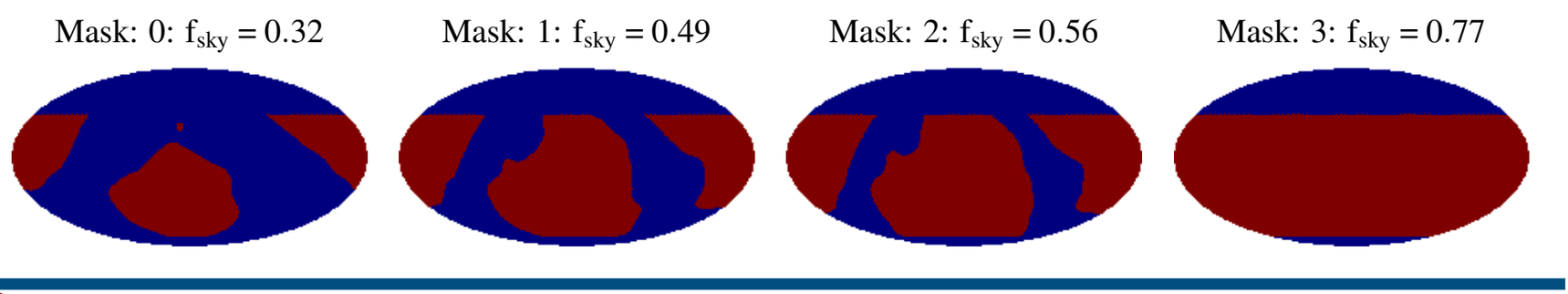
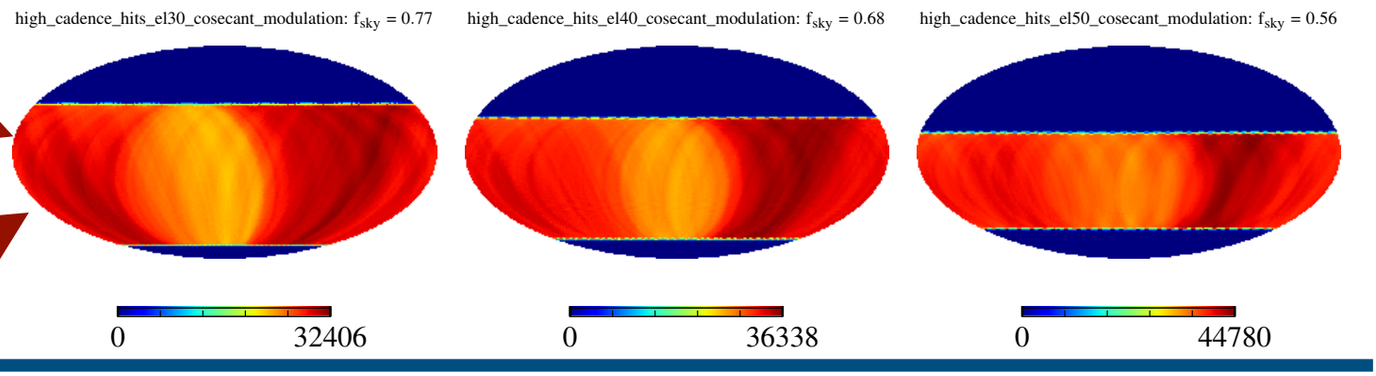
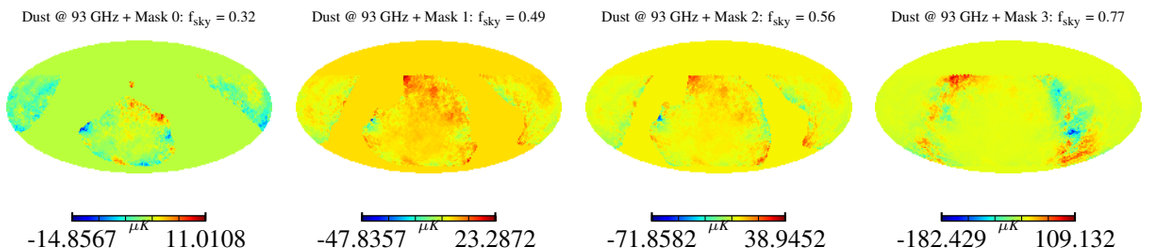
(Modified) Planck galaxy mask: CMB-S4 el30 footprint



