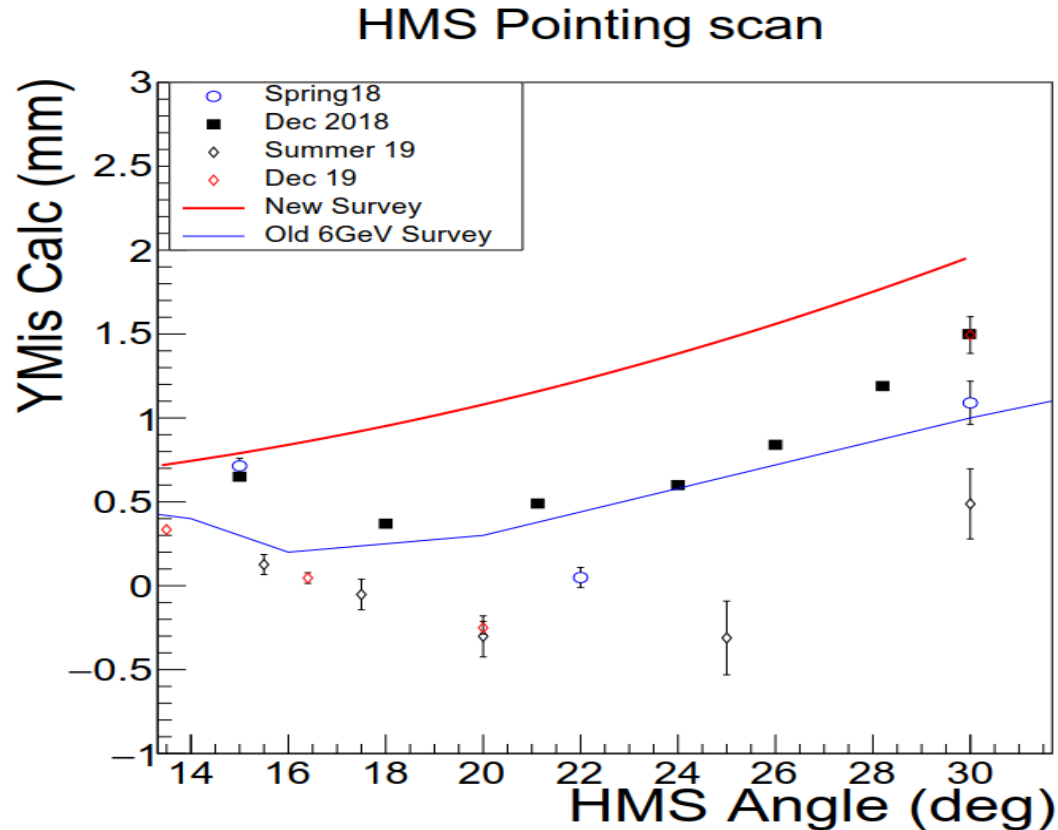
Spectrometer horizontal mispointing

- Used optics -10,0,10cm foil with sieve. Selected $Z=0$ and center sieve hole column.
 - “Summer 18” optics calibration runs for HMS and SHMS
 - “Summer 19” set of HMS/SHMS runs just for pointing with large range of angles.
 - “Dec 19” optics calibration runs for HMS and SHMS during polarized target.
- Used aluminum dummy and cut on yptar
 - “Dec 2018” aluminum dummy for elastic scans. Burcu Duran’s analysis.

- Neither HMS/SHMS matches the survey results that well.

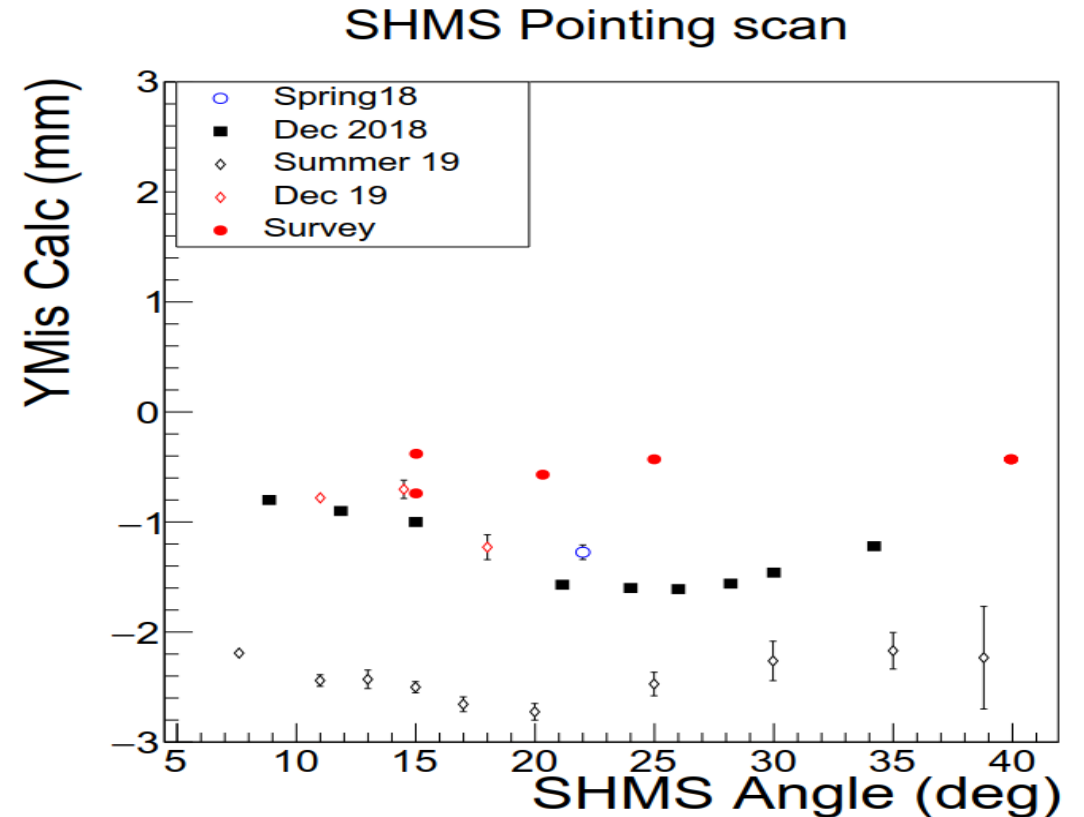
HMS

- “Summer19” and “Dec 19” agree
- “Spring18” add “Dec 2018” somewhat close
- Better agreement with old survey
- Red line is fit to new survey results



SHMS

- “Summer19” and “Dec 19” disagree
- “Dec 19”, “Dec 2018”, “Spring18” close
- Red solid circle are new survey results



$$Y_{mis} = X_H * \cos(th_c) - Z_H * \sin(th_c) - Y_{pred}$$