TB analysis update

Michal Elad

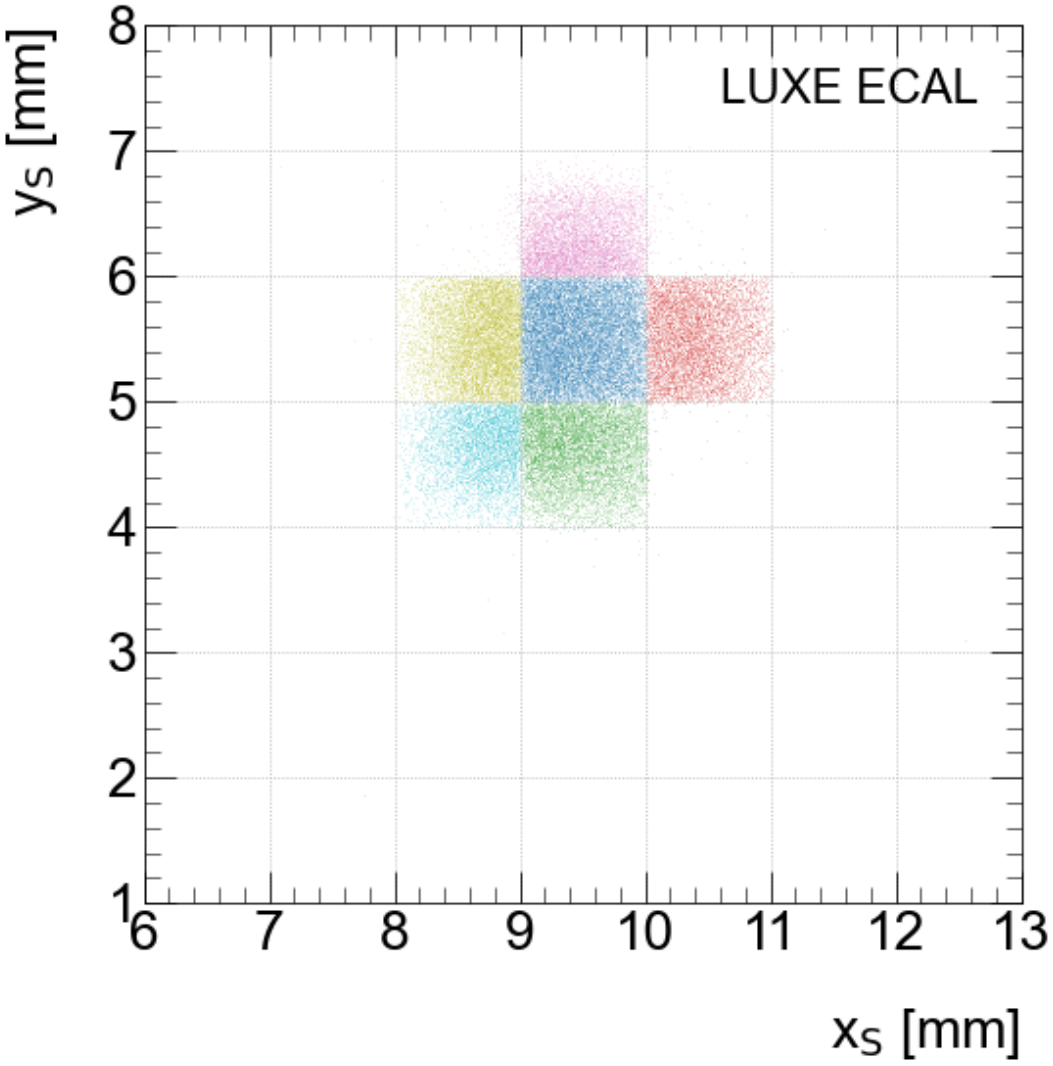
30/01/25

Statistical Calorimetry

Calorimetry Alignment

- Successful!
- Based on layer after 1 Tungsten

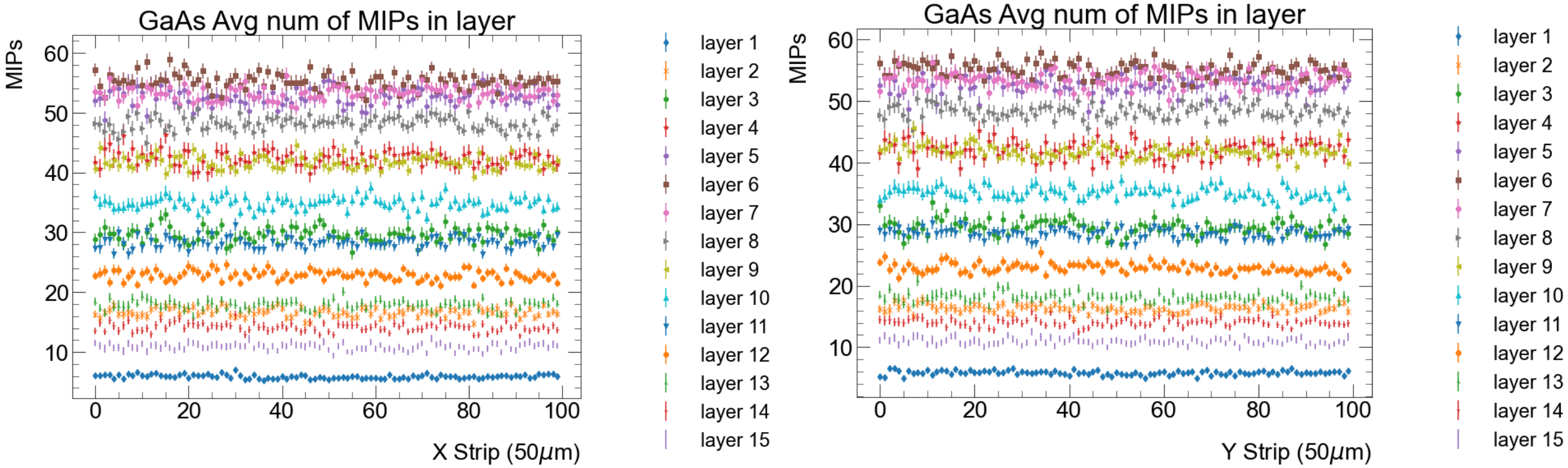
Example of Silicon →



Calorimetry Strips

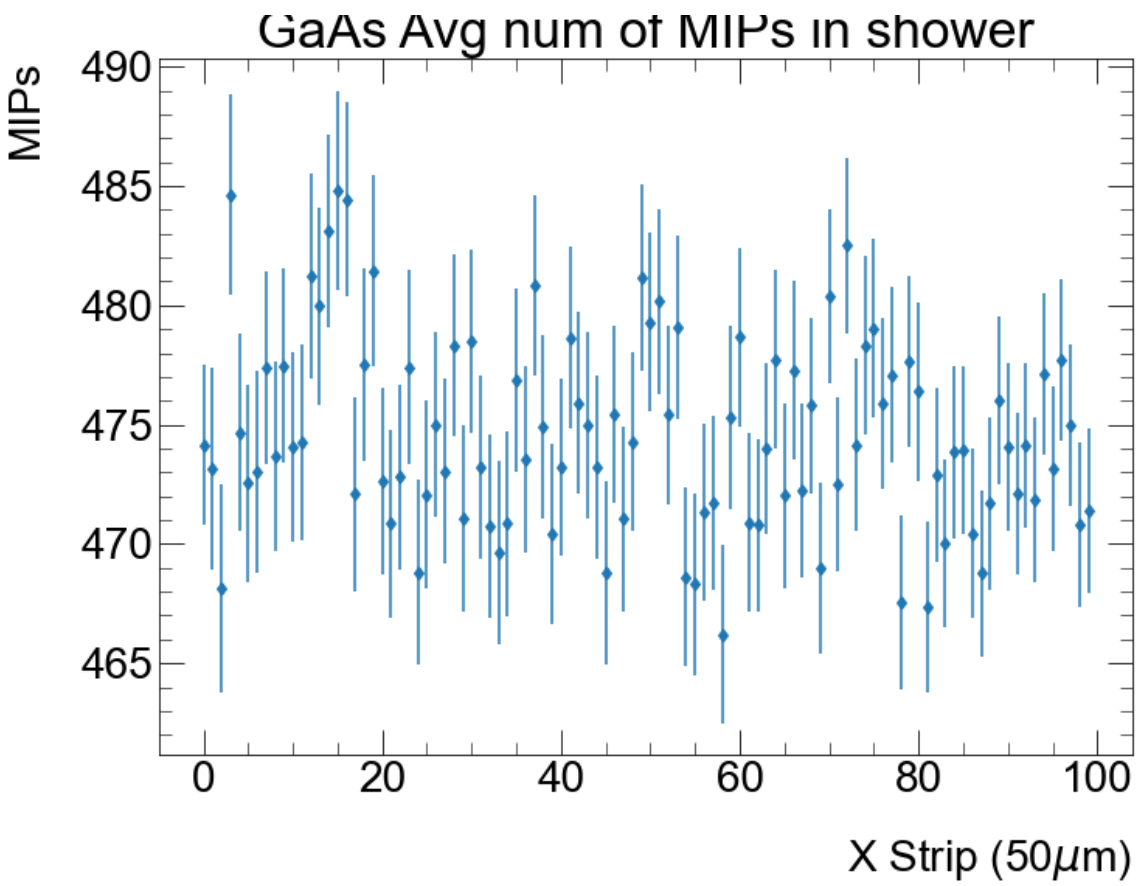
- Filter events based on entry point of the electron
- 100 strips from center of pad to center of next pad
- Sum up depositions in the layer given entry point

