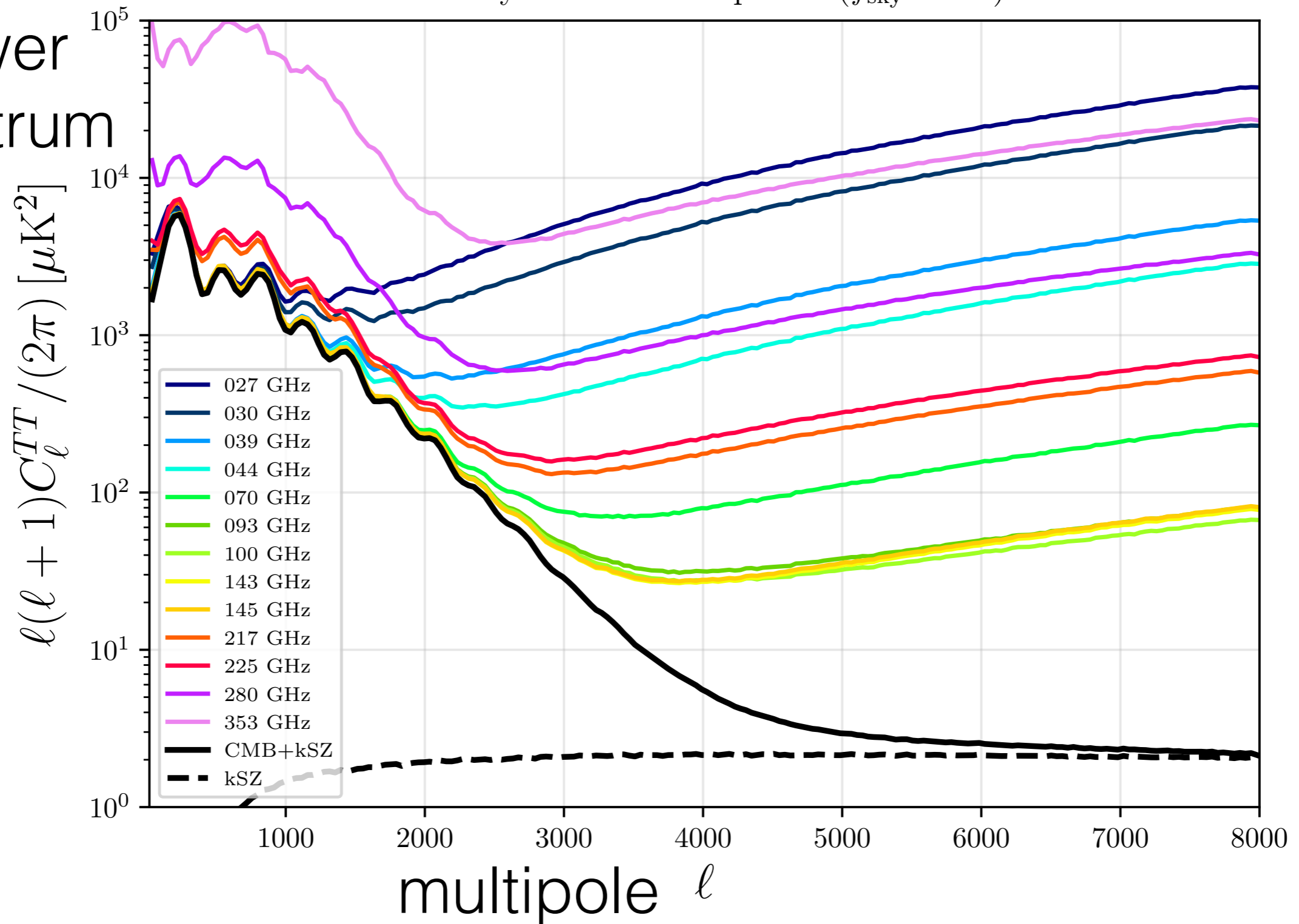


CIB cleaning requirements for tSZ/kSZ Colin Hill IAS/CCA

Power spectra (all S4 and Planck frequencies < 353 GHz)

