

# 10 TeV Photon Studies – Updates

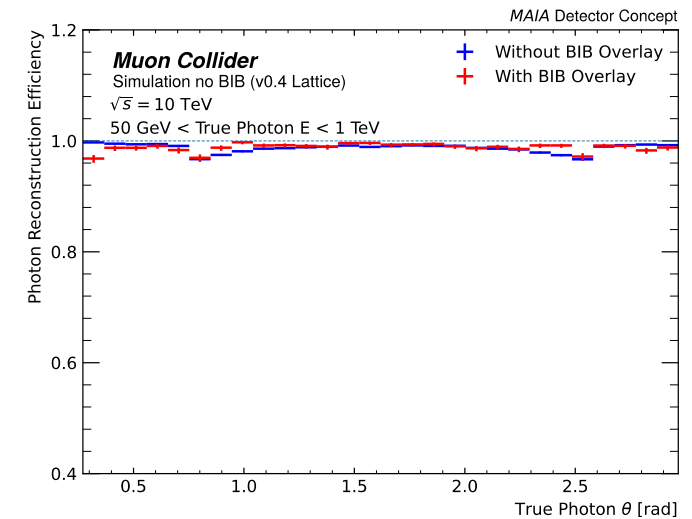
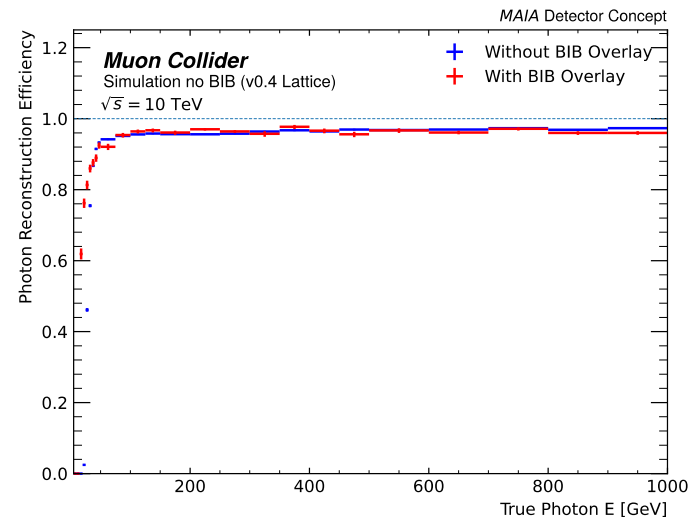
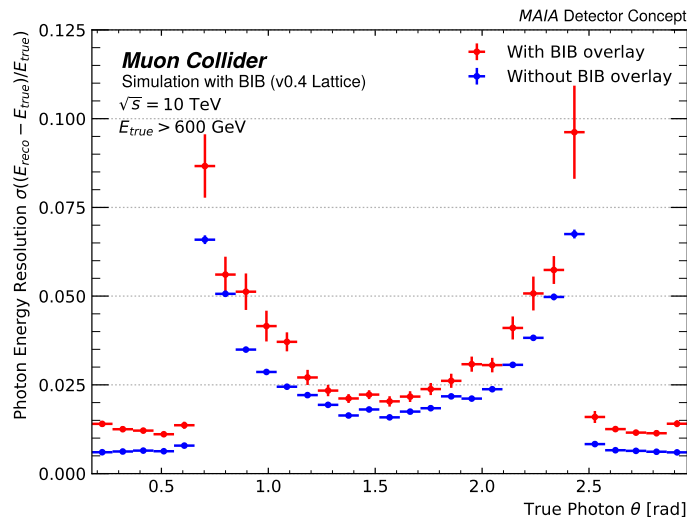
12/11/2024

## Summary:

- Added energy resolution plot in theta
- Added no-BIB curves to efficiency plots
- Fixed binning in calibration and propagated through resolution studies