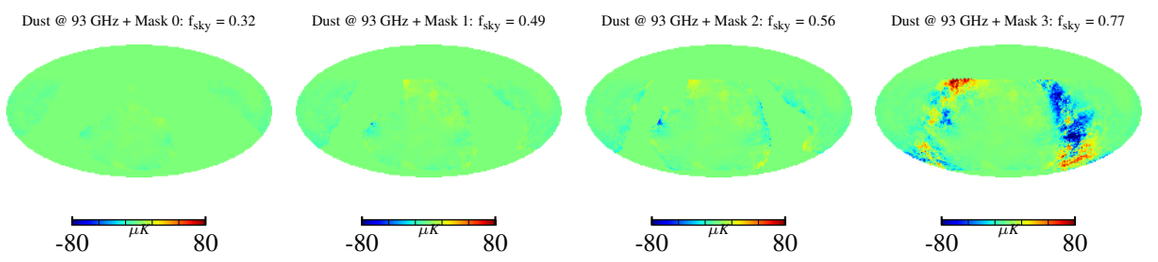
CMB-S4 high cadence cos mod footprints



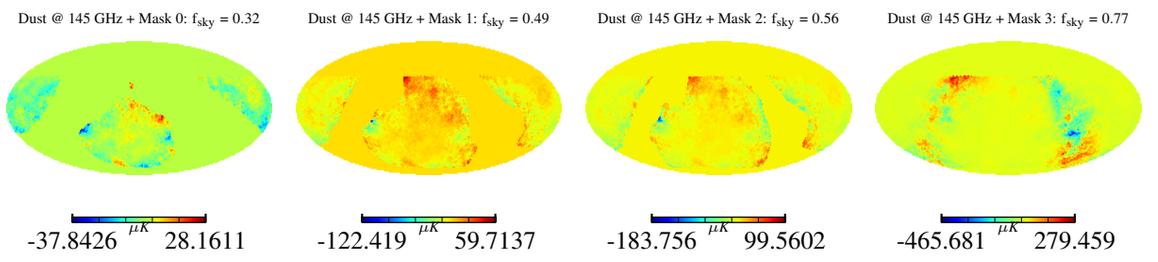
Dust @ 93 GHz x modified Planck mask



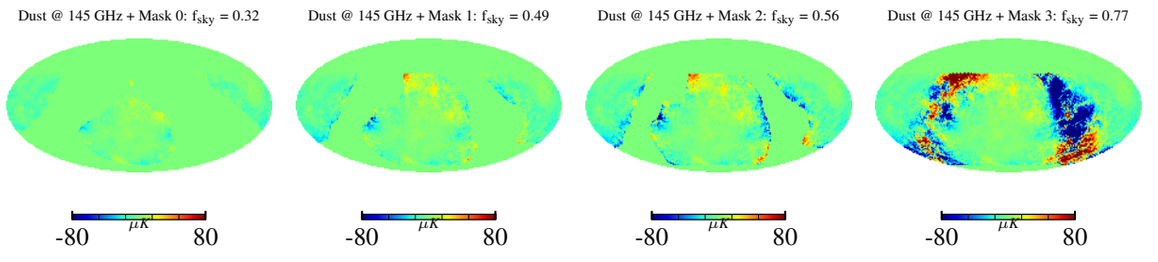
Fixed colour scale: ± 80 μK



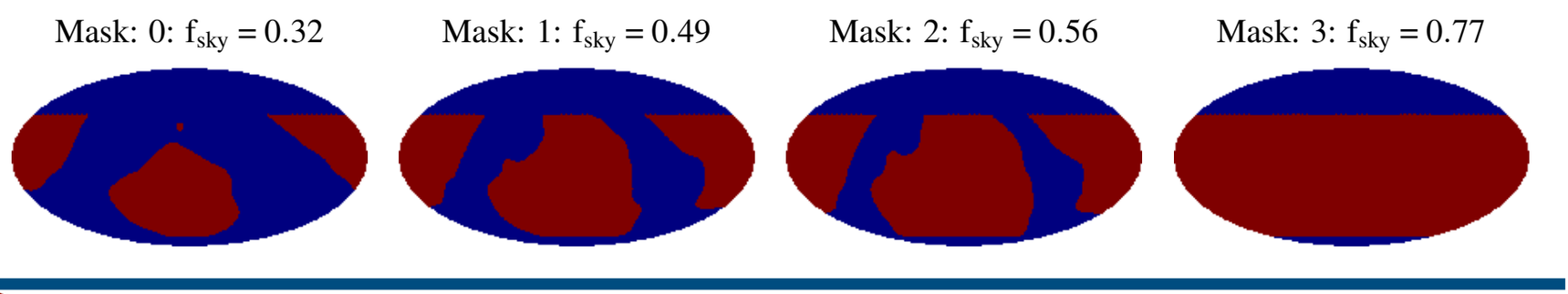
Dust @ 143 GHz x modified Planck mask



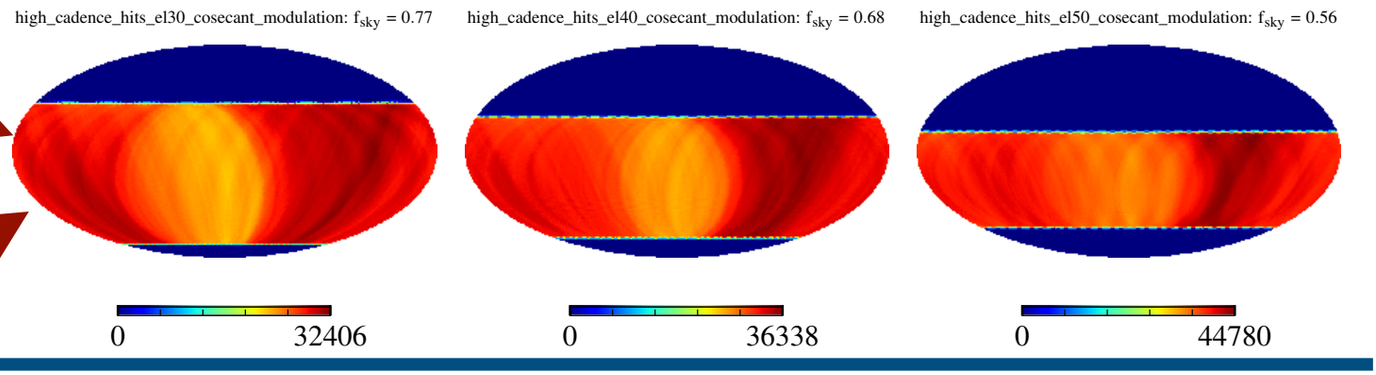
Fixed colour scale: ± 80 μK



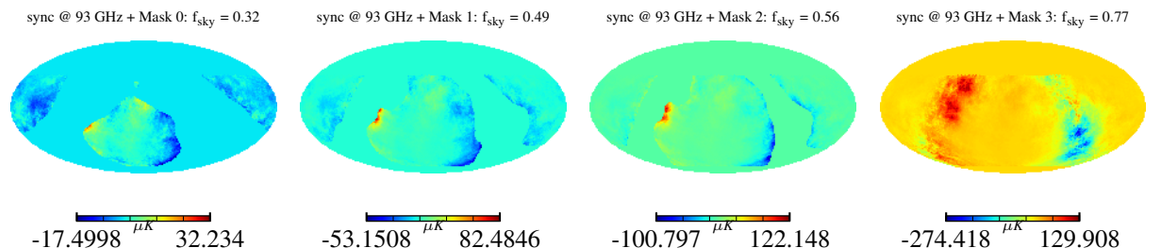
(Modified) Planck galaxy mask: CMB-S4 el30 footprint



