Pico

Commander updates 09.09.2021

Ragnhild Aurlien and the Oslo group

Simulations generated by Unni Fuskeland

- All frequency maps are smoothed with a 1 degree beam and downgraded to nside 256 before white noise is added
- Foreground model PySM d1s1 (model 90.91 – same as Clems simulations)
- 10 different CMB and white noise realisations
  - With both $r = 0$ and $r = 0.003$
- Run Commander1 fitting 6 parameters
  - CMB (A_{cmb})
  - One dust model ($A_{dust}, T_{dust}, \beta_{dust}$)
  - Synchrotron model ($\mathrm{A}_{sync}, \beta_{synch}$)

Simulation overview – differences

Clems first set of simulations

1. nside 512
2. Original beam sizes for PICO
3. Noise+signal bandwidth limited to 2*Nside

Clems second set of simulations

1. nside 512
2. Original beam sizes for PICO for the lowest 5 frequency bands. 20 arcmin beam for the highest 16 frequency bands.
3. Noise bandwidth limited to 4*Nside; signal bandwidth limited to 2*Nside

Unnis simulations

1. nside 256
2. 60 arcmin beam for all channels
3. Noise not bandwidth limited - drawn in pixel space

Next step

- Finish analysis for $r = 0$
- Make 90.92 simulations and run these as well
- Paper writing while commander1 runs