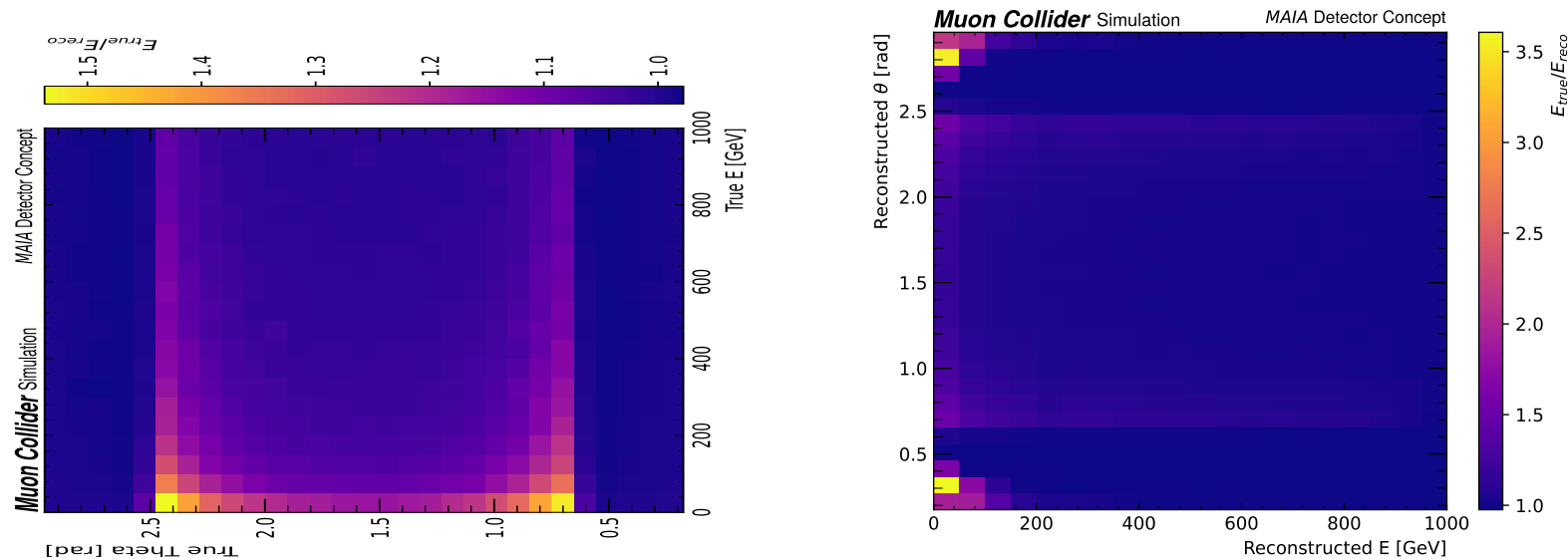
# New Additions – Theta E-Reso, no-BIB Efficiencies

- The theta binning for energy resolution helps to drive home our point about the solenoid geometry
- Efficiency (in the plateau) does NOT degrade significantly with addition of BIB, which is nice to show