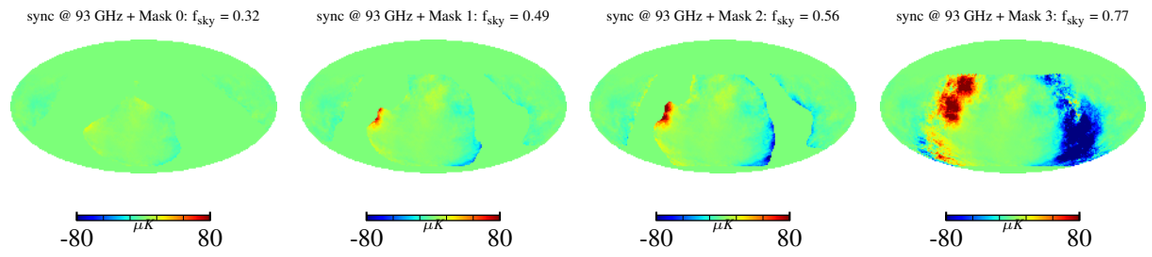
CMB-S4 high cadence cos mod footprints



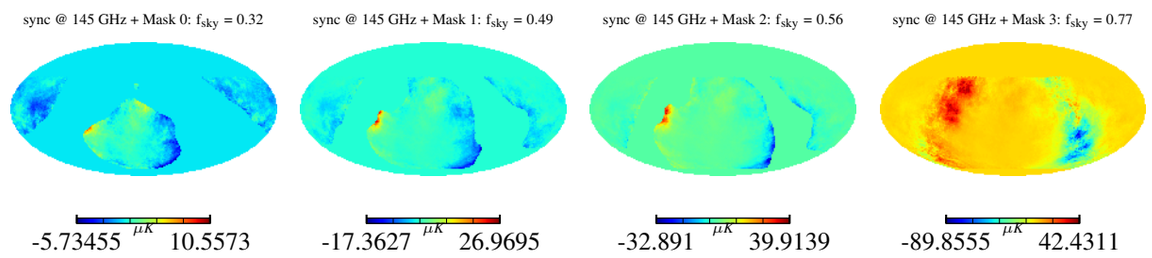
Sync @ 93 GHz x modified Planck mask



