

Data quality check

➤ Outline

- **Review:**

 - Multi-track efficiency systematic study

- **Optics variable data quality check:**

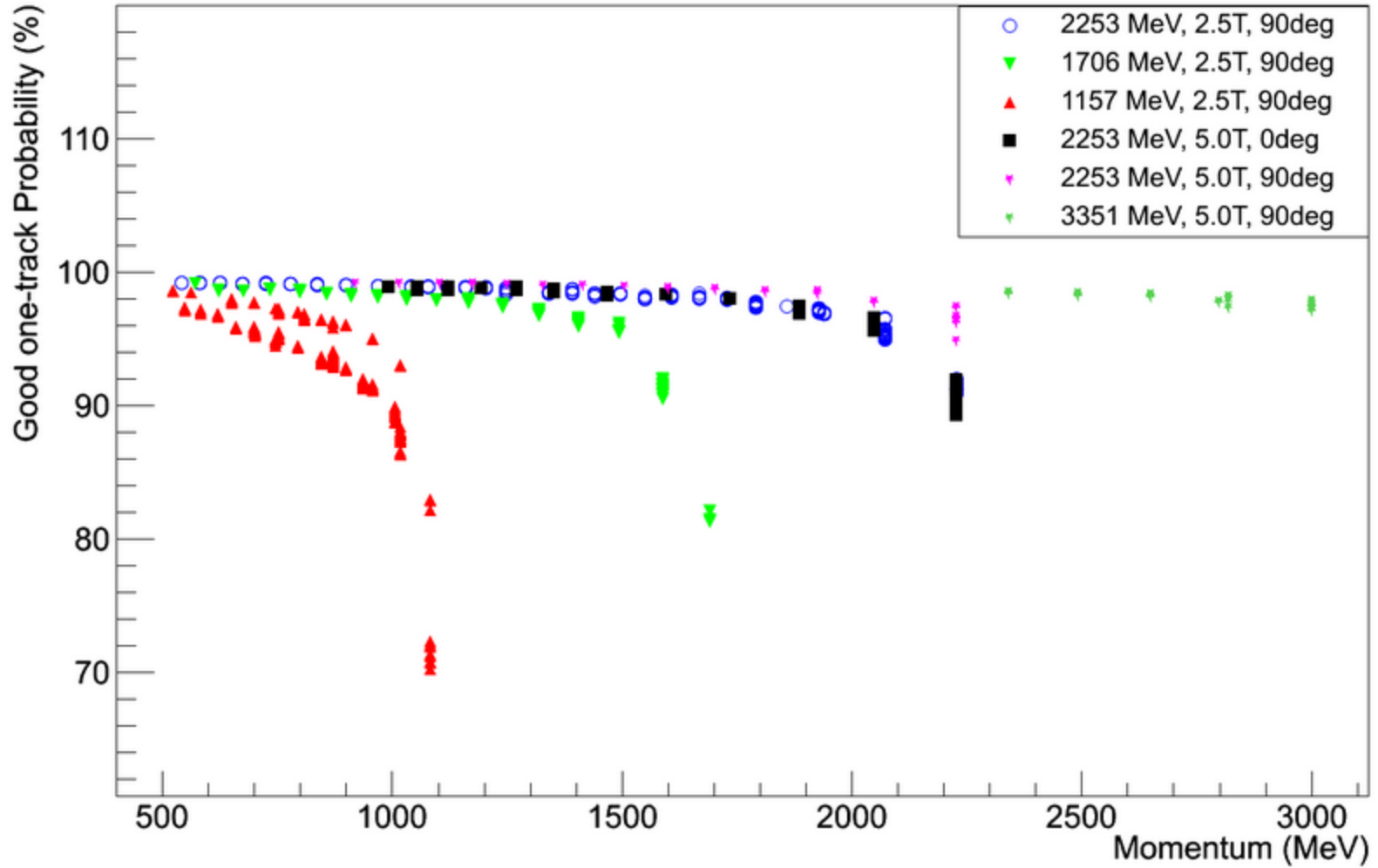
 - a. t0

 - b. L.tr.x L.tr.y L.tr.th L.tr.ph L.tr.r_x L.tr.r_y L.tr.r_th L.tr.r_ph

 - c. R.tr.x R.tr.y R.tr.th R.tr.ph R.tr.r_x R.tr.r_y R.tr.r_th R.tr.r_ph

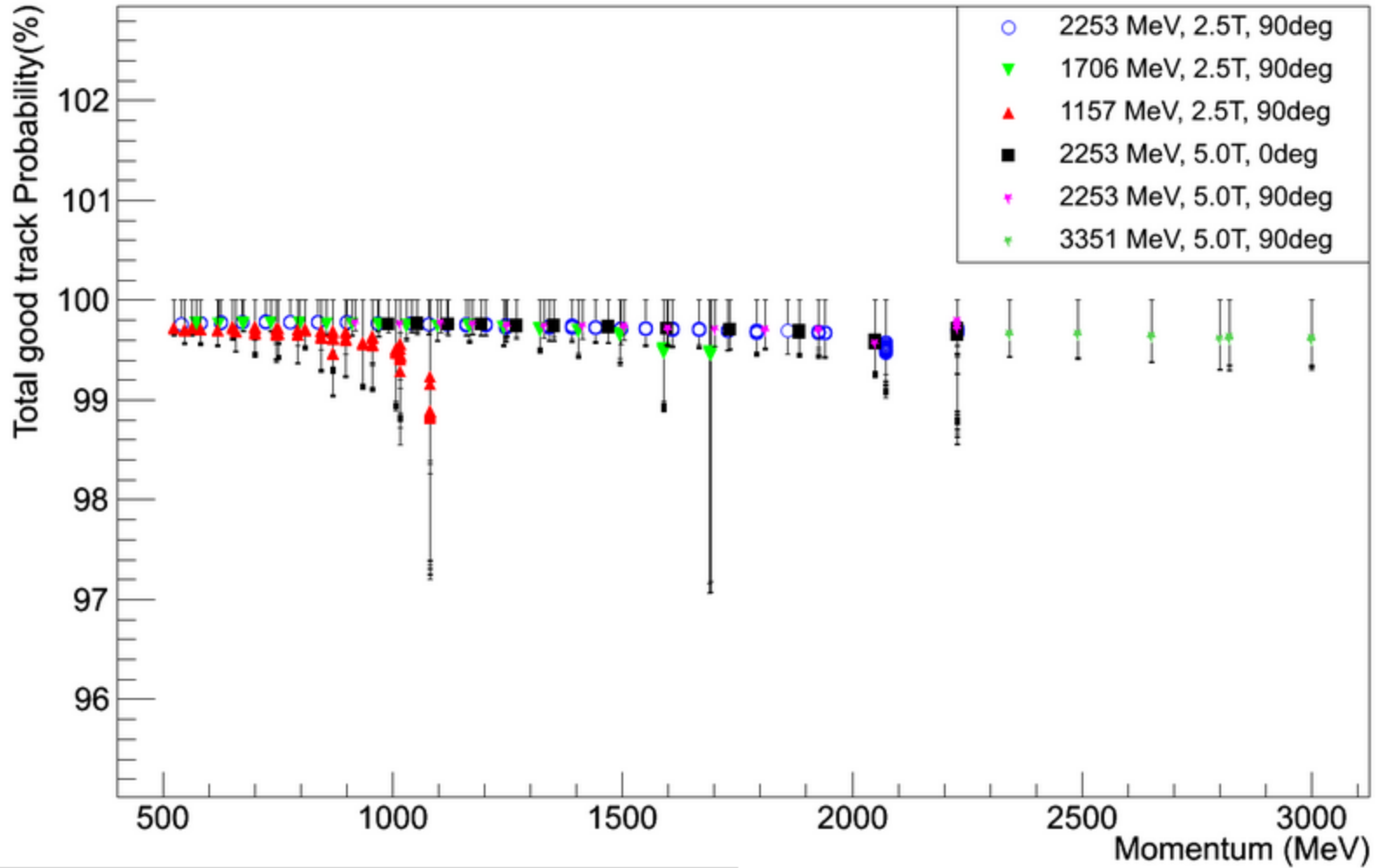