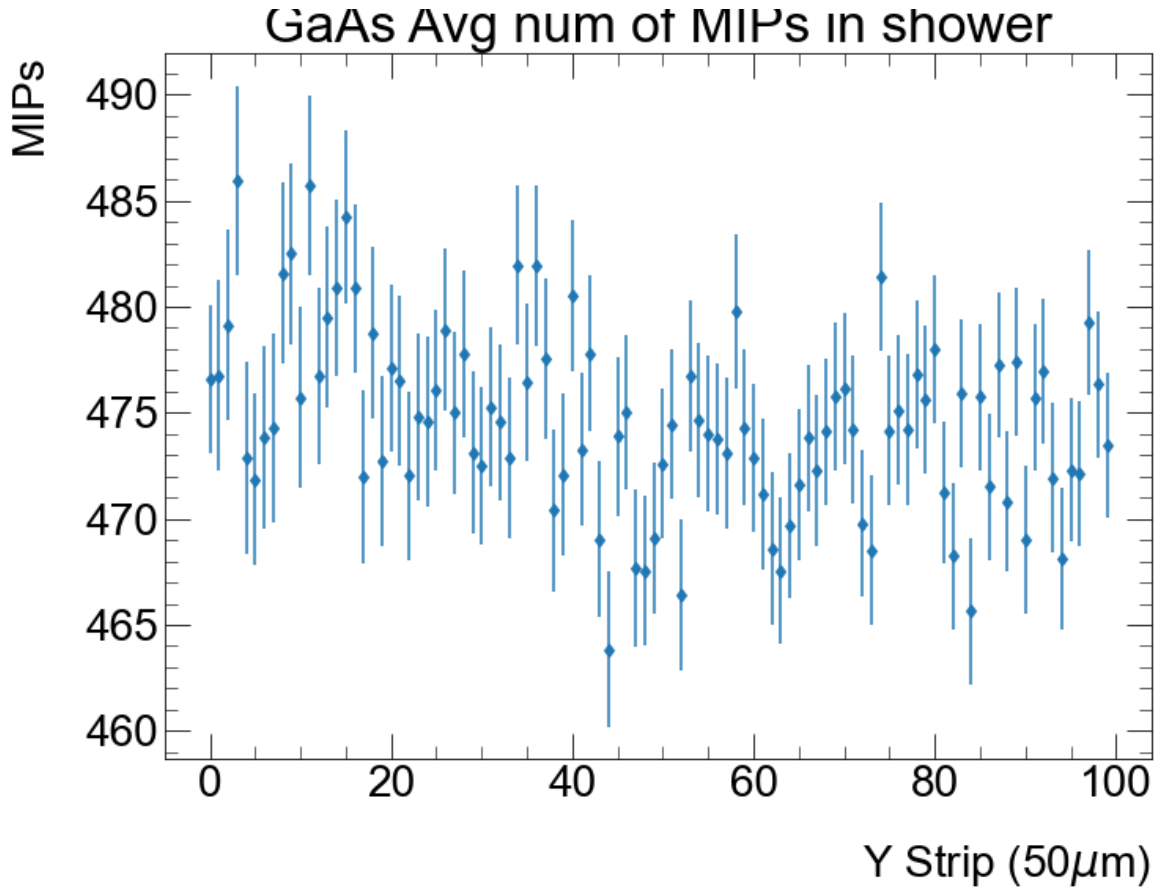
GaAs



Layer by layer per strip

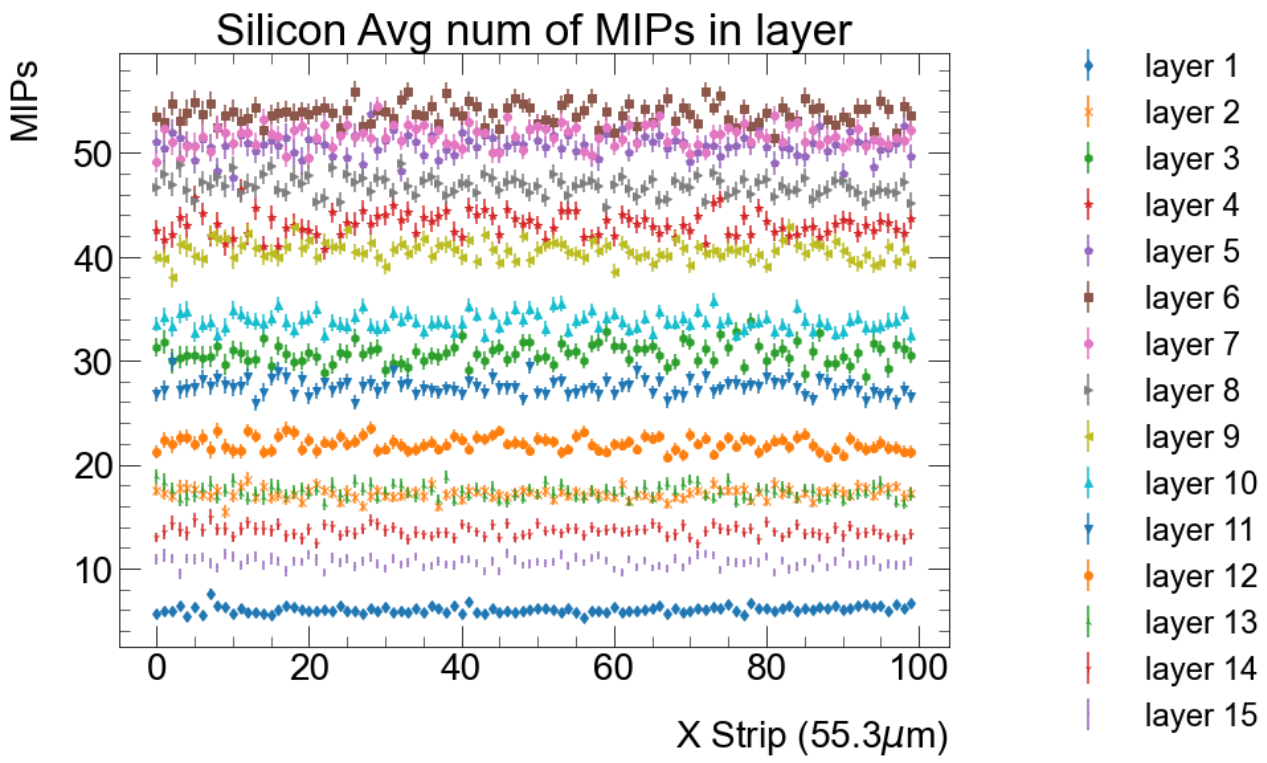
GaAs

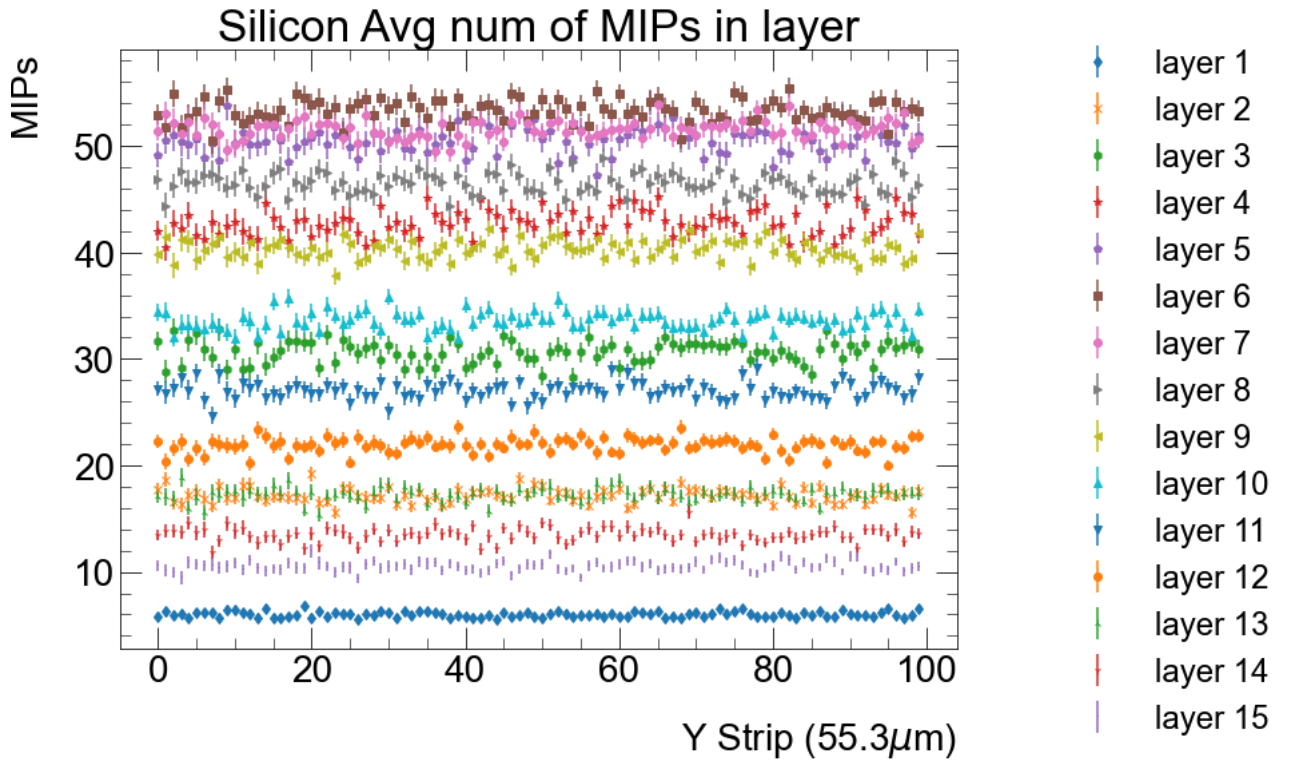




Sum of shower

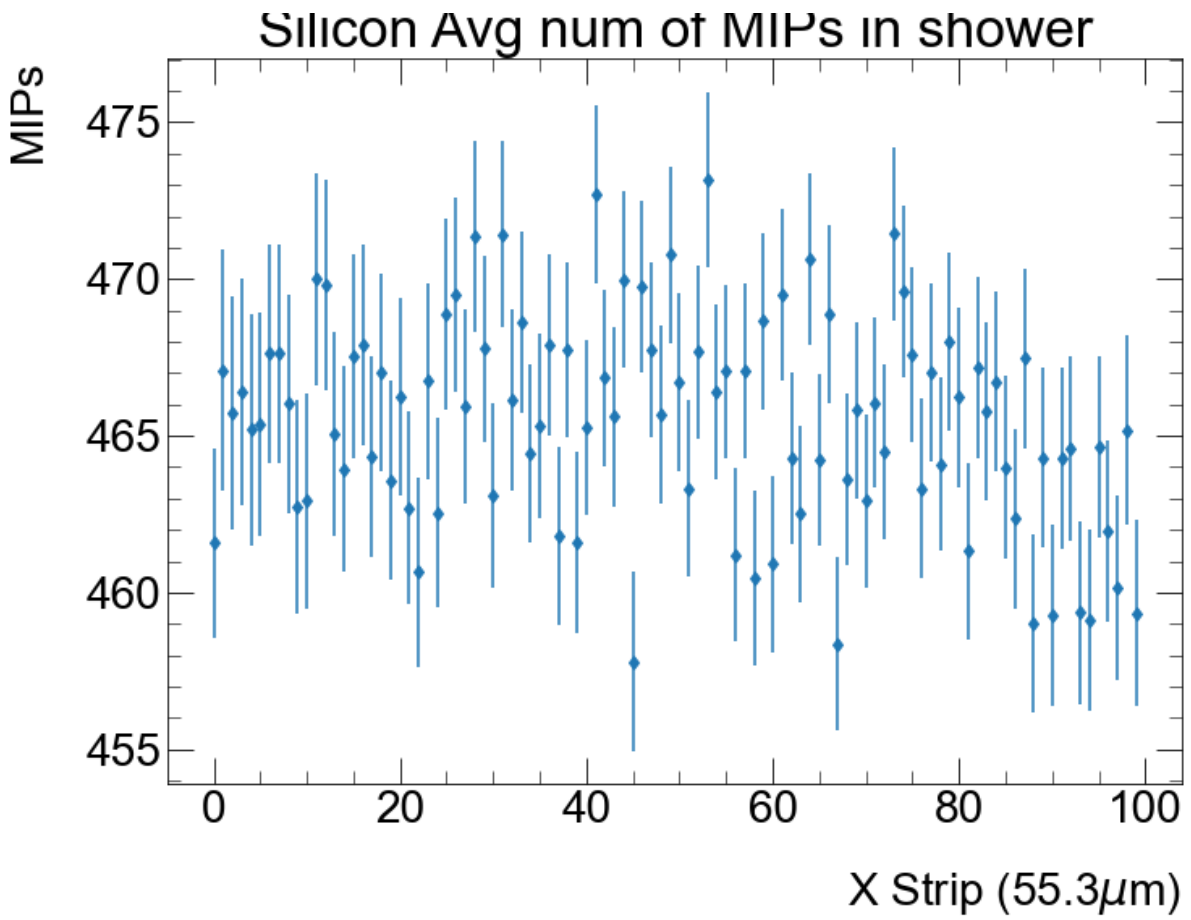