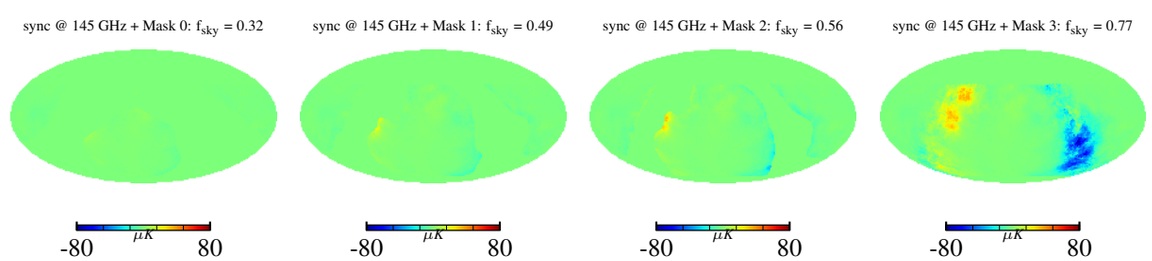
Fixed colour scale: ± 80 μK



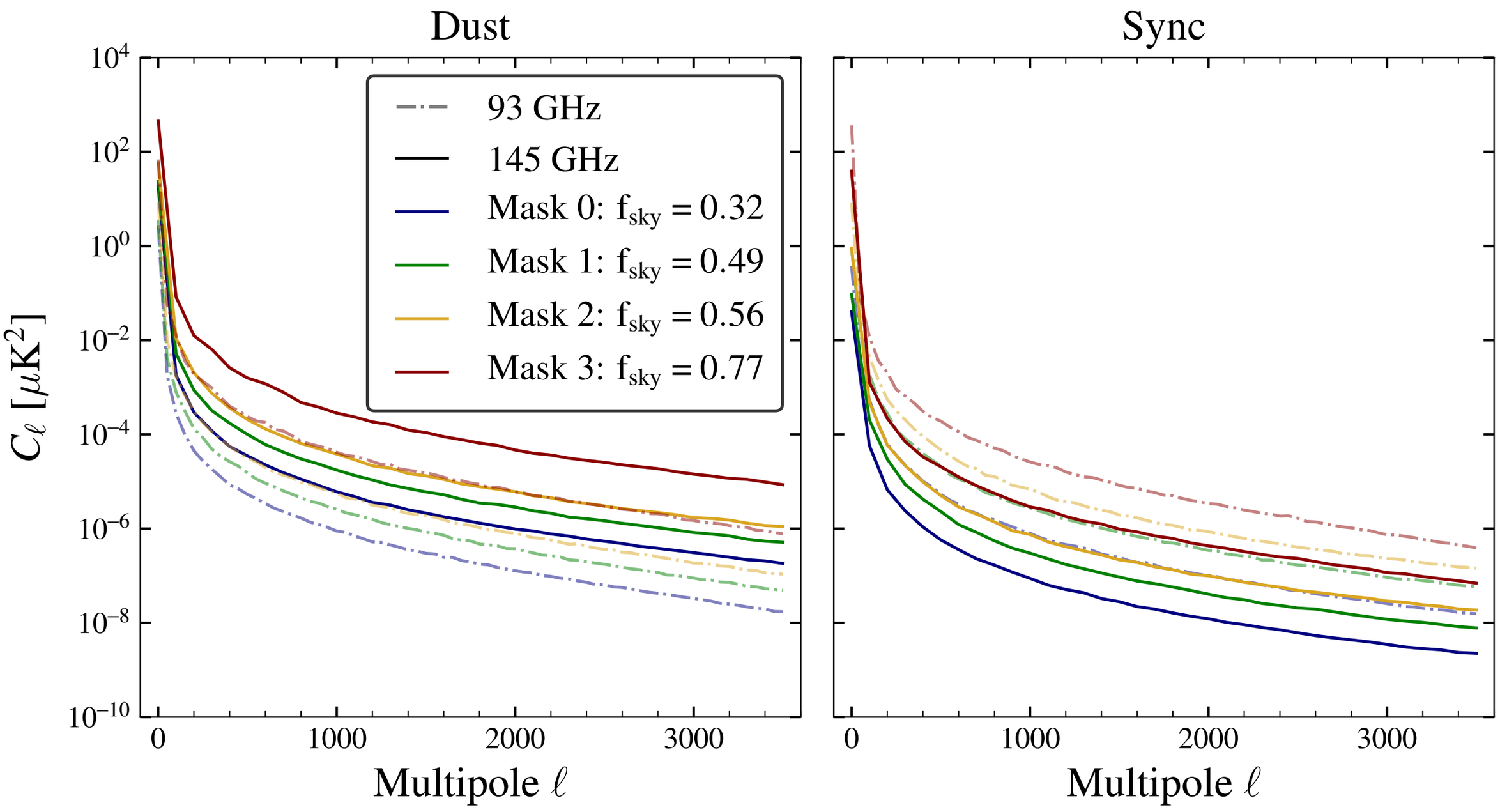
Sync @ 143 GHz x modified Planck mask