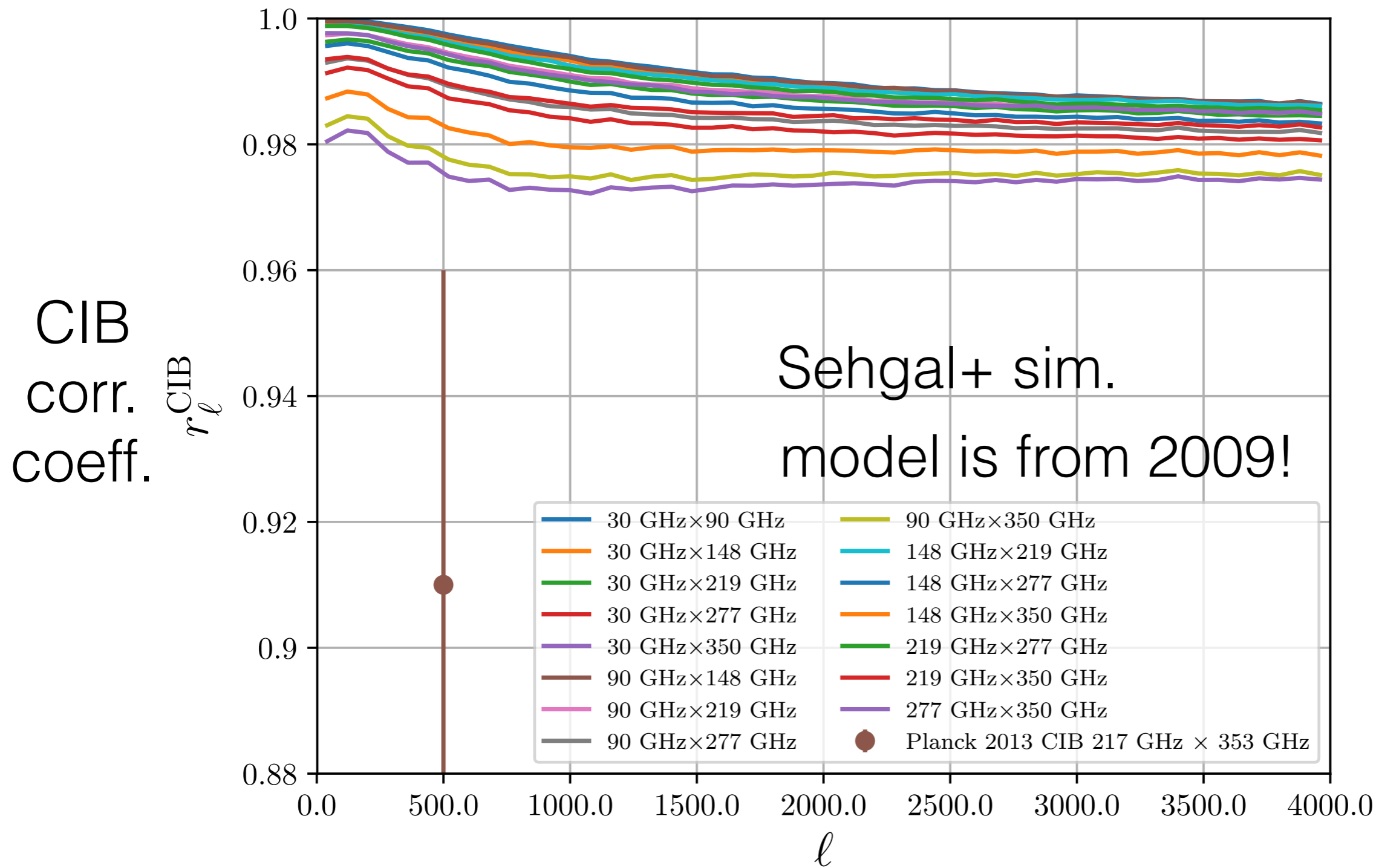
TT
power
spectrum

TT Sky Auto-Power Spectra ($f_{\text{sky}} = 0.4$)