Silicon

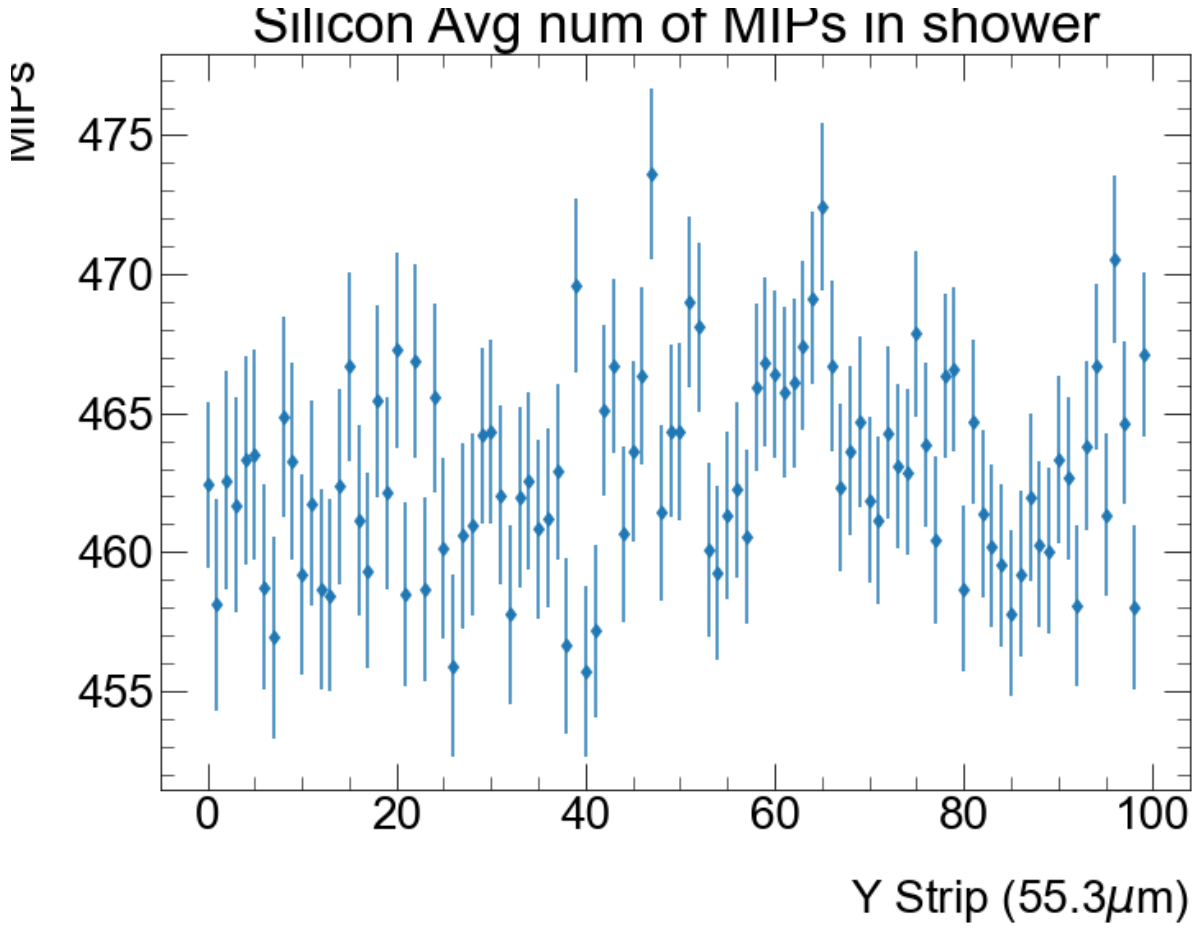




Layer by layer per strip

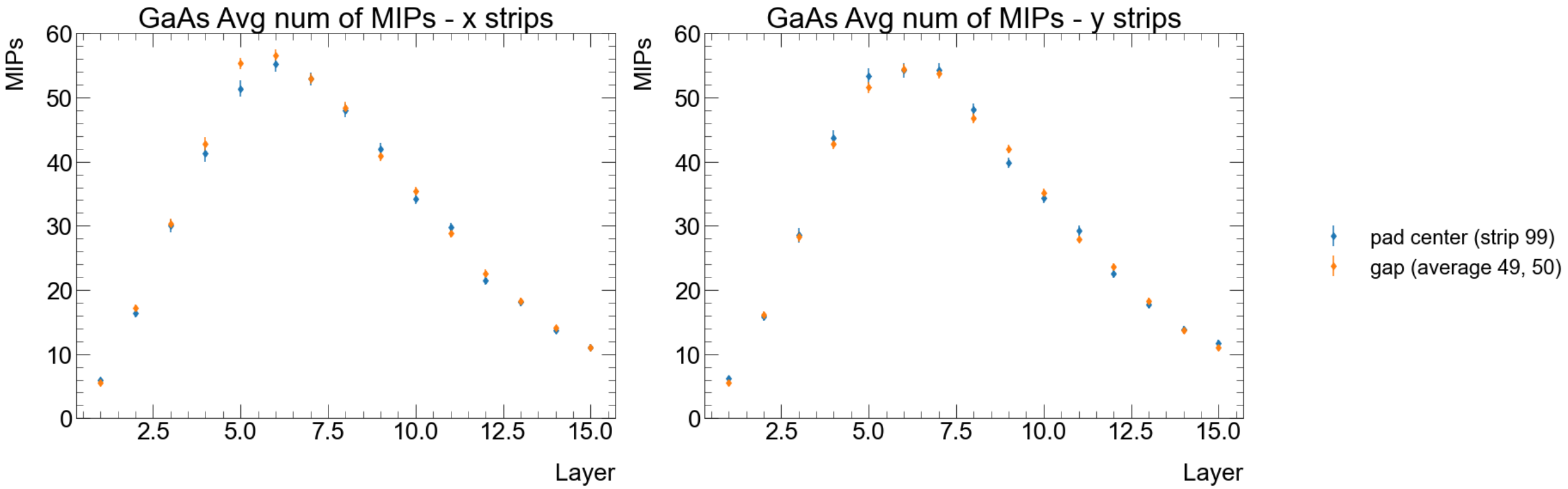
Silicon





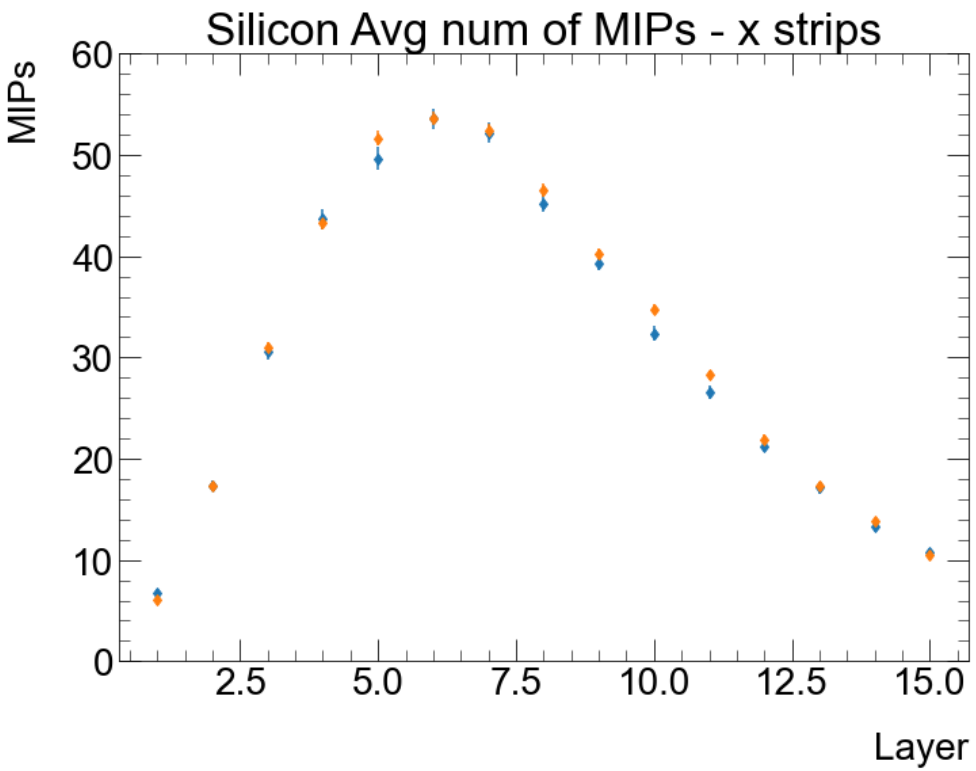
Sum of shower

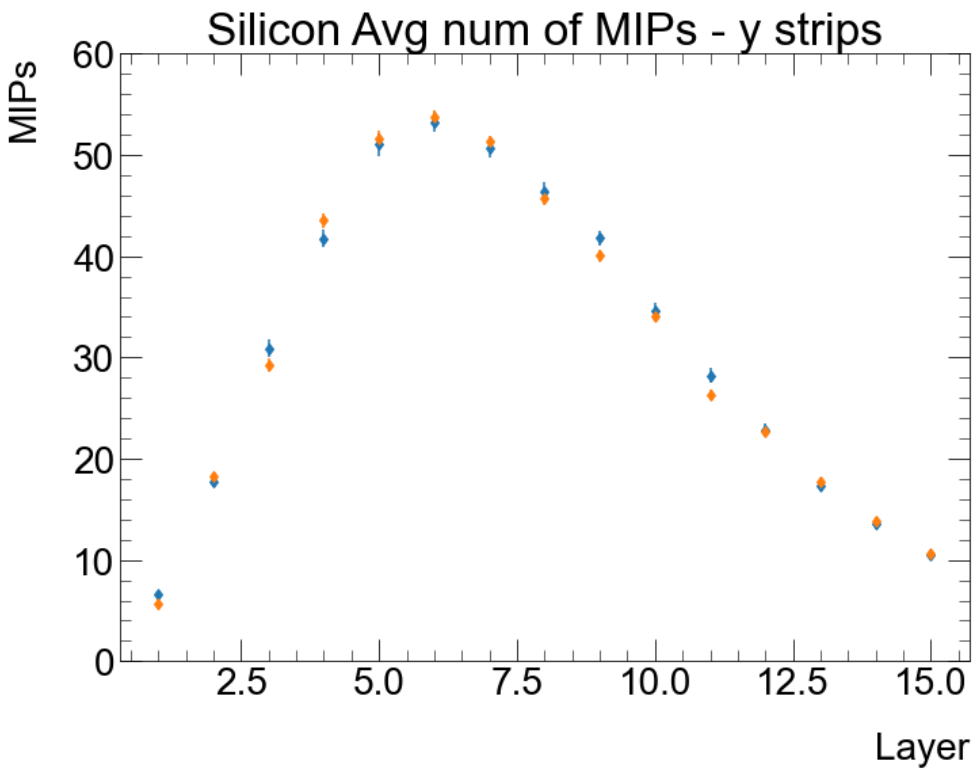