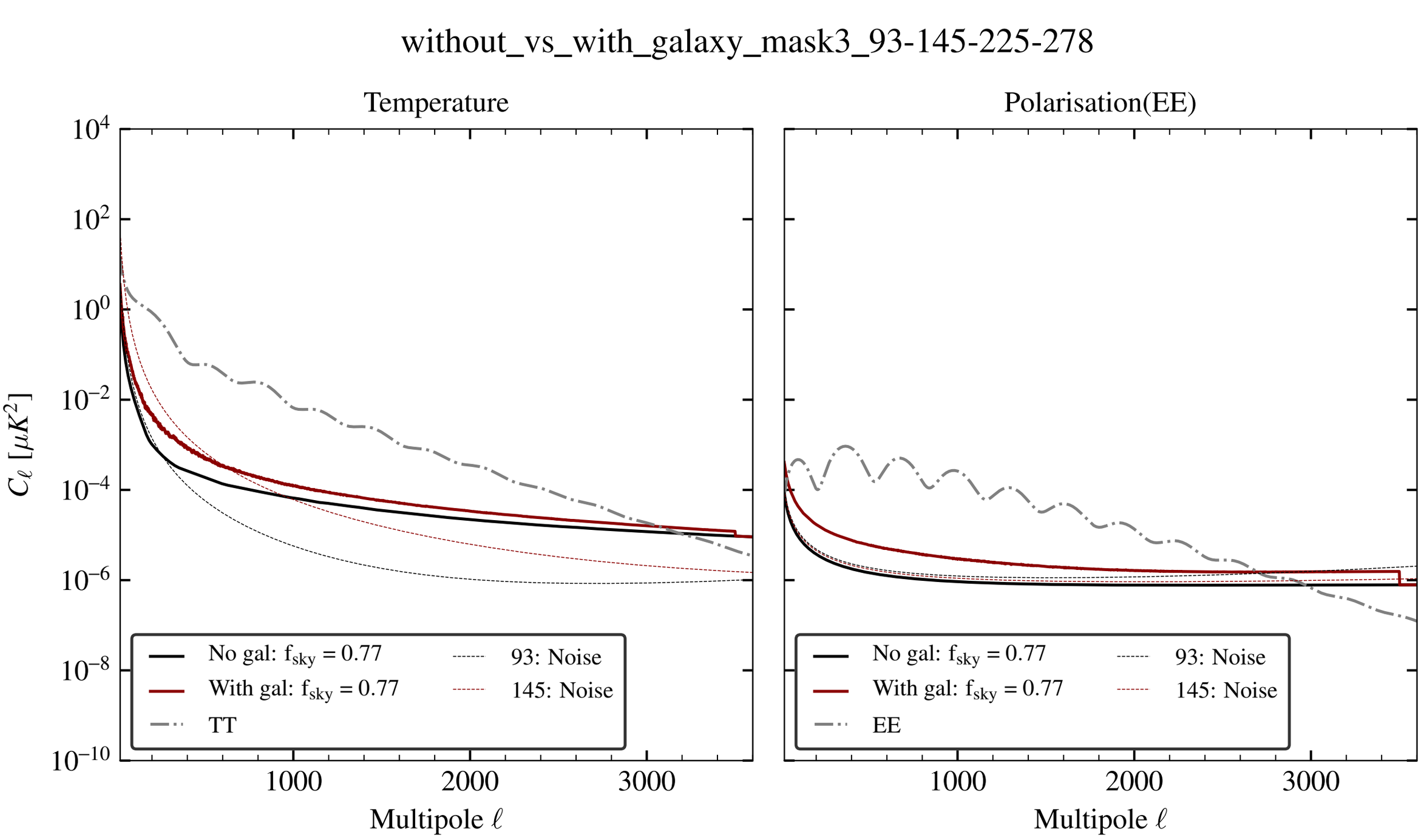
Fixed colour scale: ± 80 μK



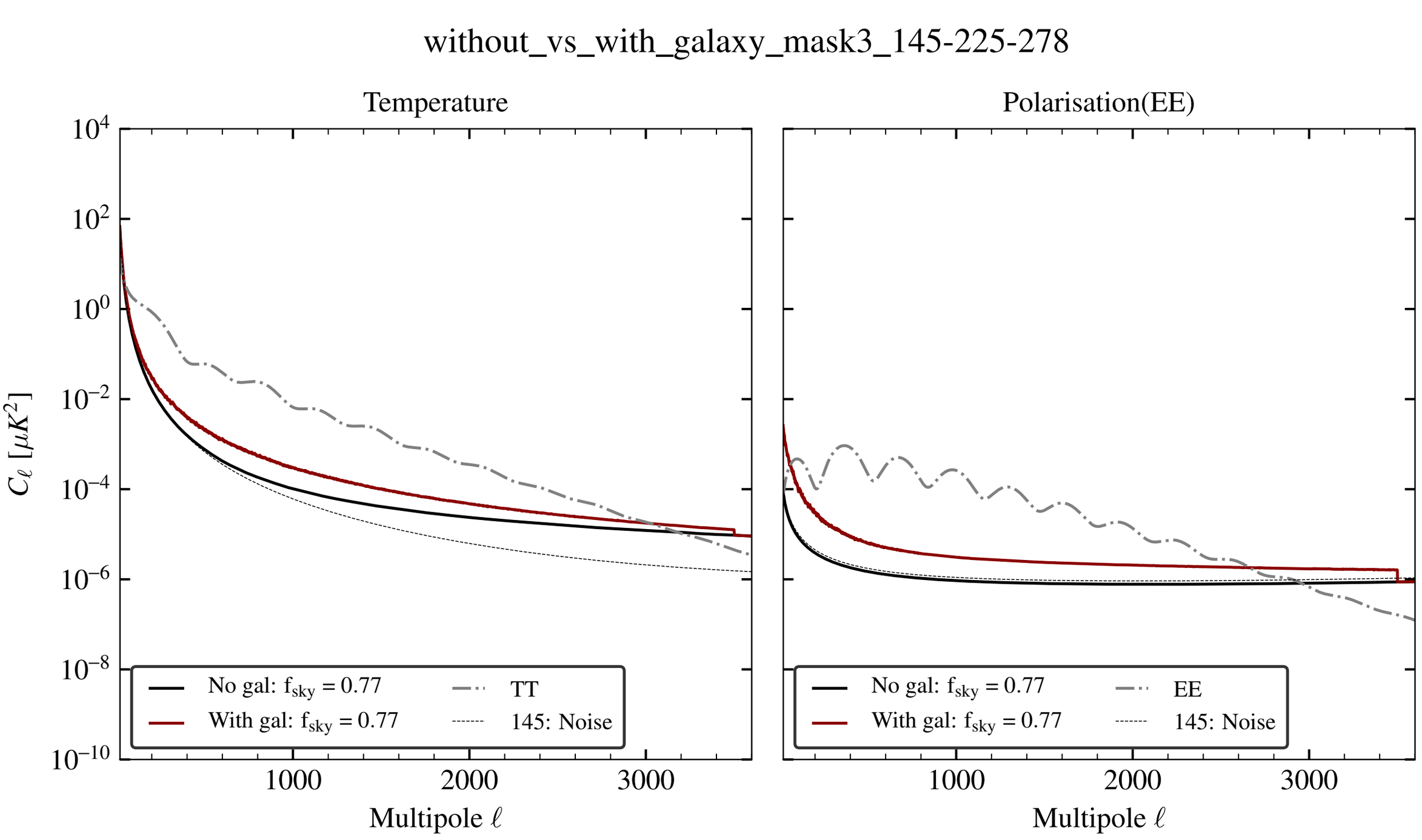
Dust / Sync TT power spectra



ILC curves - W/o vs w/ galaxy (4 bands)