LHRS one-good-track probability

LHRS VDC good one-track probability versus spectrometer momentum



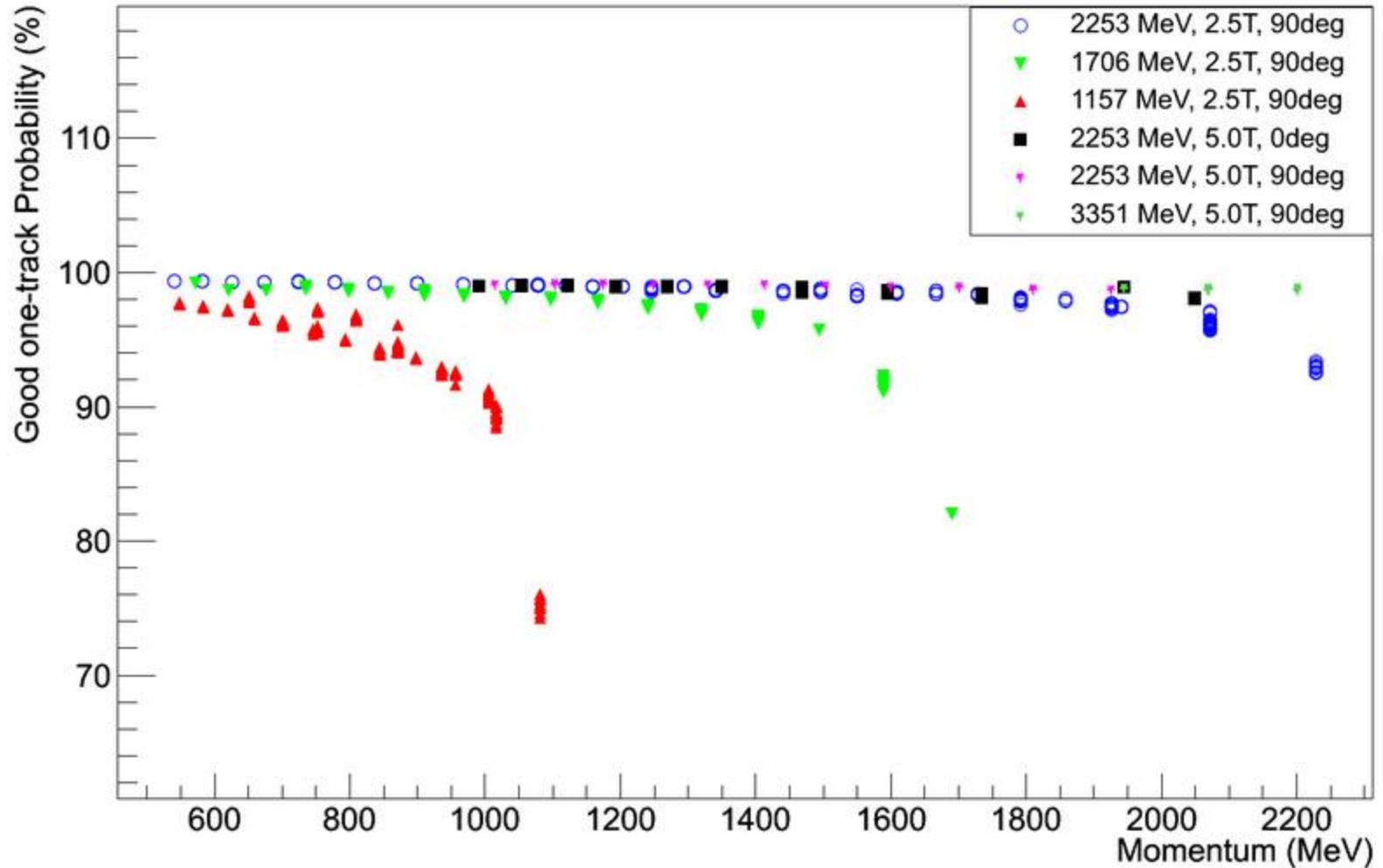
LHRS Multi-track efficiency

LHRS VDC total efficiency versus spectrometer momentum



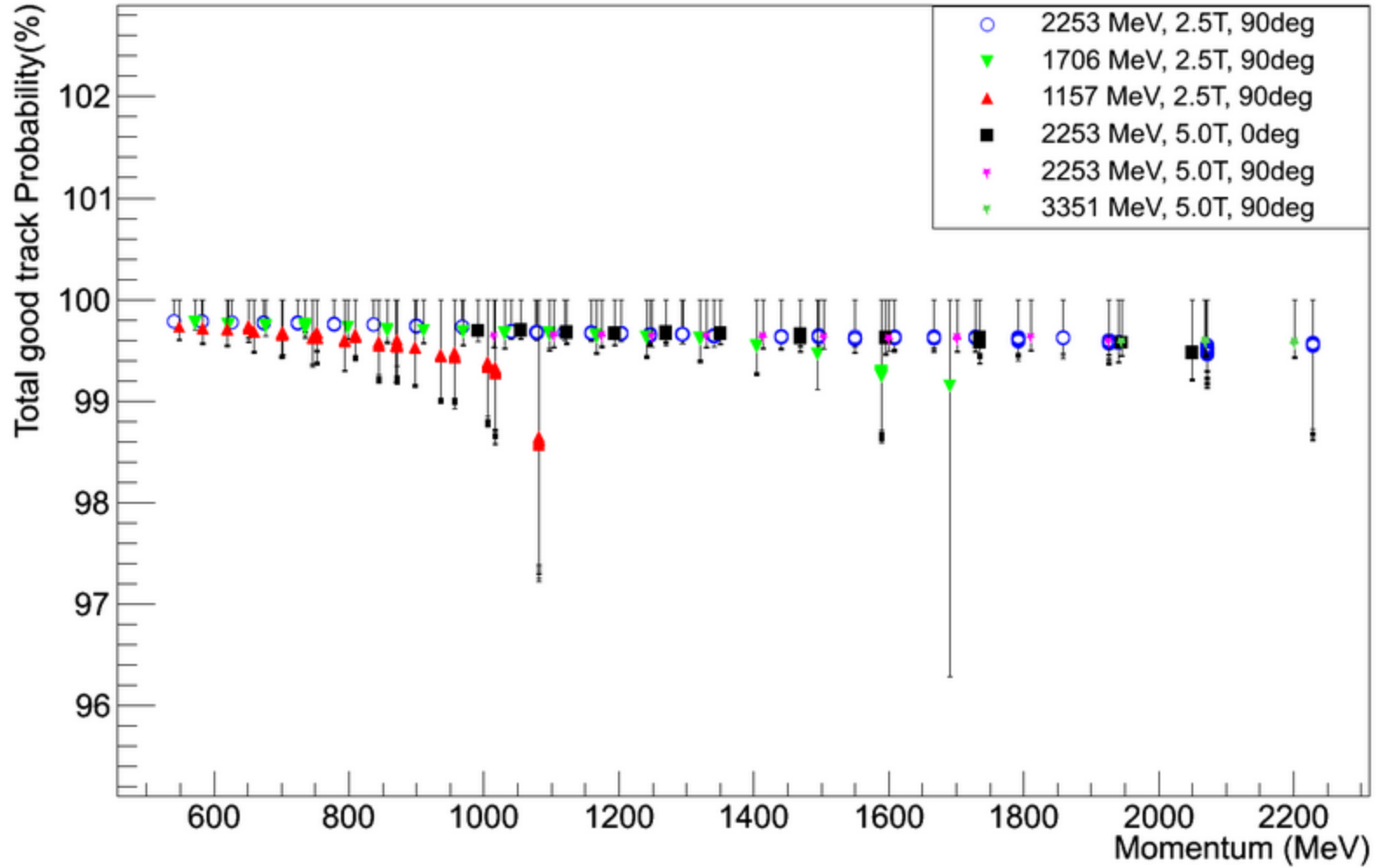
RHRS one-good-track probability

RHRS VDC good one-track probability versus spectrometer momentum

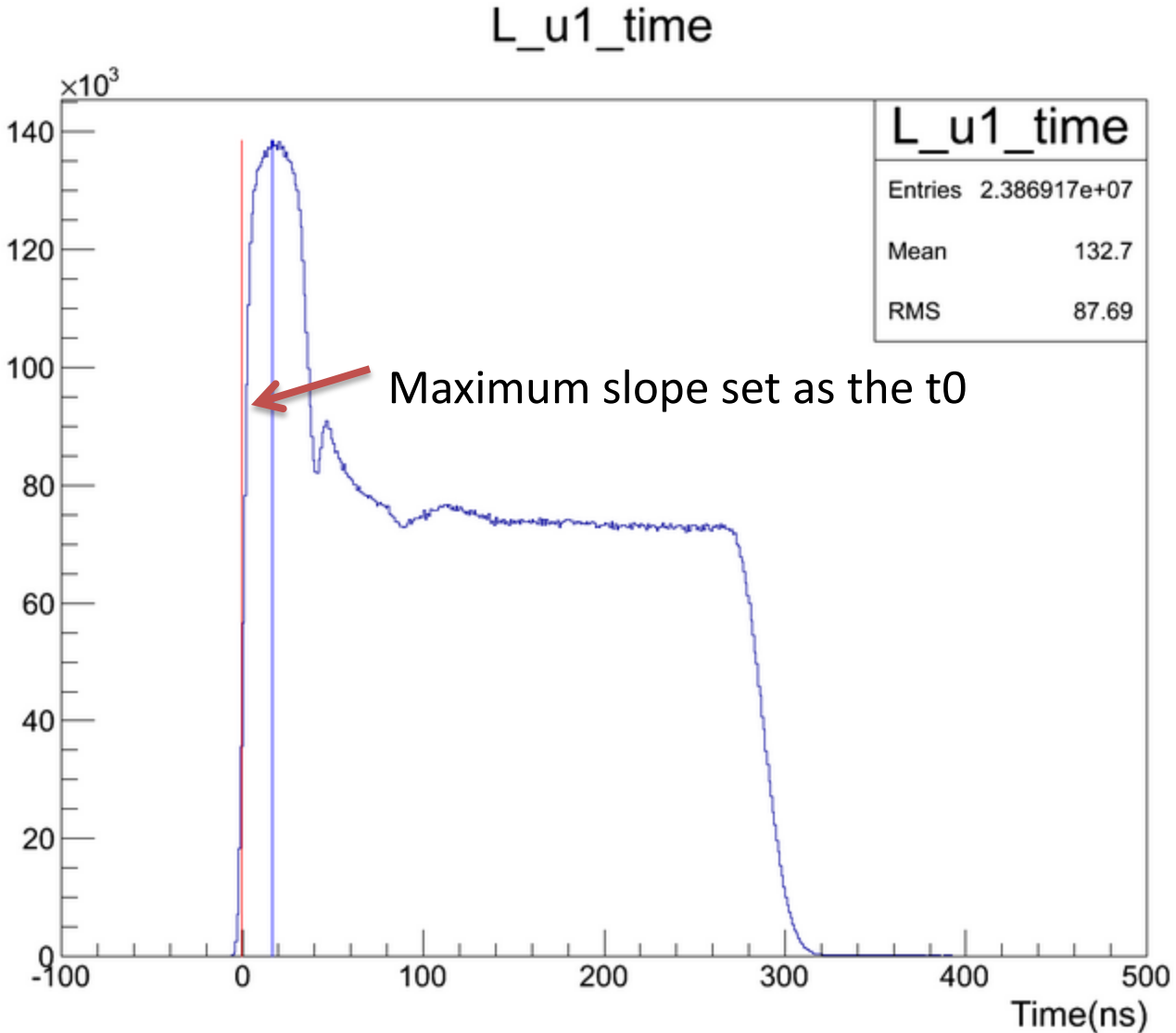