GaAs

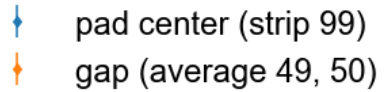


Shower profile **center vs edge**

Silicon

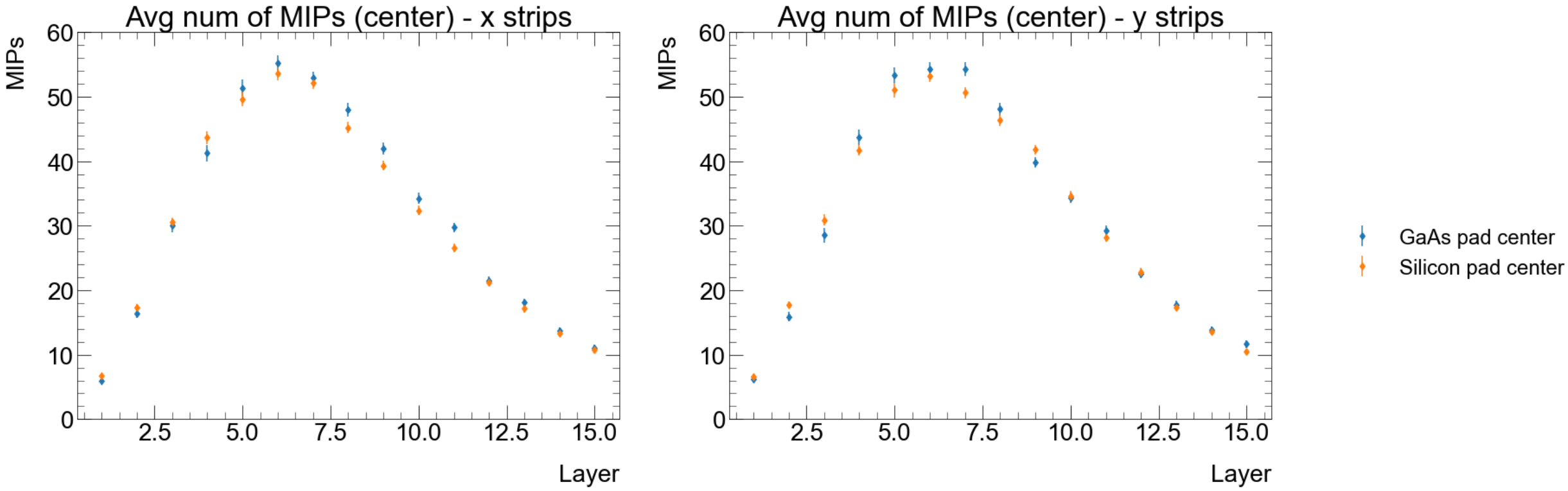






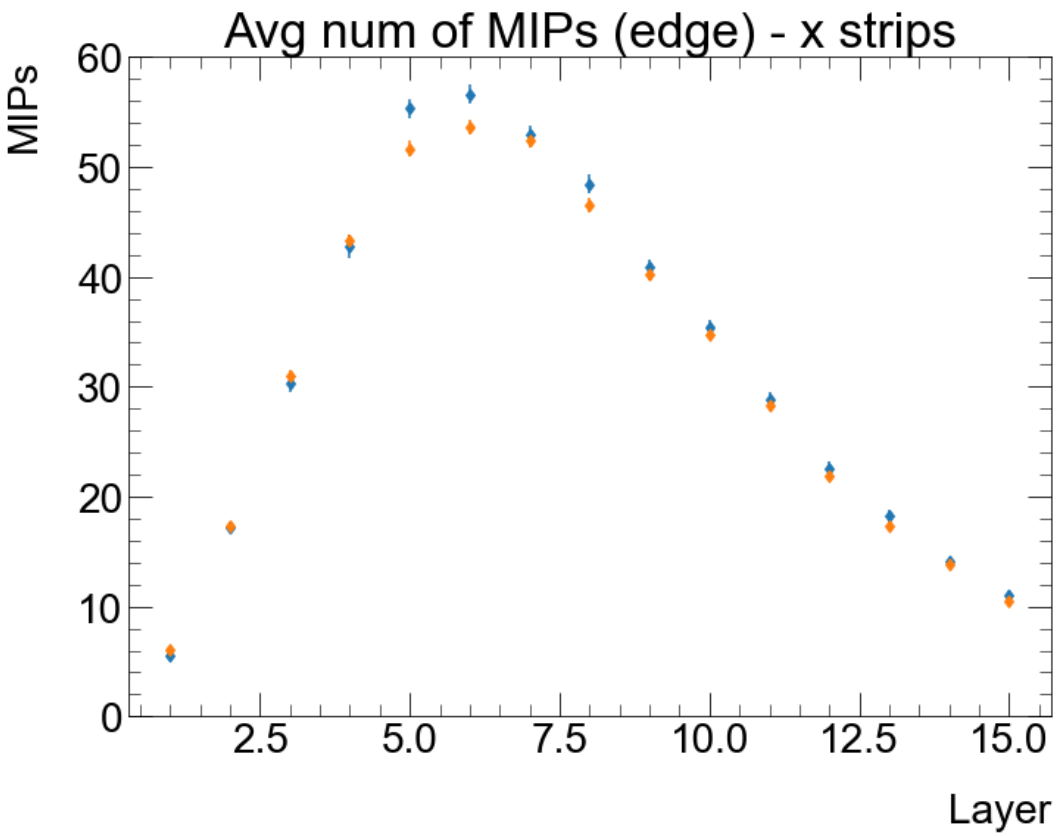
Shower profile **center vs edge**