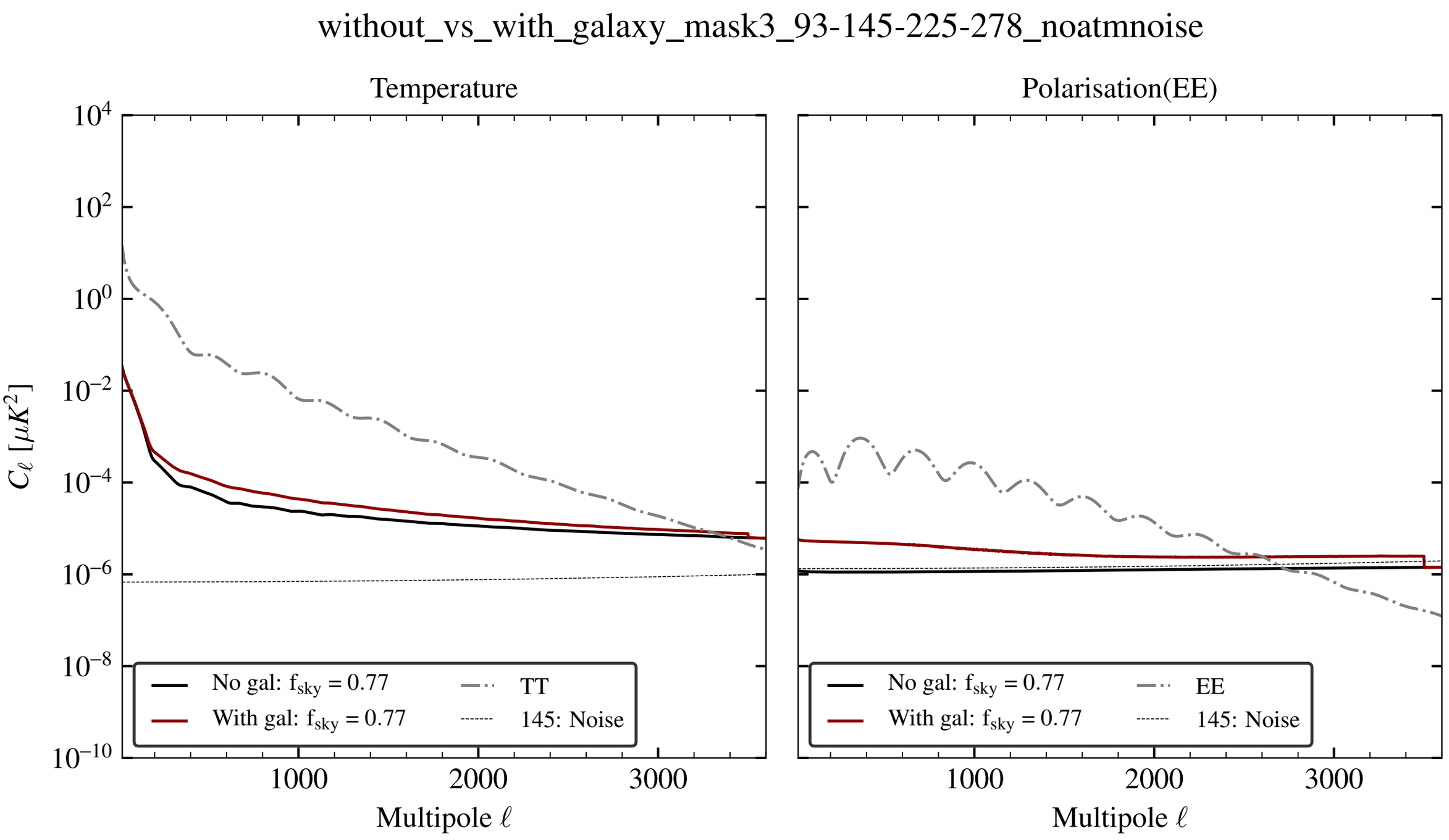


ILC curves - W/o vs w/ galaxy (3 bands)



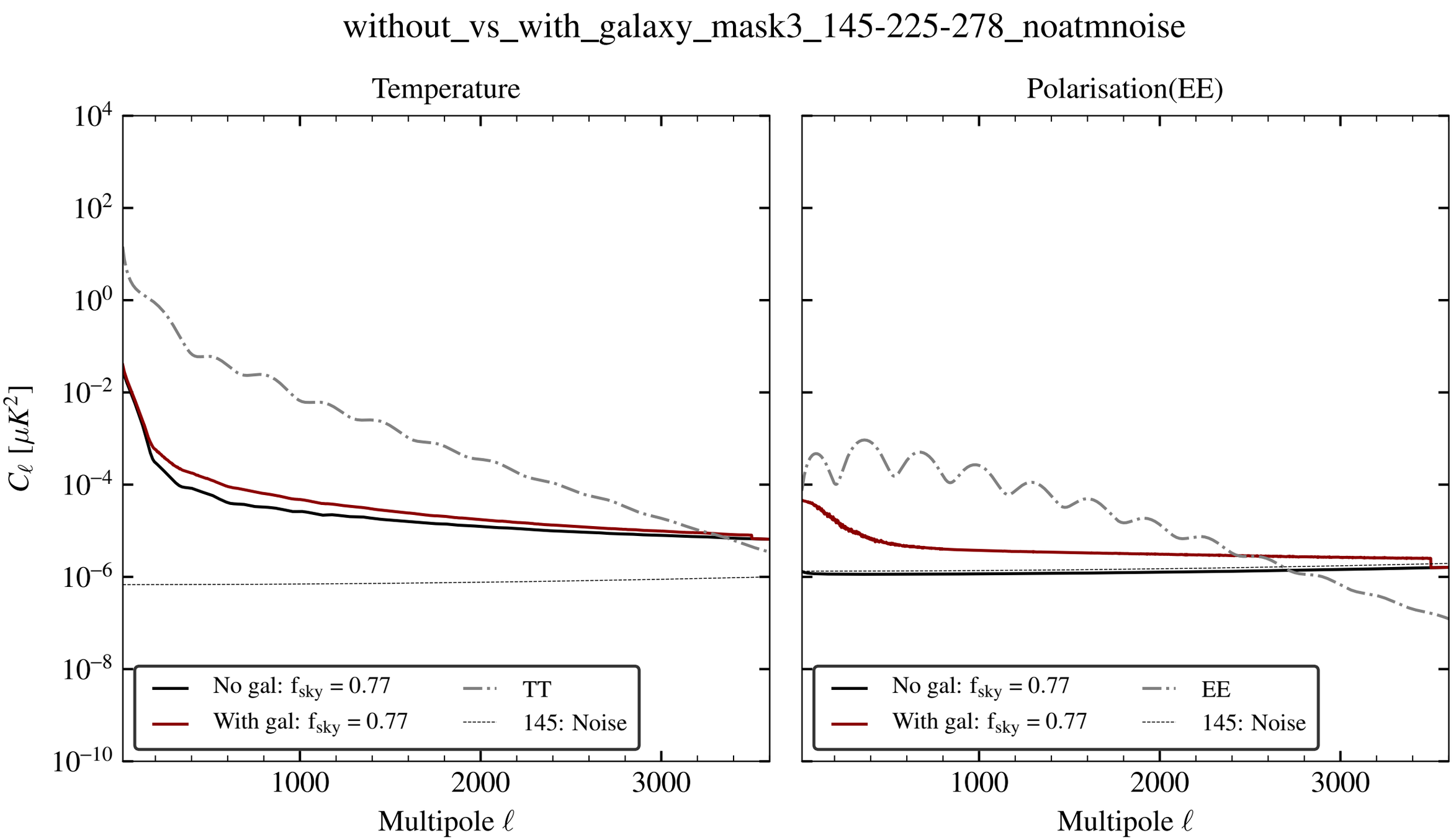
Comparing previous slide with this: Removing 90 GHz channel enhances the low-\ell noise. But it is mostly attributed to 1/f noise for TT. For pol, however, this should not be true.