RHRS Multi-track efficiency

RHRS VDC total efficiency versus spectrometer momentum



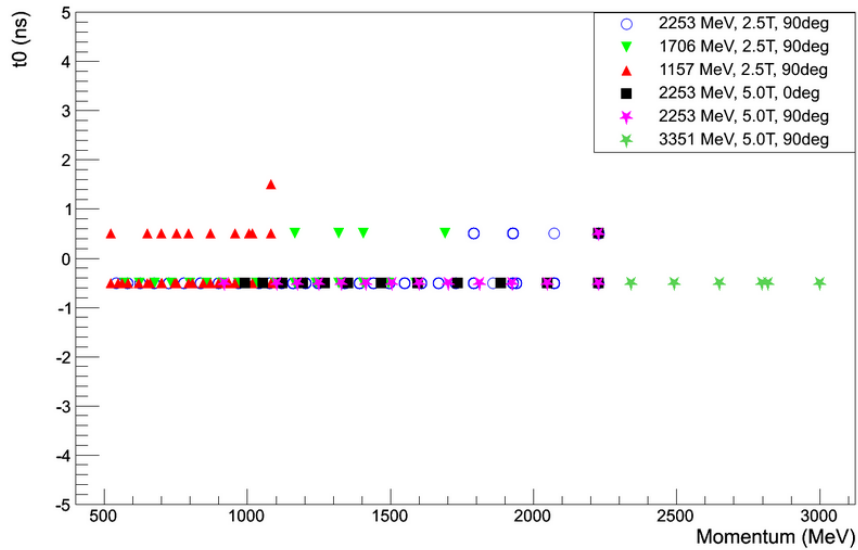
VDC t0 quality check



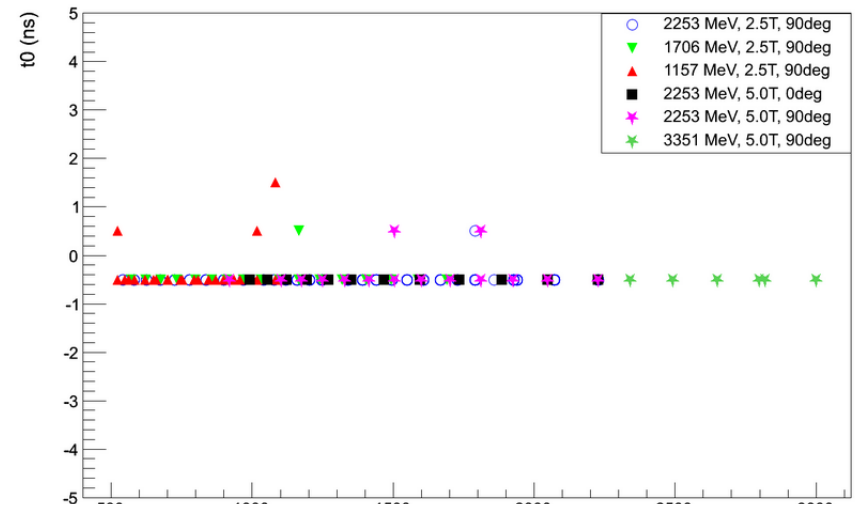
Sample: choose from one track with electron cut

LHRS VDC t0 quality check

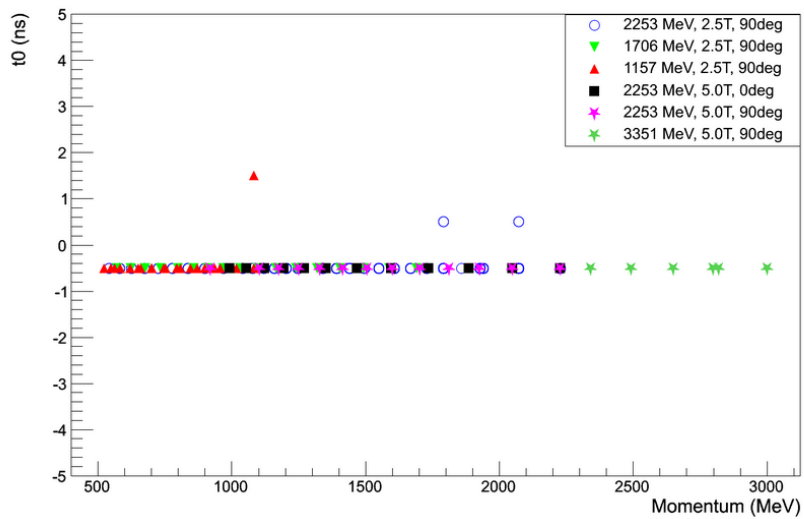
LHRS VDC U1 t0 versus spectrometer momentum for all production runs