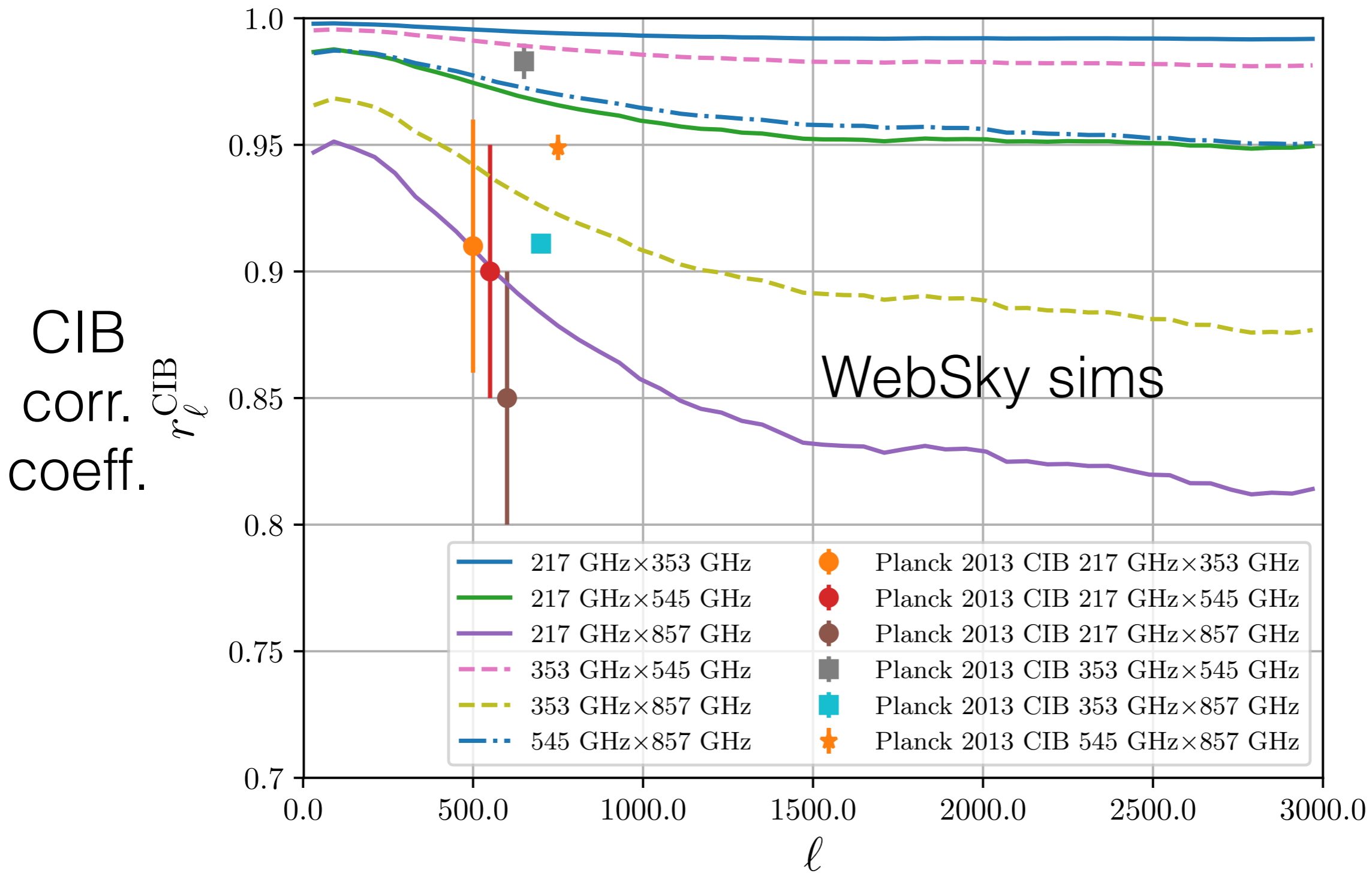


CIB cleaning requirements for tSZ/kSZ Colin Hill Columbia

CIB decorrelation may ultimately limit high- ℓ tSZ/kSZ component separation



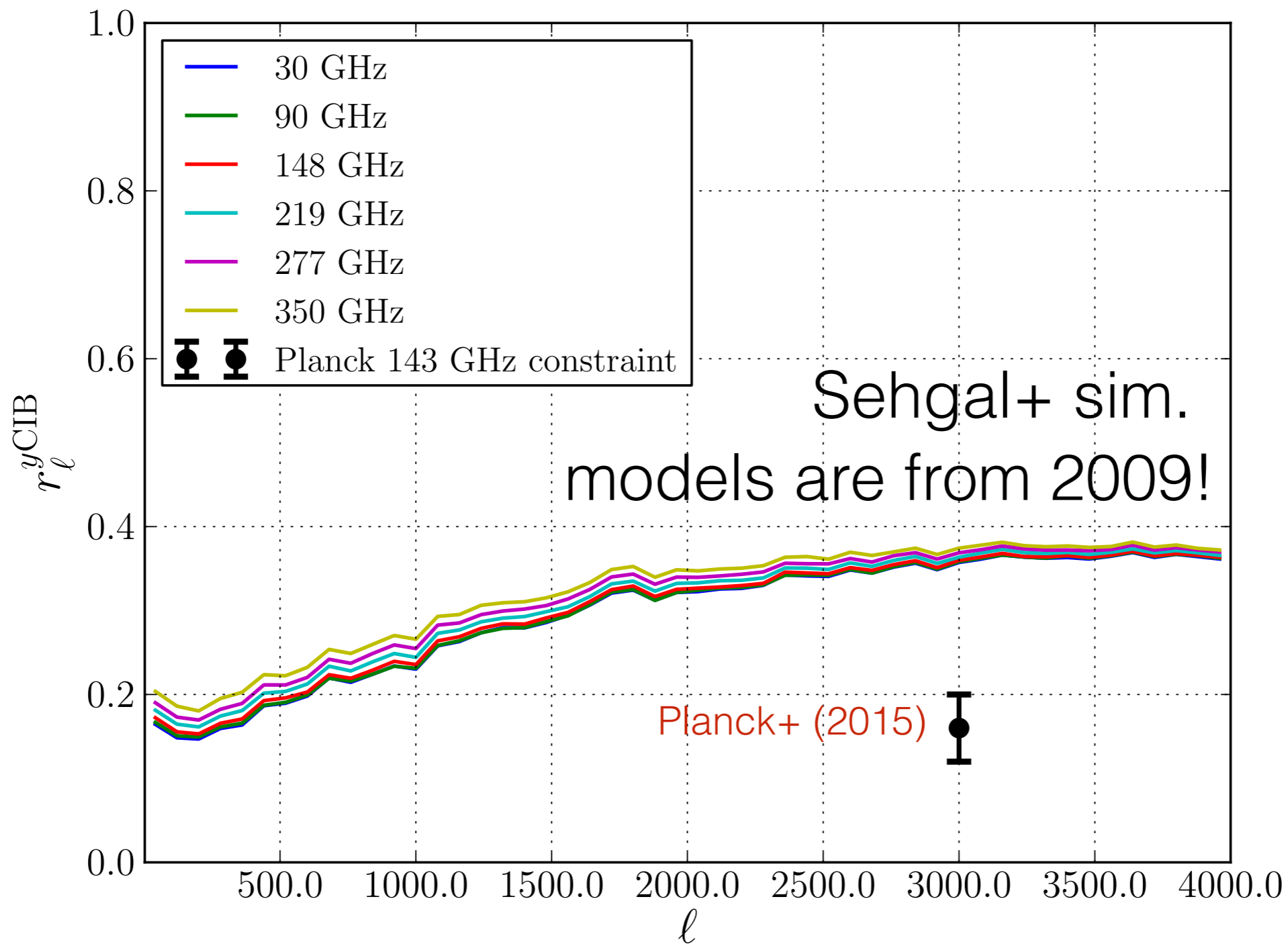
CIB decorrelation may ultimately limit high- ℓ tSZ/kSZ component separation



CIB cleaning requirements for tSZ/kSZ Colin Hill Columbia

Need simulations that capture all of these correlations in order
to reliably forecast + validate pipelines

tSZ x
CIB
corr.
coeff.



CIB cleaning requirements for tSZ/kSZ

Colin Hill
Columbia

- In forecasts thus far, effects of CIB decorrelation, tSZ-CIB correlation, etc have been propagated through to effective post-component-separation noise curves; CIB power was also included in cluster count forecasts
- We have not looked at end-to-end calculations on simulated sky maps to see how CIB residuals bias our measurements (cluster-finding, tSZ/kSZ cross-correlations)
- We probably cannot iterate this rapidly enough for a formal optimization, but we can verify robustness, or find that a design change is needed (e.g., more 220/270 GHz tubes)