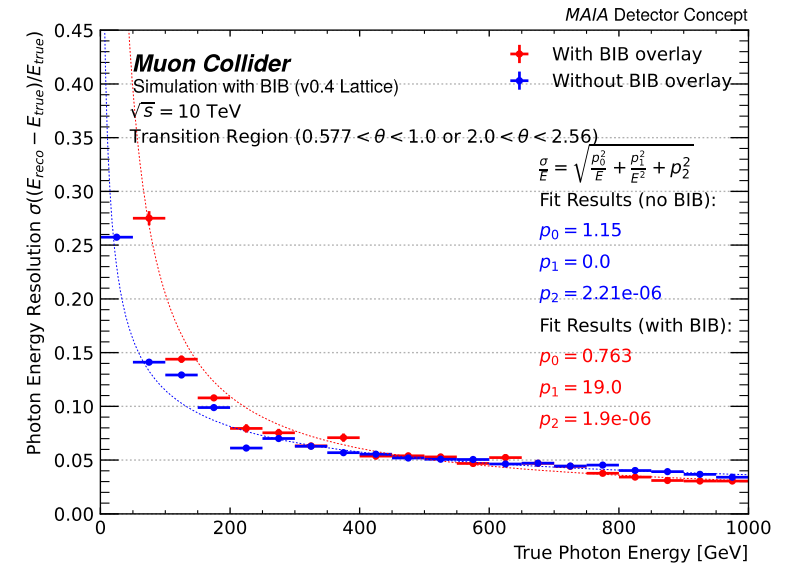
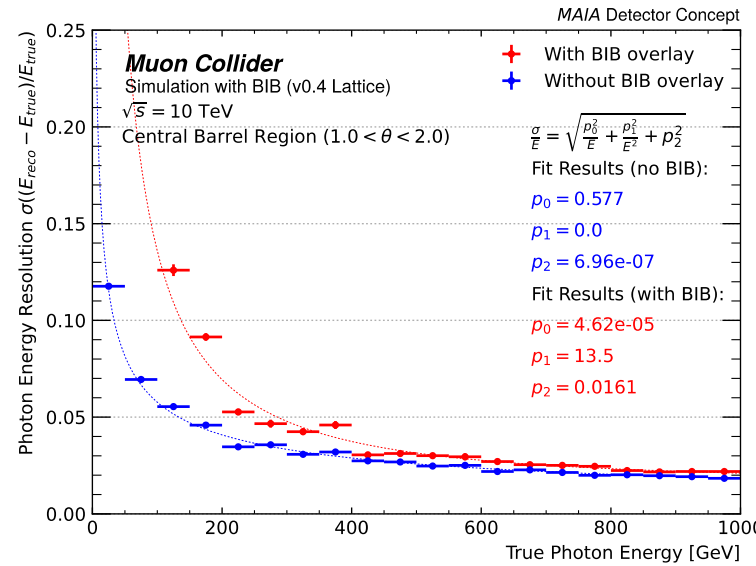
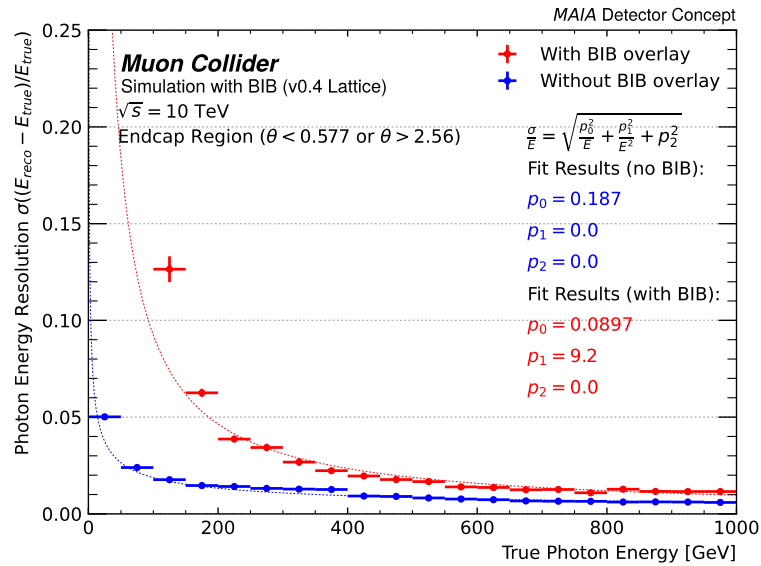


# Calibration Binning – from truth info to reco

- Tova brought to my attention that the calibration matrix needs to be binned in *reconstructed* energy and theta, not true E,  $\theta$
- Regenerated the calibration response accordingly, propagated through to the resolution
- In my opinion the new response plot (the one actually used to calibrate) is not as illuminating as the truth-response plot we show in the paper currently... what do we want to include?



# Newly Calibrated Resolution Plots



# Photon studies—what's left

- Currently still have to update the theta-binned energy resolution plot with the new calibration
- Decision re which 2D response to include
- Finalize section text (have begun working with Tova on this)
- Warning: my bandwidth decreases exponentially next week and will remain that way until January 10, so if we have more to do re photons, I need to do it within the next few days!!