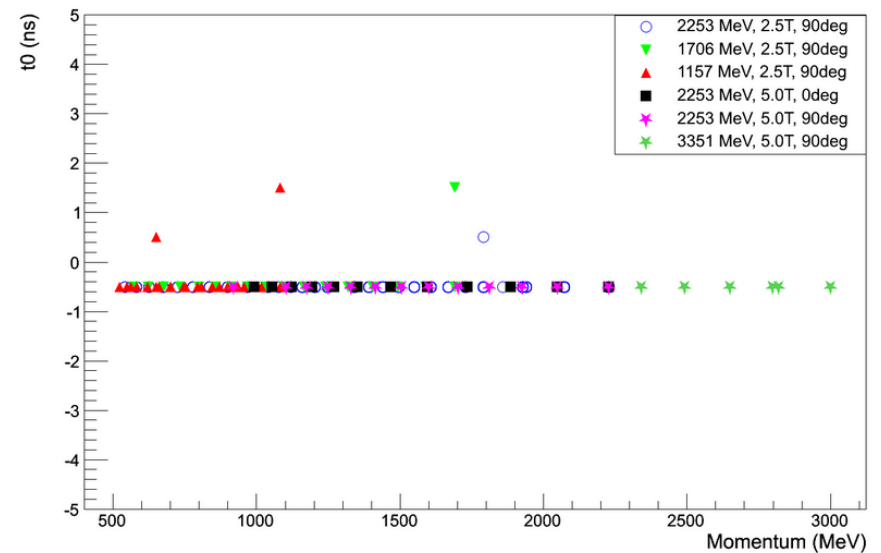
LHRS VDC V1 t0 versus spectrometer momentum for all production runs



LHRS VDC U2 t0 versus spectrometer momentum for all production runs



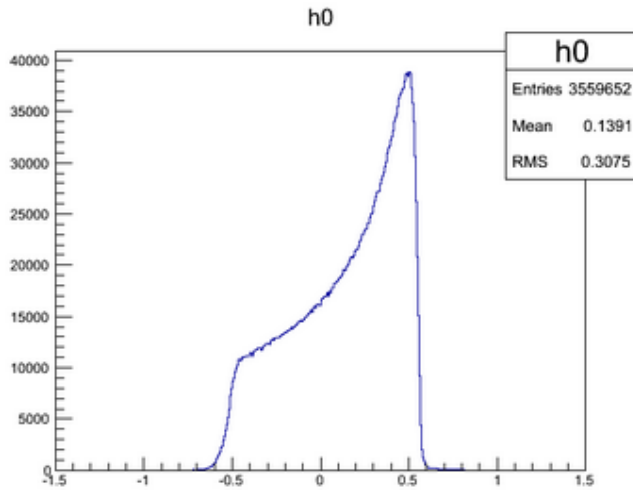
LHRS VDC V2 t0 versus spectrometer momentum for all production runs



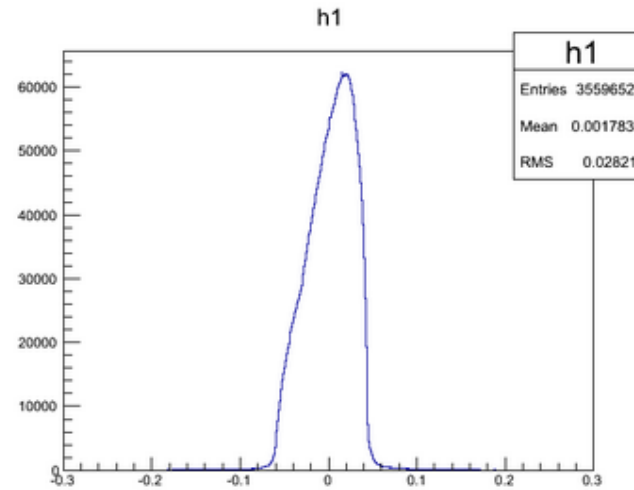
VDC T0 around 1.5 ns offset is the higher rate one