ILC curves - W/o vs w/ galaxy (4 bands: No atm noise)



Removed atmospheric noise now: The low-\ell noise drops here (4 bands) compared to previous slide (3 bands). It is only slightly lower than slide-4 (4 bands with atmosphere + gal).

ILC curves - W/o vs w/ galaxy (3 bands: No atm noise)

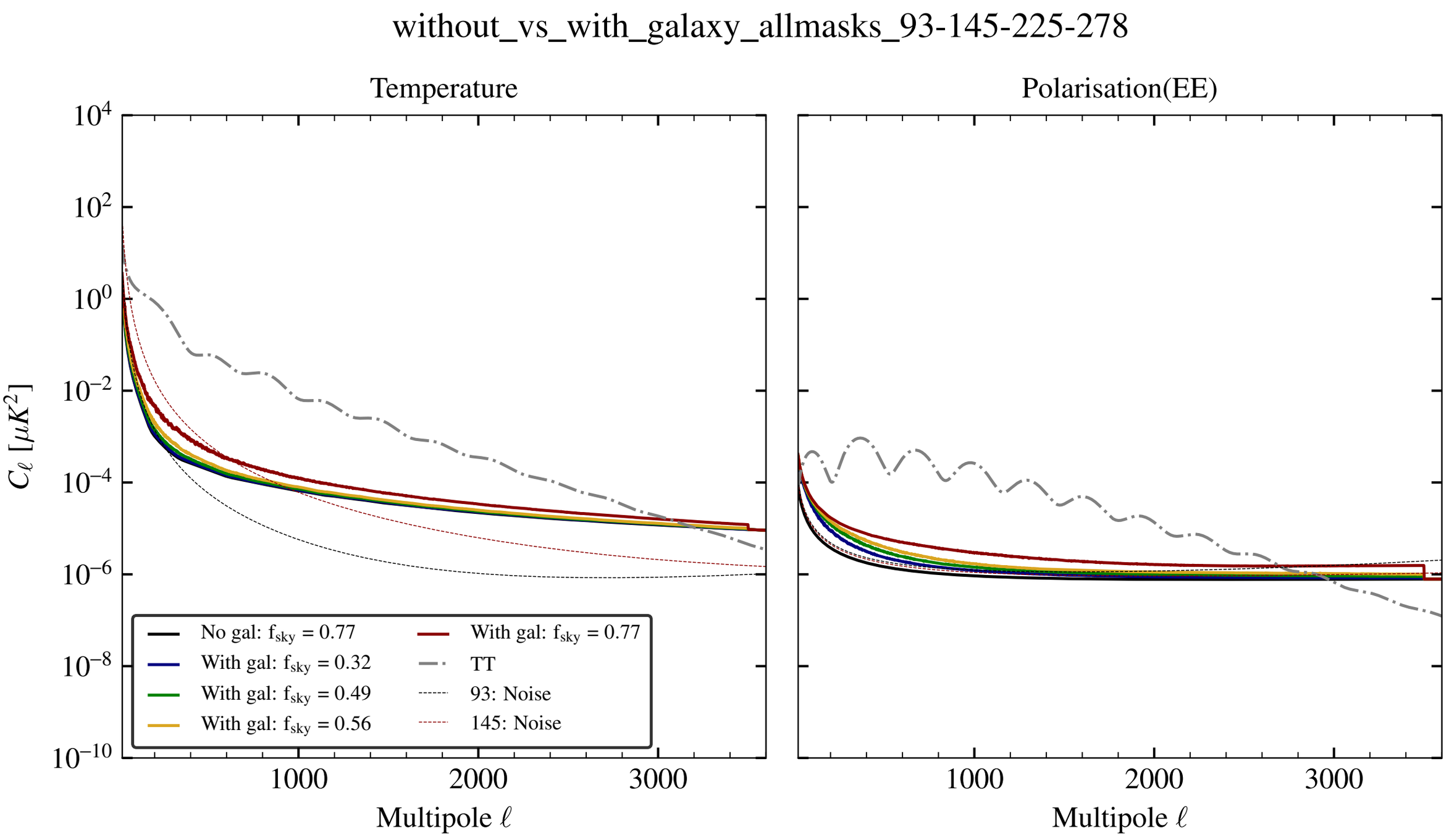


Removed atmospheric noise now:

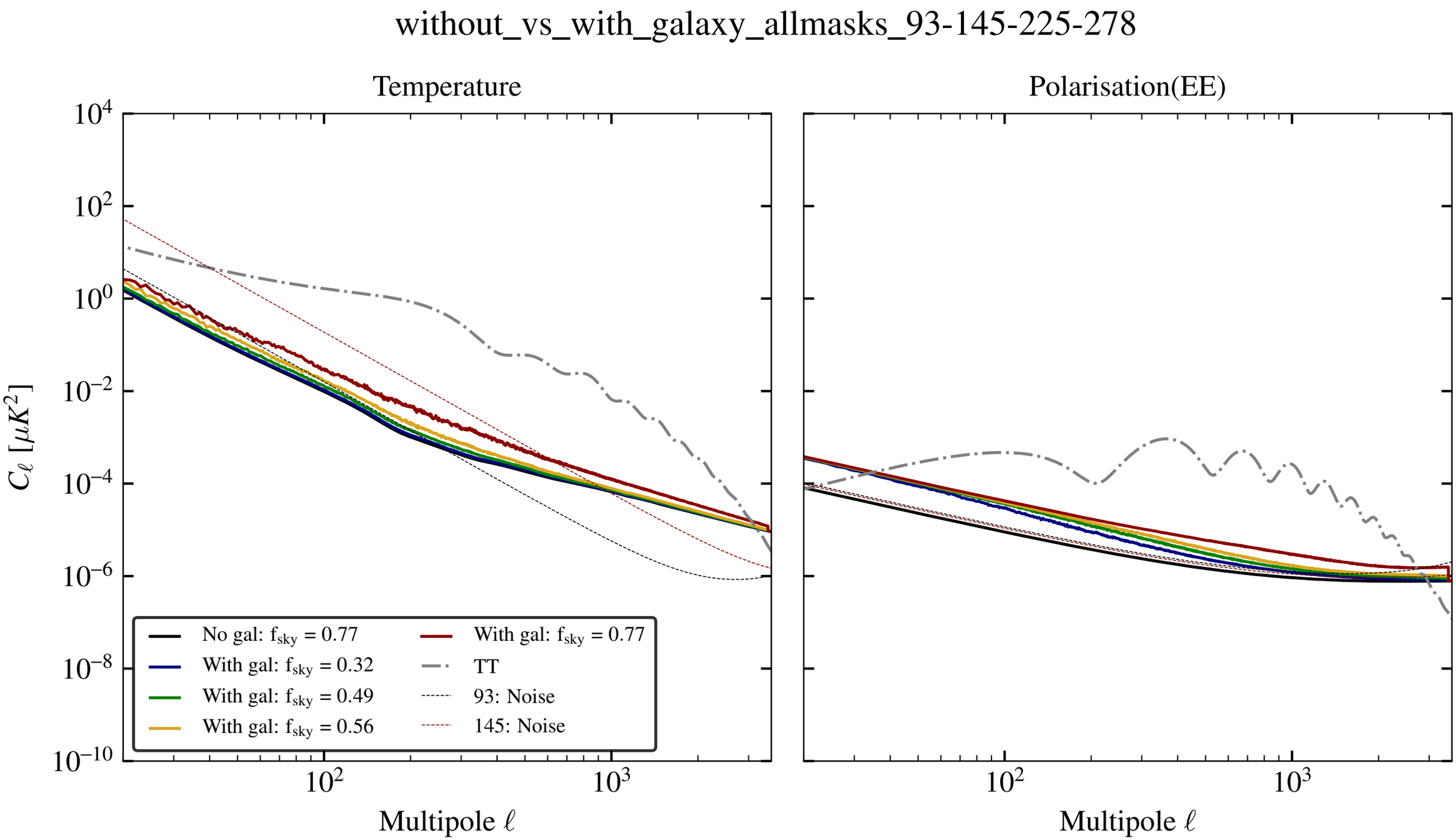
As a further check, here we have only 3 bands (vs 4 bands in the previous slide). The difference on low-\ell noise for 4 vs 3 bands in the absence of atmospheric noise is lower than in the presence of atmospheric noise for TT.

For pol., atm. noise is parameterised with same \ell_knee and slope in all bands. So, the difference here must come from the removal of one band for MV (to reduce both noise and FG) combination.

ILC curves - W/o vs w/ galaxy (4 bands, different masks)



ILC curves - W/o vs w/ galaxy (4 bands, different masks)



Same as previous slide but zooming the low-\ell region with log-x.

Plots to show:

1. W/ and W/o galaxy for sky = 0.77 (4 bands).
2. With 3 bands.
3. Point 1,2 again w/ and w/o 1/f noise.
4. Compare dust and sync. powers.
5. Different masks now.
6. SNR of TT and EE w/o cosmic variance.
7. SNR of TT and EE w/ cosmic variance.