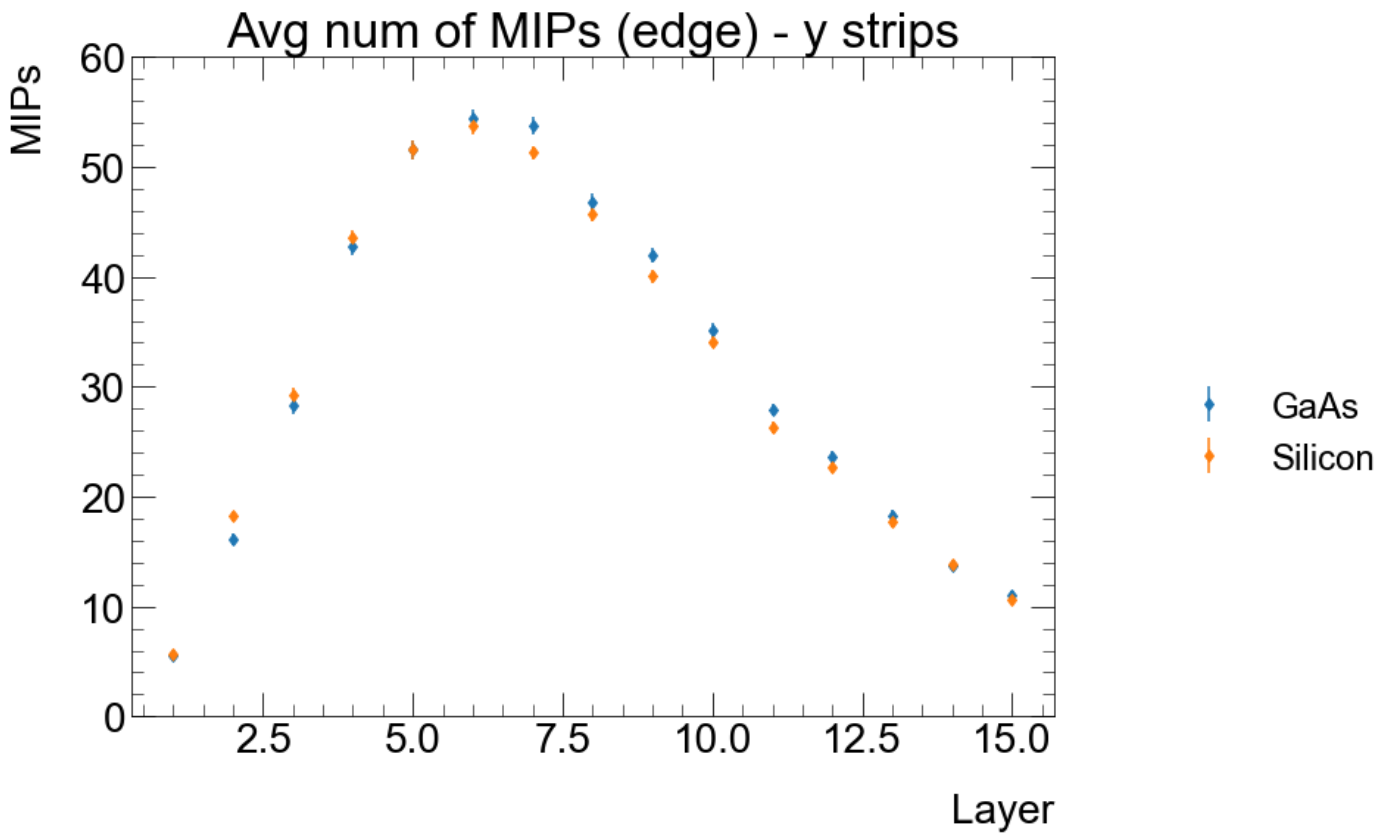
Center of pad



Shower profile **Silicon vs GaAs**

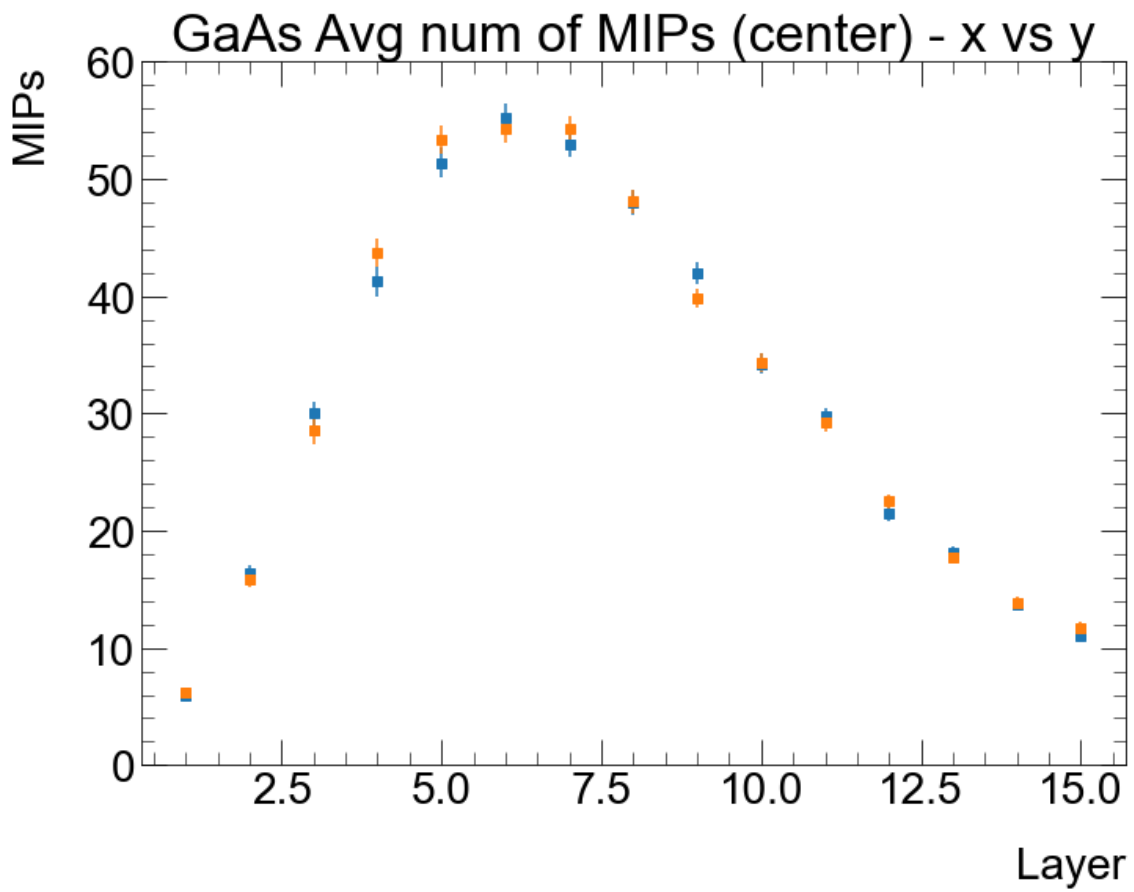
Edge of pad

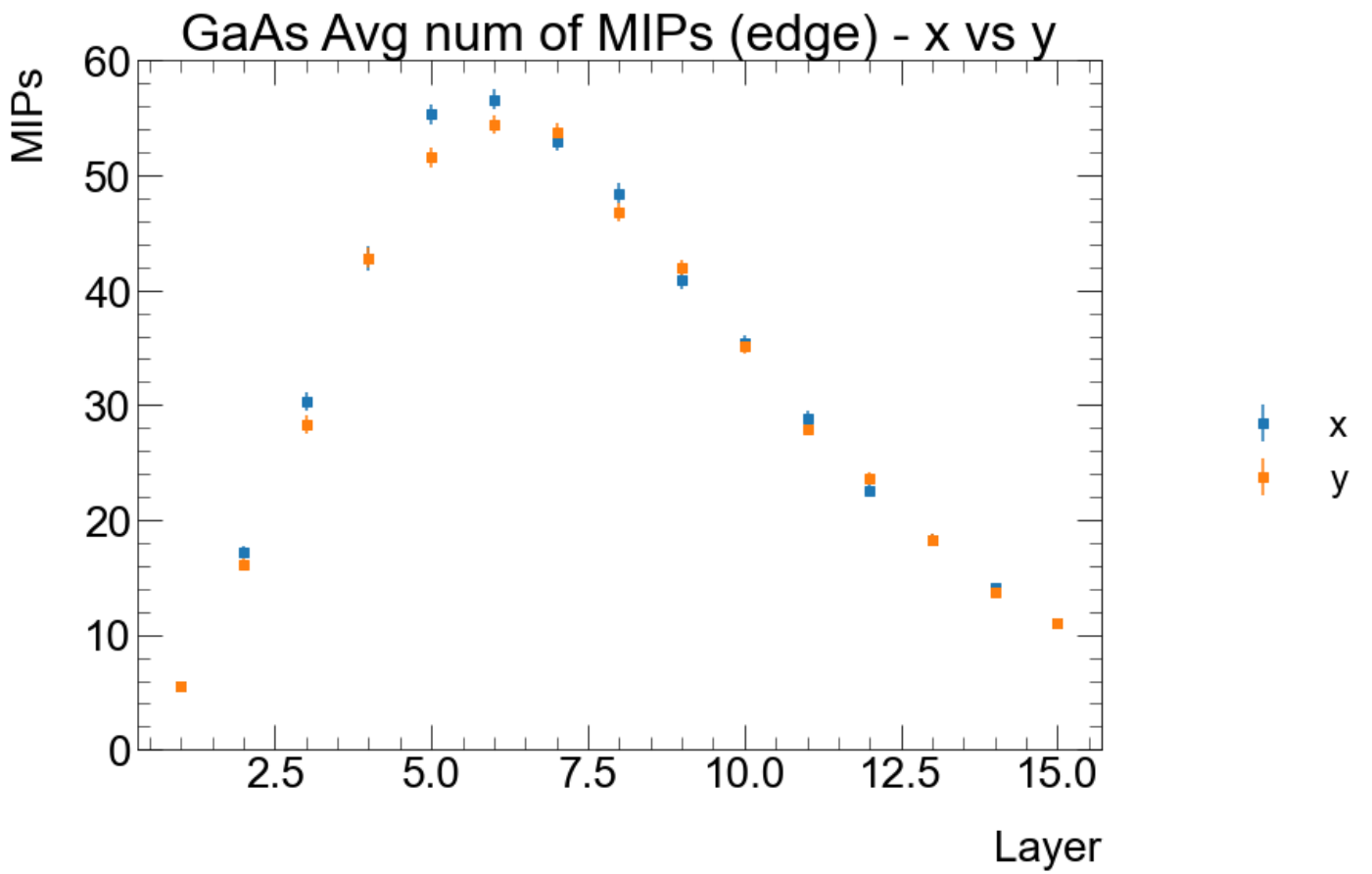