Optics variable (transport) quality check

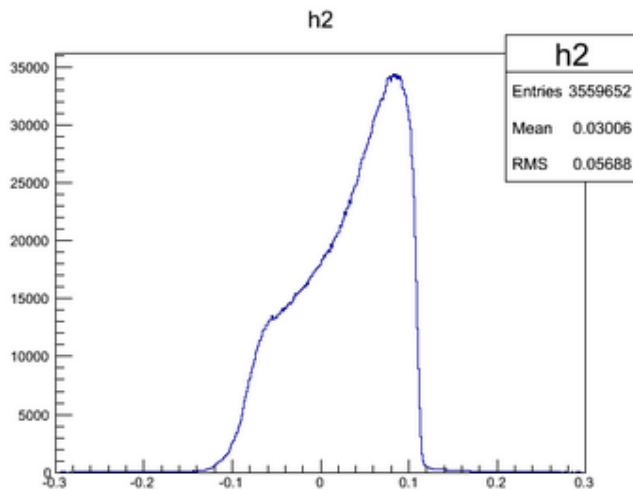
To check the histogram mean value



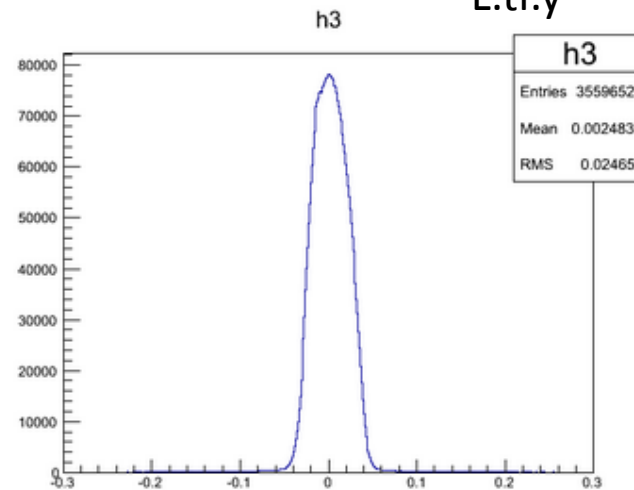
L.tr.x



L.tr.y



L.tr.th

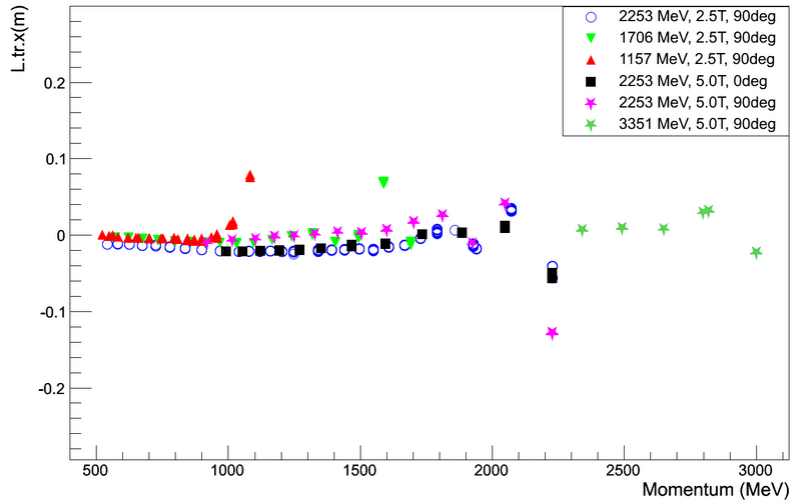


L.tr.ph

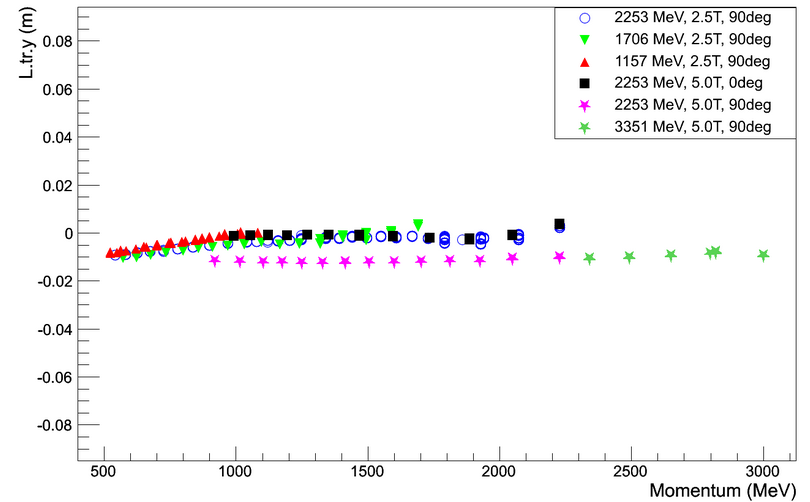
Sample: choose from one track with electron cut+ acceptance cut

LHRS optics variable (transport) quality check

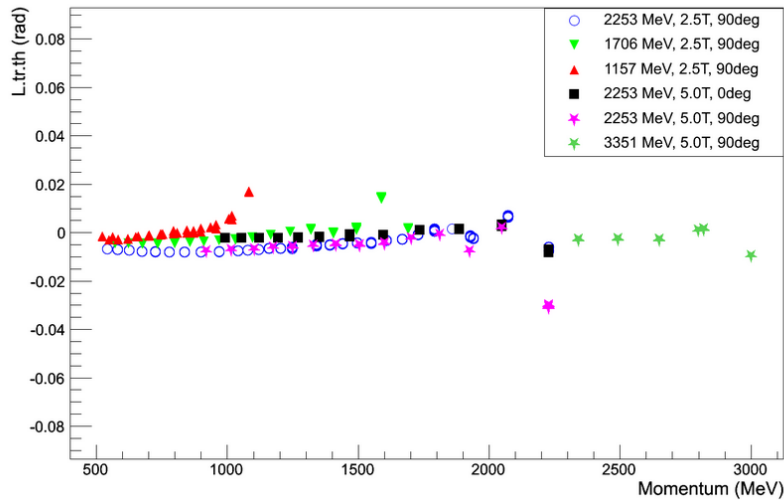
LHRS L.tr.x versus spectrometer momentum for production runs



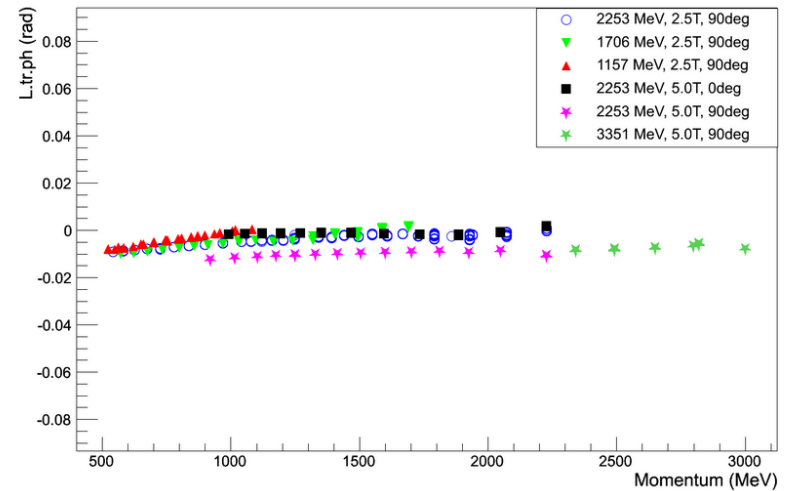
LHRS L.tr.y versus spectrometer momentum for production runs



LHRS L.tr.th versus spectrometer momentum for production runs

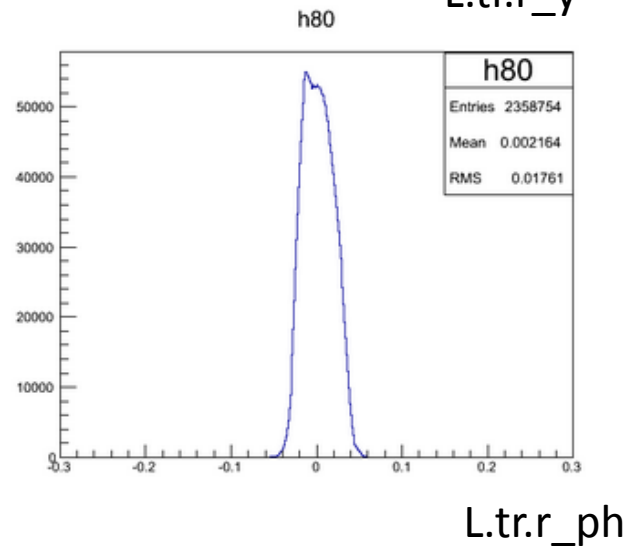
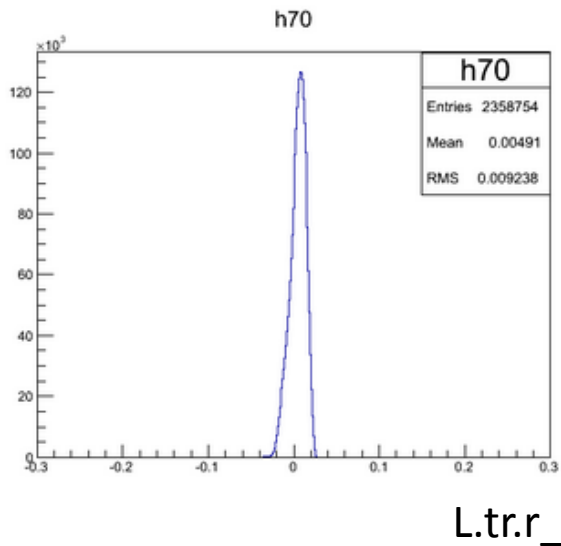
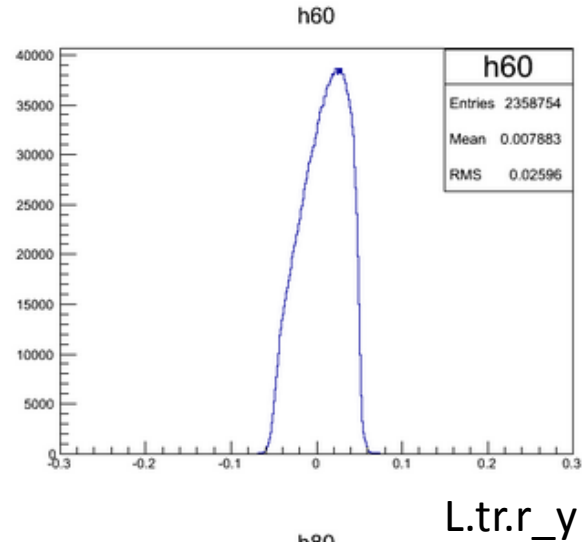
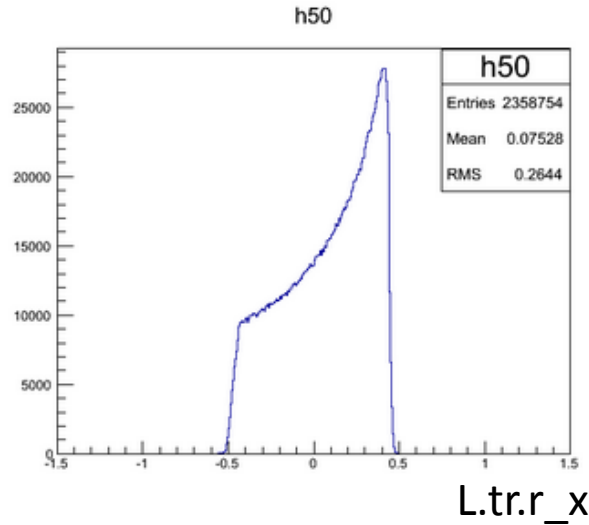


LHRS L.tr.ph versus spectrometer momentum for production runs



Optics variable (rotated) quality check

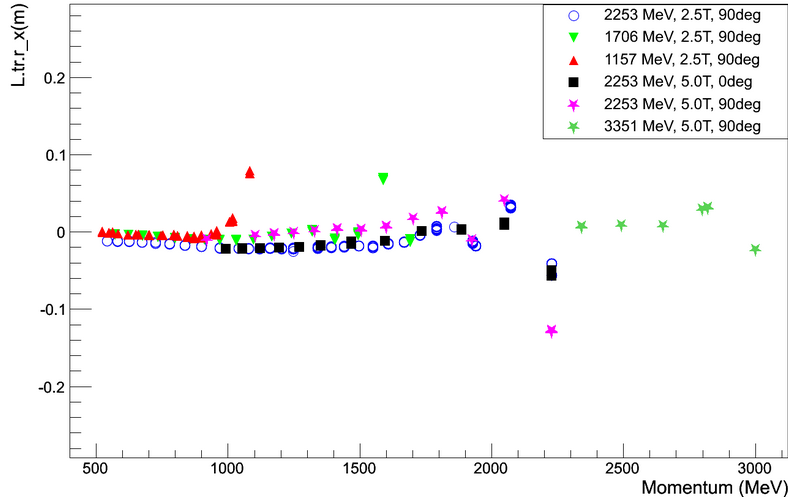
To check the histogram mean value



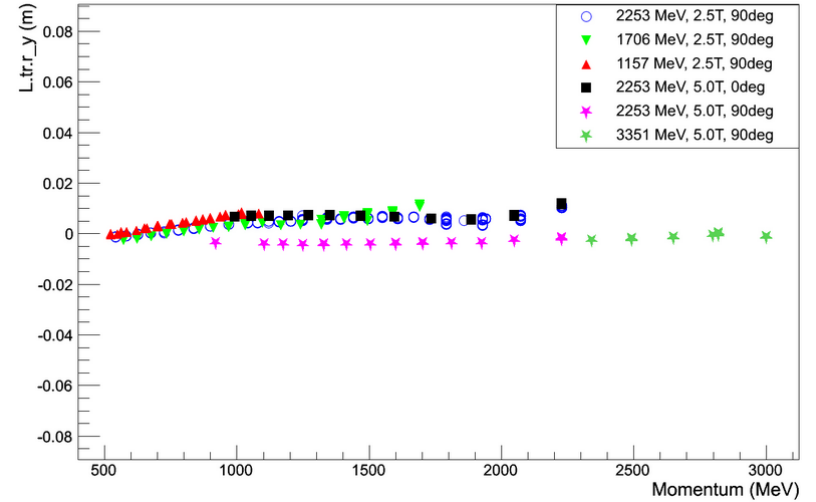
Sample: choose from one track with electron cut+ acceptance cut

LHRS optics variable (det) quality check

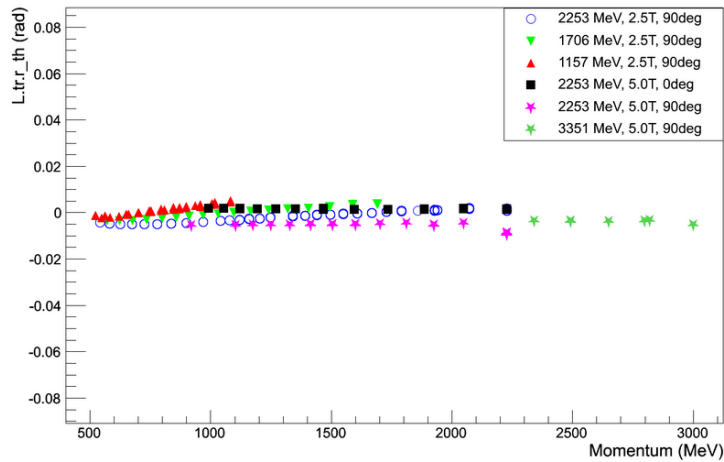
LHRS L.tr.r_x versus spectrometer momentum for production runs



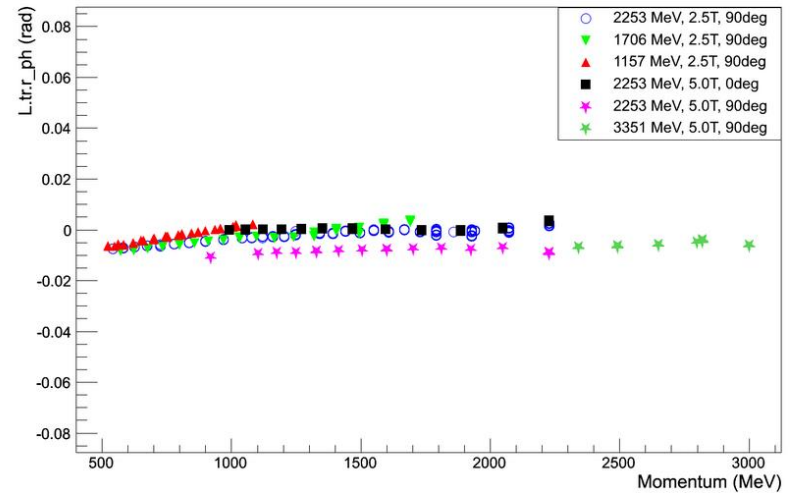
LHRS L.tr.r_y versus spectrometer momentum for production runs