Shower profile **Silicon vs GaAs**

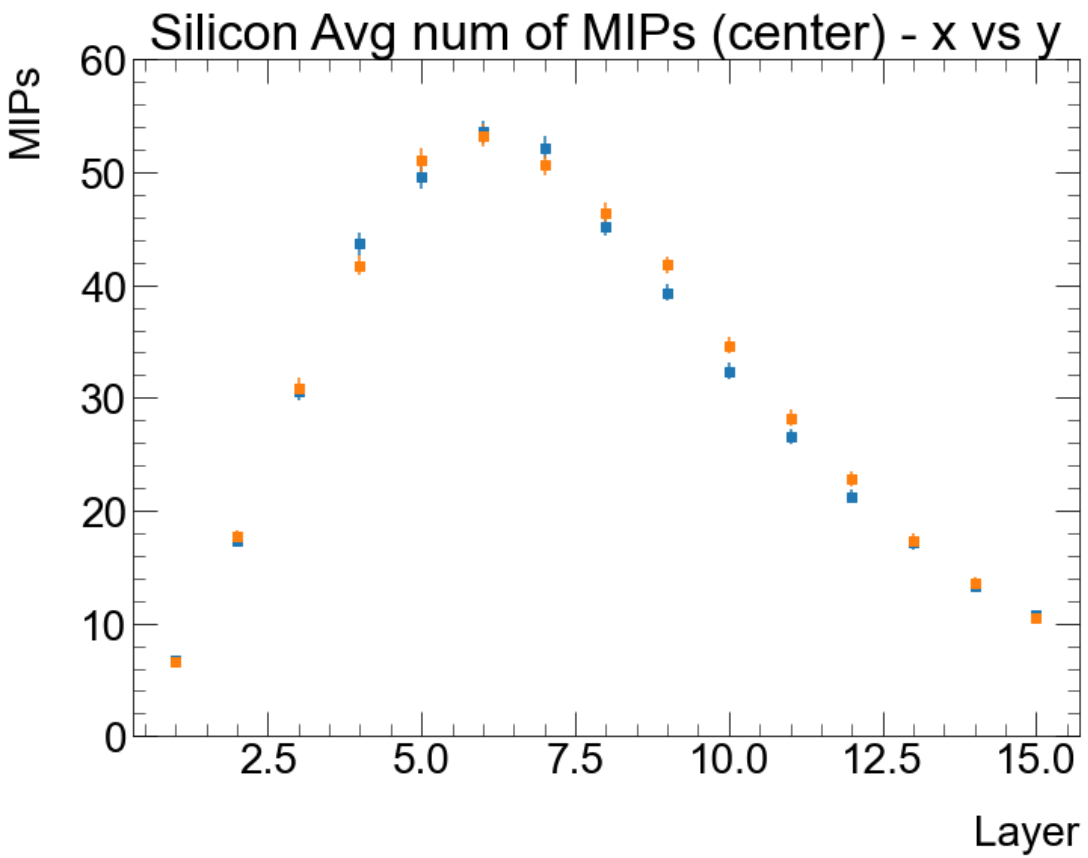
GaAs

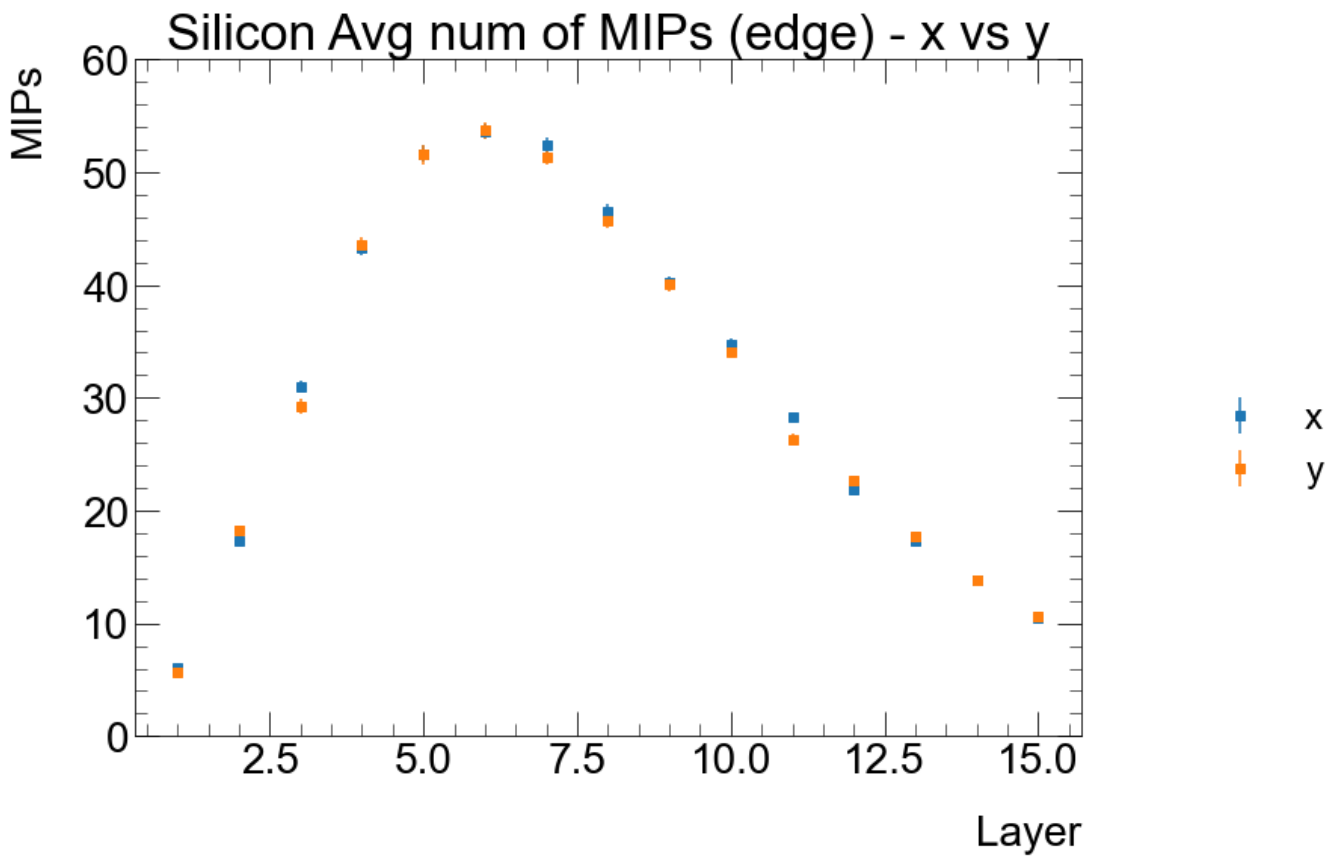




Shower profile **x vs y**

Silicon



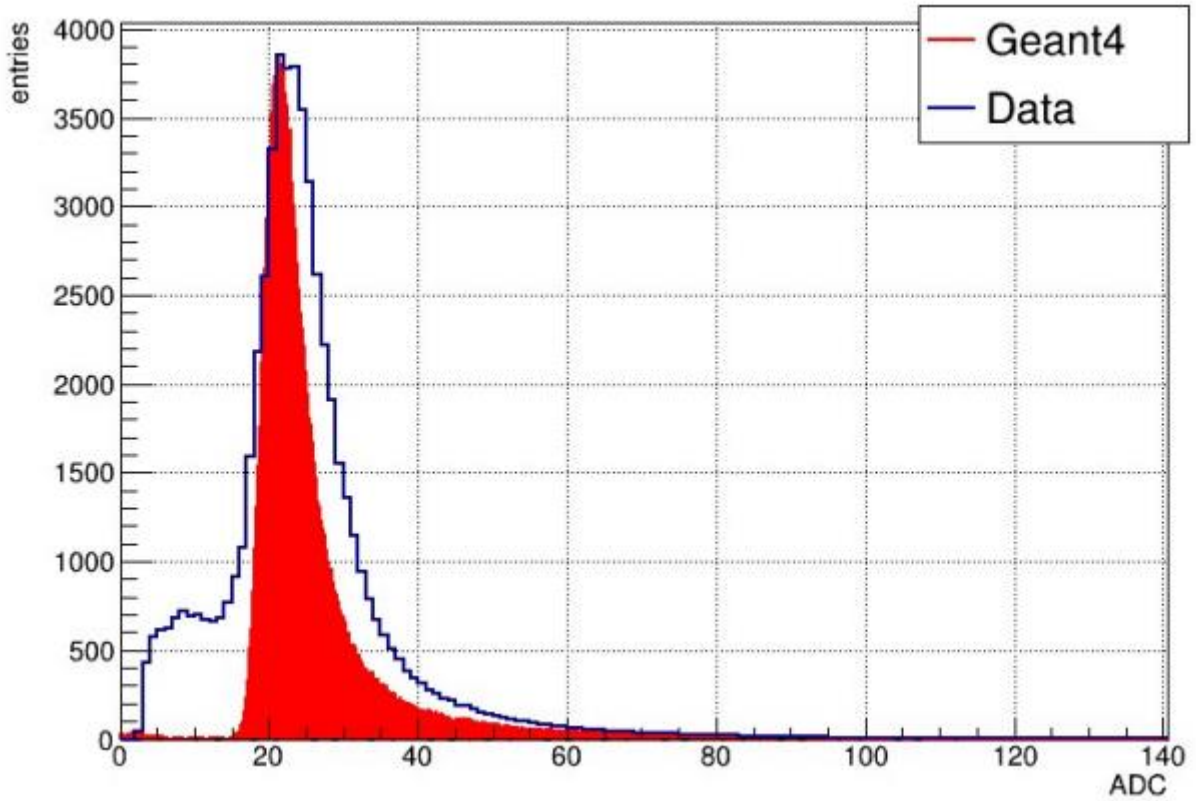


Shower profile **x vs y**