LHRS L.tr.r_th versus spectrometer momentum for production runs

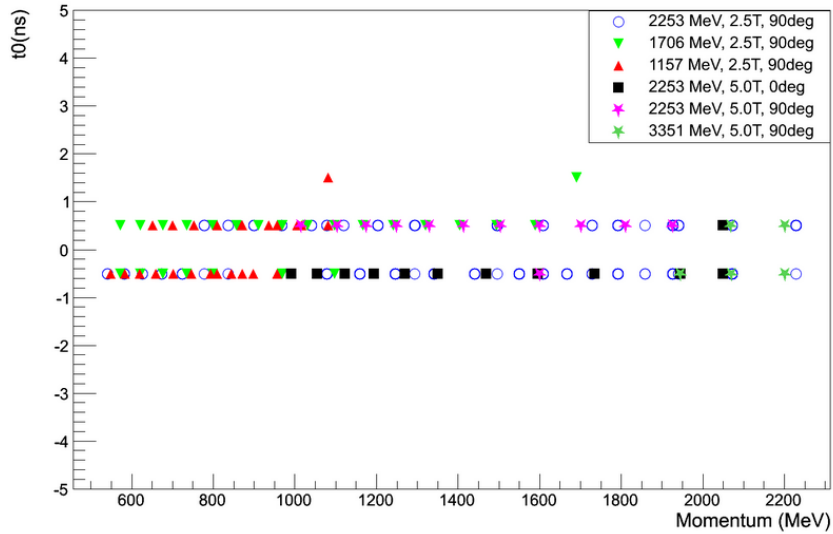


LHRS L.tr.r_ph versus spectrometer momentum for production runs

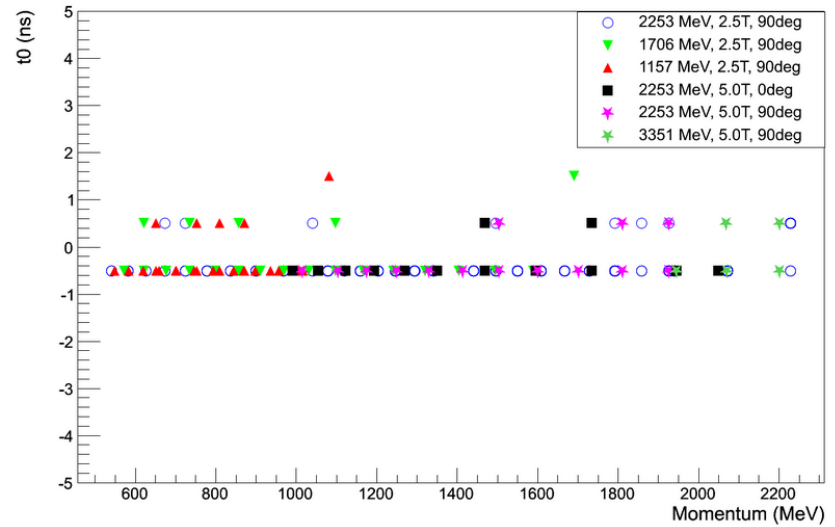


RHRS VDC t0 quality check

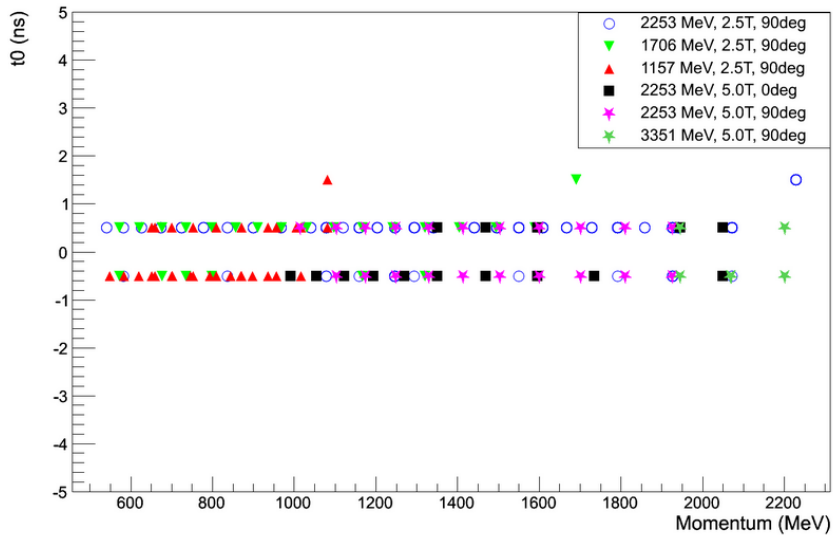
RHRS VDC U1 t0 versus spectrometer momentum for all production runs



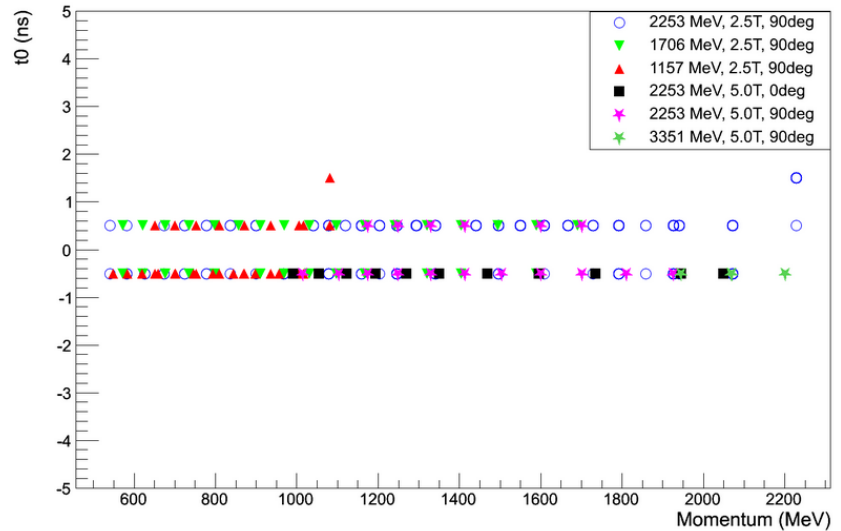
RHRS VDC U2 t0 versus spectrometer momentum for all production runs



RHRS VDC V1 t0 versus spectrometer momentum for all production runs



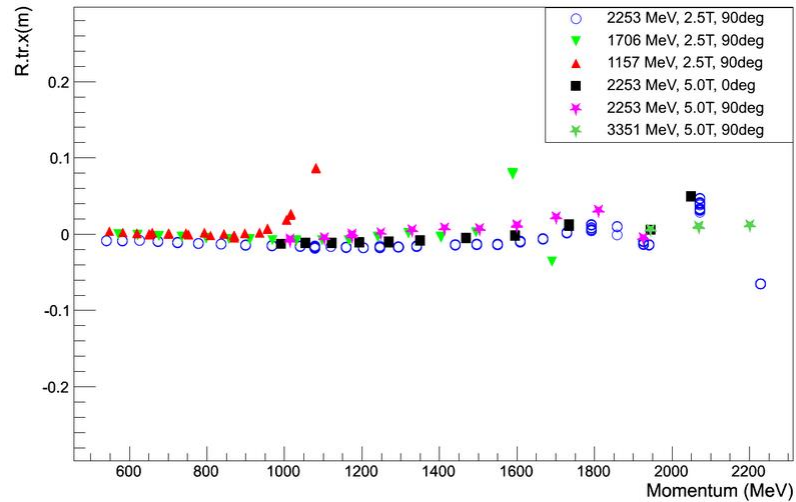
RHRS VDC V2 t0 versus spectrometer momentum for all production runs



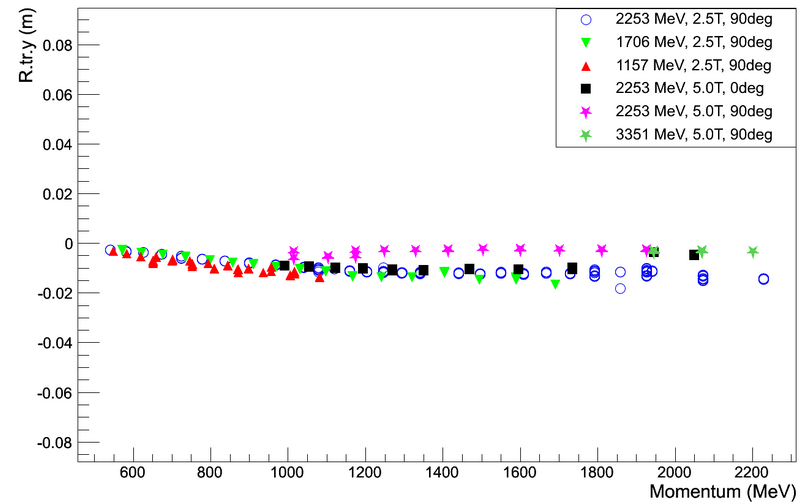
VDC t0 around 1.5 ns offset is the higher rate one

RHRS optics variable (transport) quality check

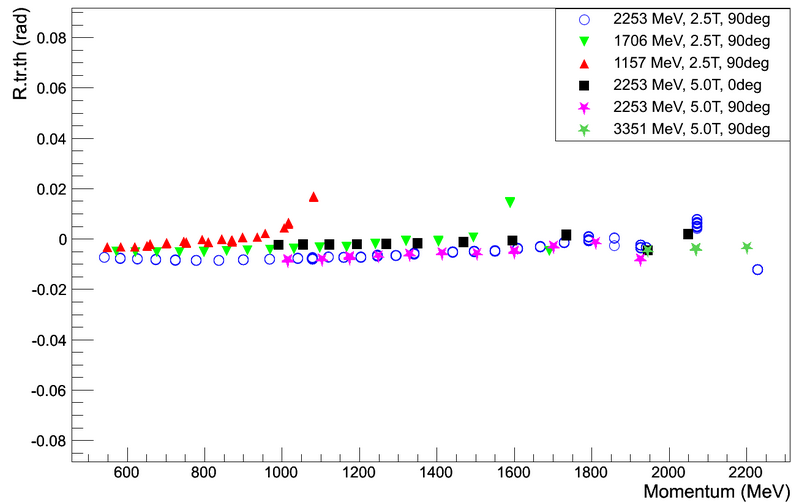
RHRS R.tr.x versus spectrometer momentum for production runs