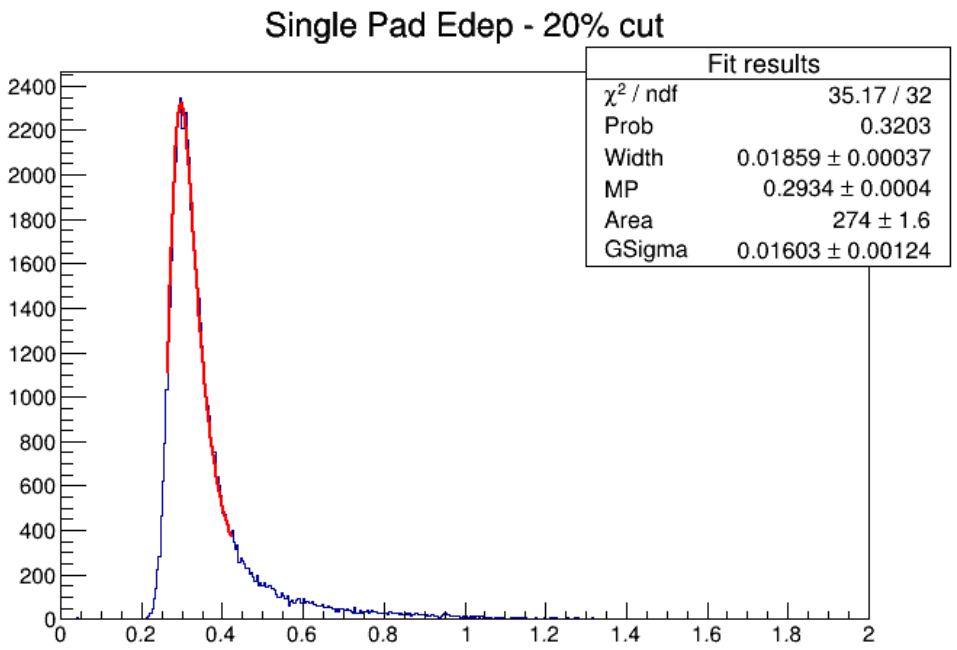
GaAs Simulation

Current issues

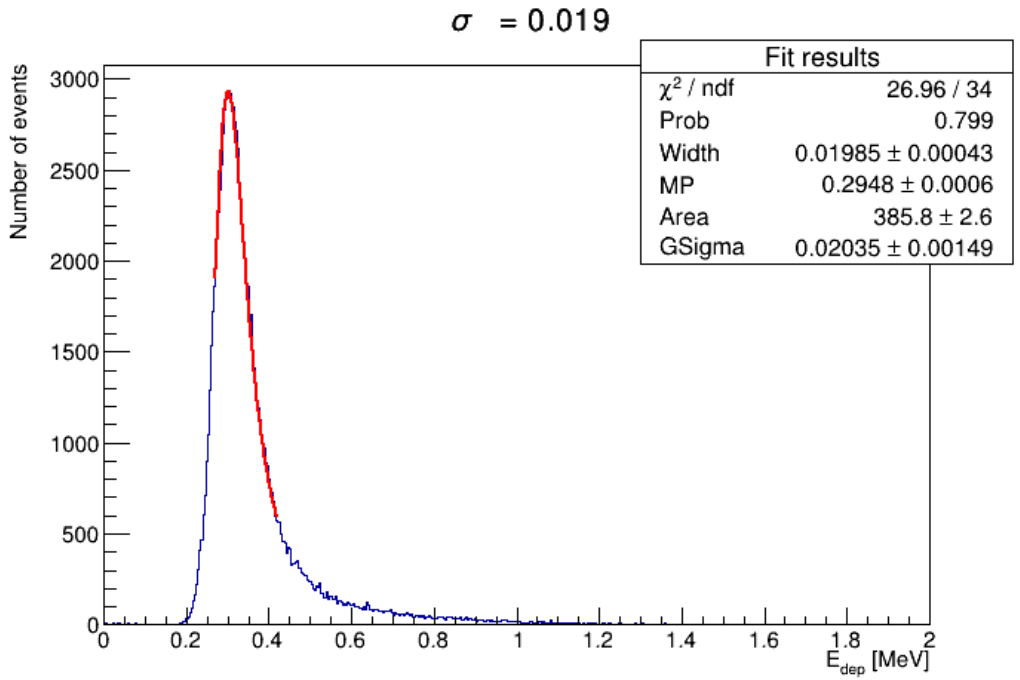
- Noise is not simulated
- Electric field in the gap and charge distribution are not simulated