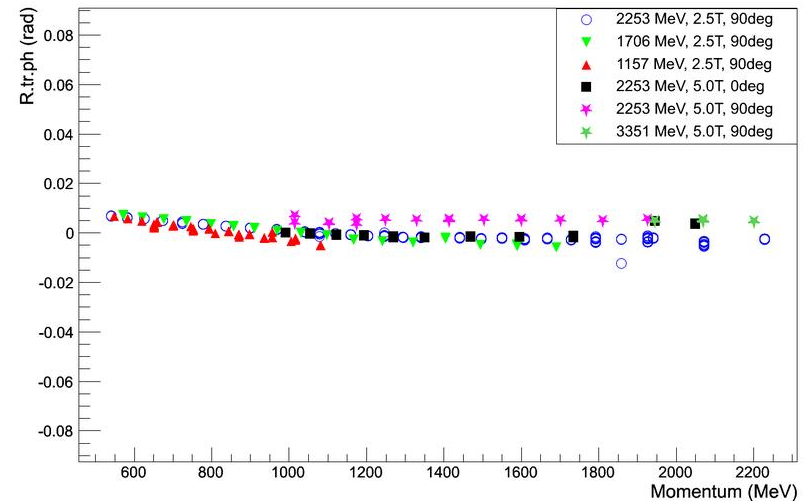
RHRS R.tr.y versus spectrometer momentum for production runs



RHRS R.tr.th versus spectrometer momentum for production runs

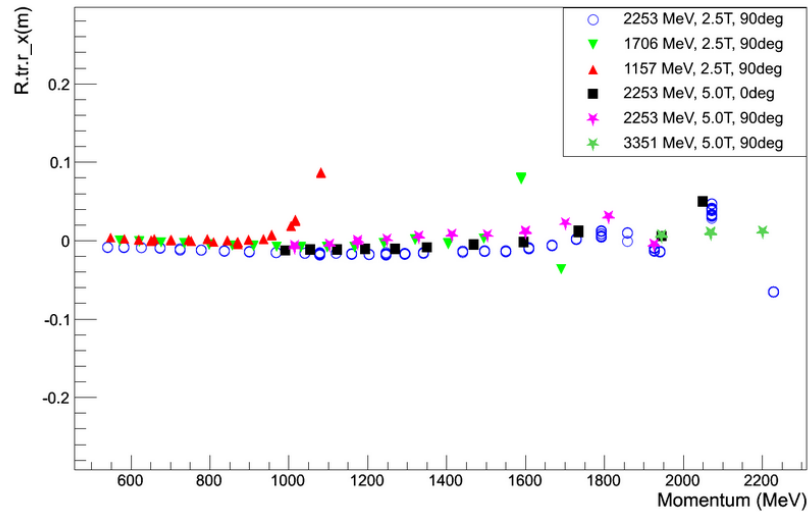


RHRS R.tr.ph versus spectrometer momentum for production runs

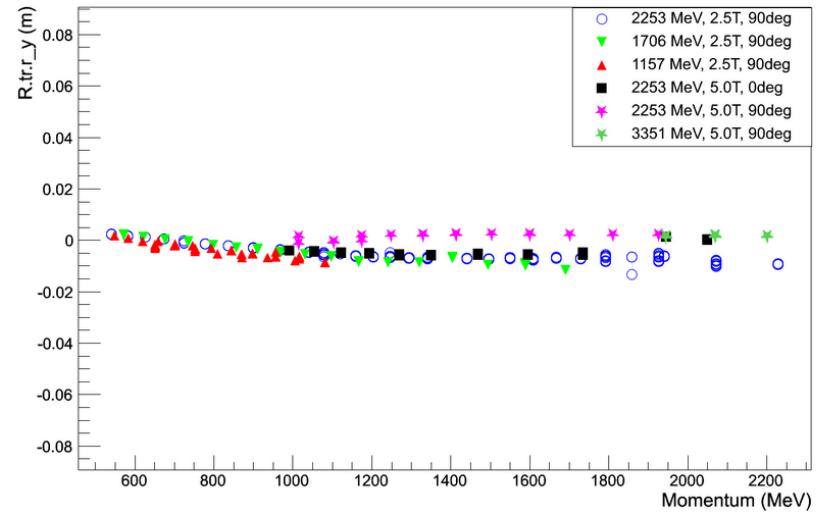


RHRS optics variable (rotated) quality check

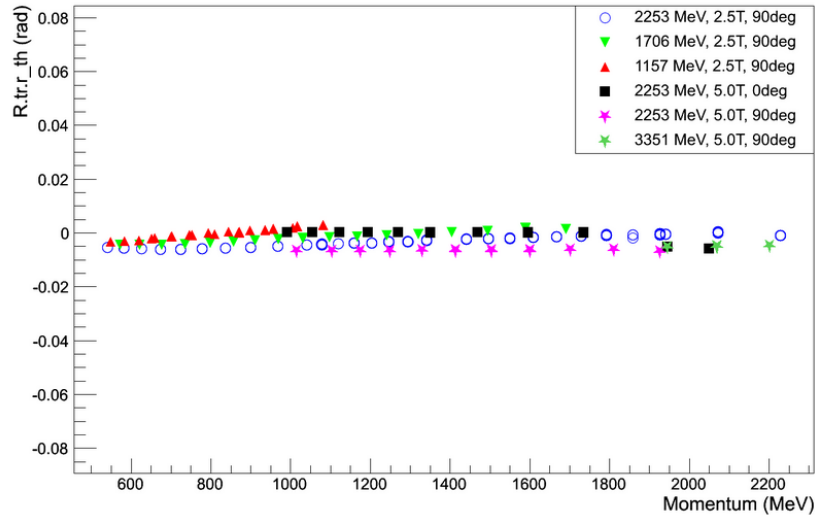
RHRS R.tr.r_x versus spectrometer momentum for production runs



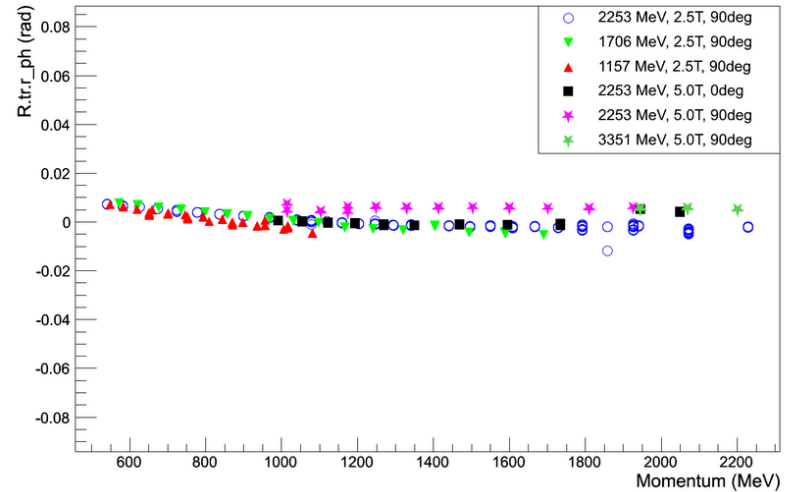
RHRS R.tr.r_y versus spectrometer momentum for production runs



RHRS R.tr.r_th versus spectrometer momentum for production runs



RHRS R.tr.r_ph versus spectrometer momentum for production runs



Summary

- All production runs are plotted in all Figures above, except:
 - LHRS: 6 runs
 - RHRS: 17 runs
 - All within Melissa's question runs
 - Theses runs' multi-track efficiency available
- Packing fraction runs not plotted
- Next work: Elastic runs?