Adding noise & cutting 20% edge



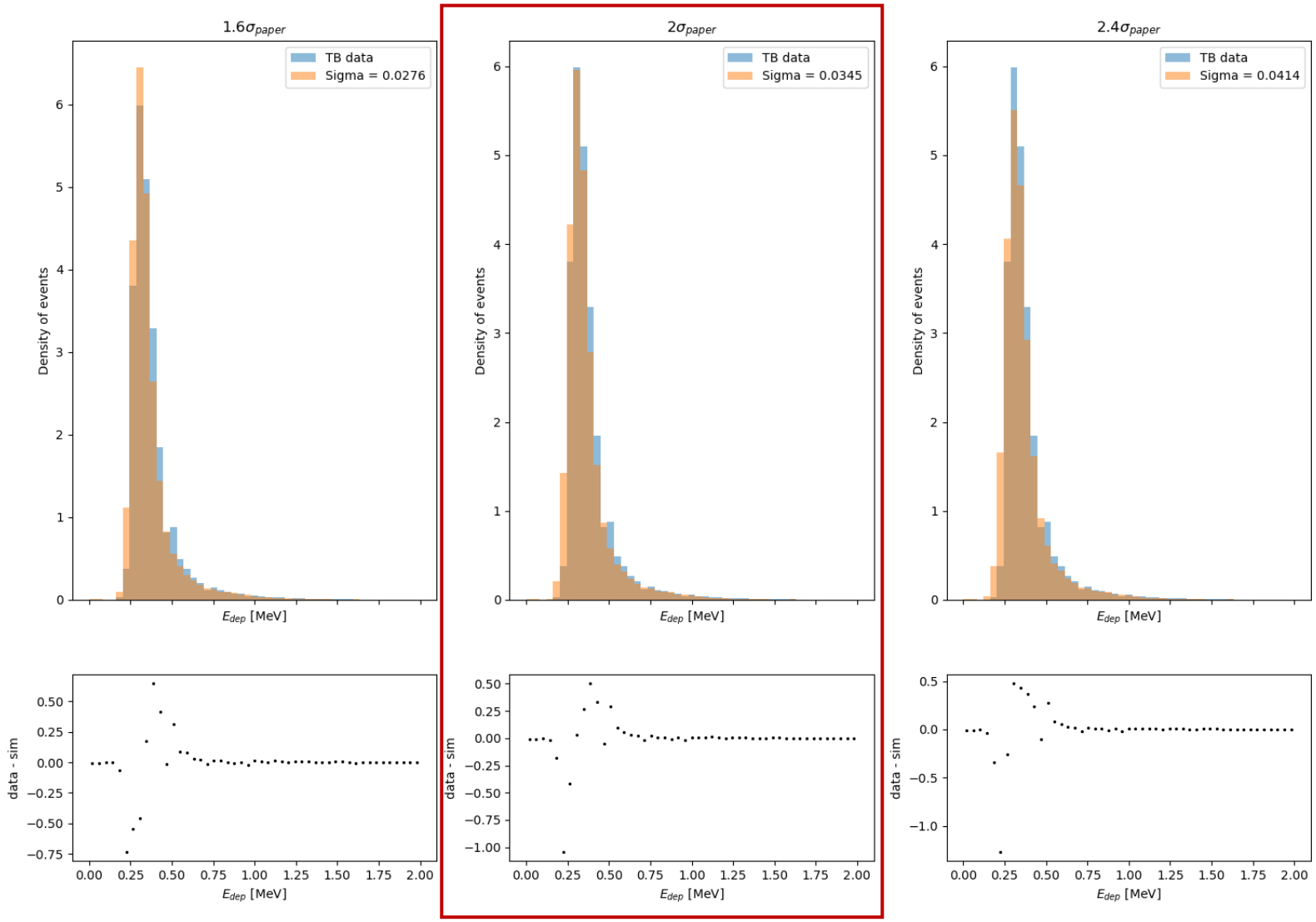
Pure simulation

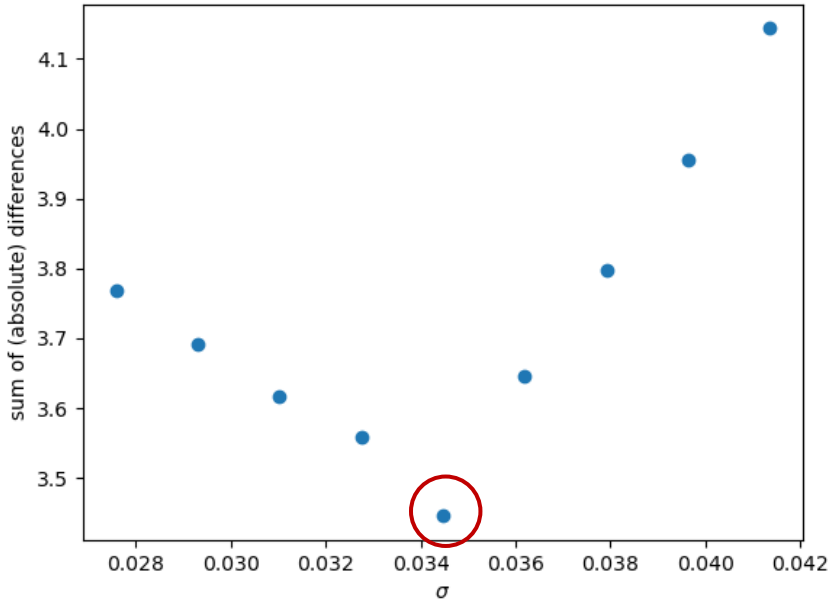


Simulation + Gaussian

- ADC ↔ MeV translated based on MPV fits
- Initial guess for σ based on values from the paper

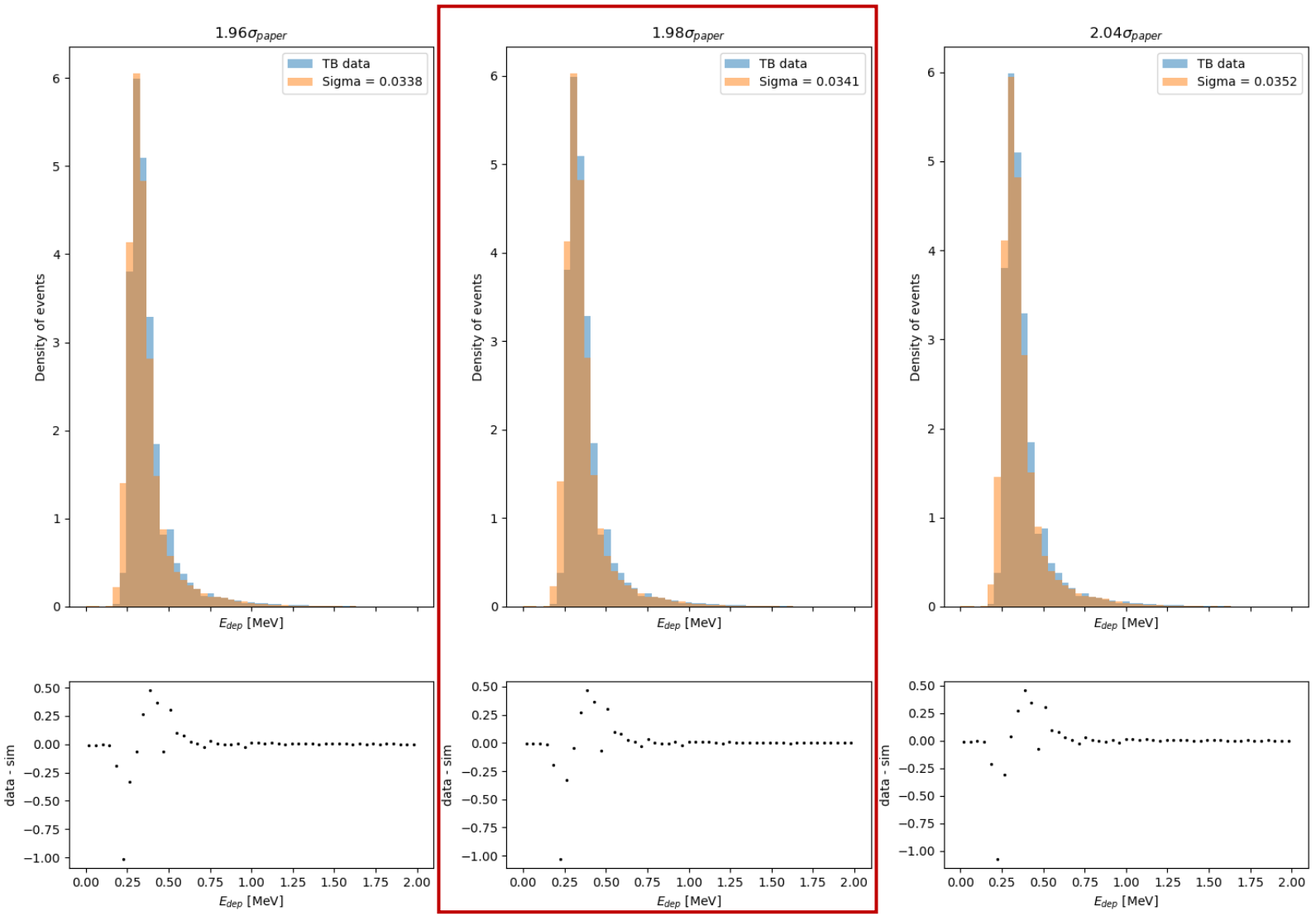
Adding noise & cutting 20% edge

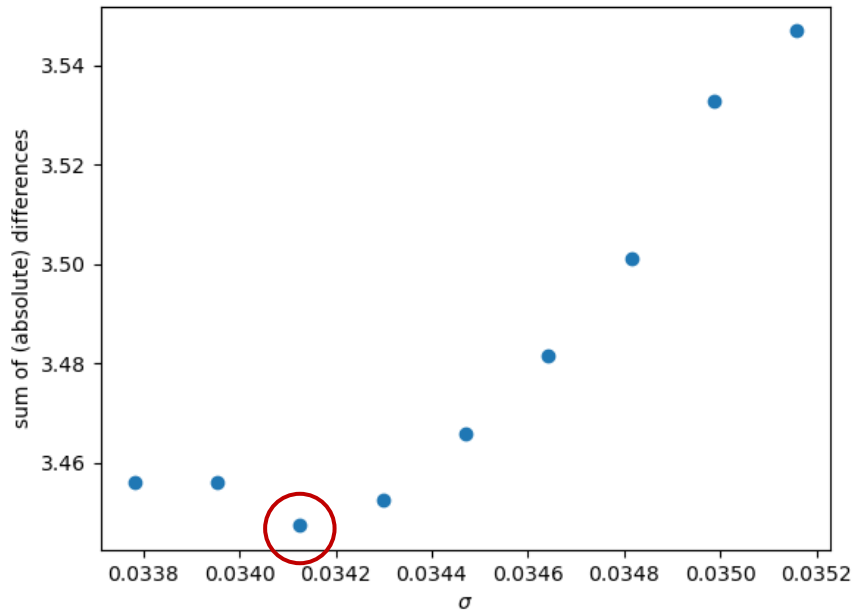




To be tested using log-likelihood

Adding noise & cutting 20% edge





To be tested using log-likelihood

The End

Thanks!