

# Pico

Commander updates 18.11.2021  
Ragnhild Aurlien and the Oslo group

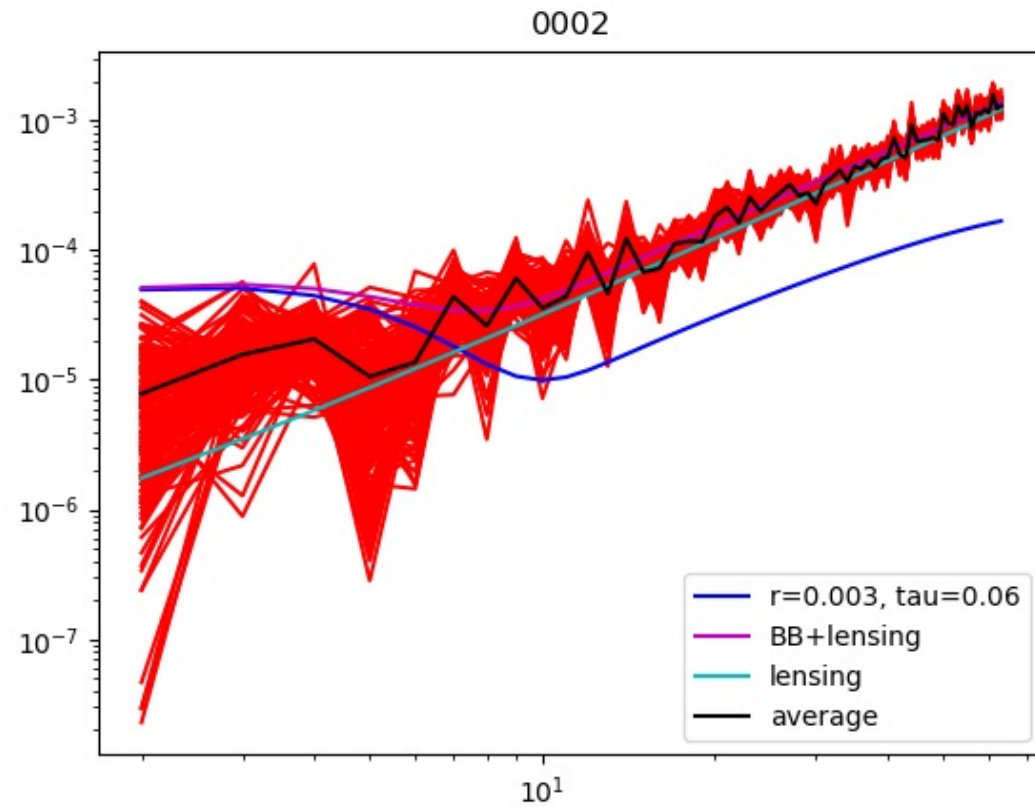
# Simulations generated by Unni Fuskeland

- Both 90.91 and 90.92 simulations are ready
  - 40 arcmin beam
  - nside 512
  - White noise
- 10 different CMB and white noise realisations
  - With both  $r = 0$  and  $r = 0.003$

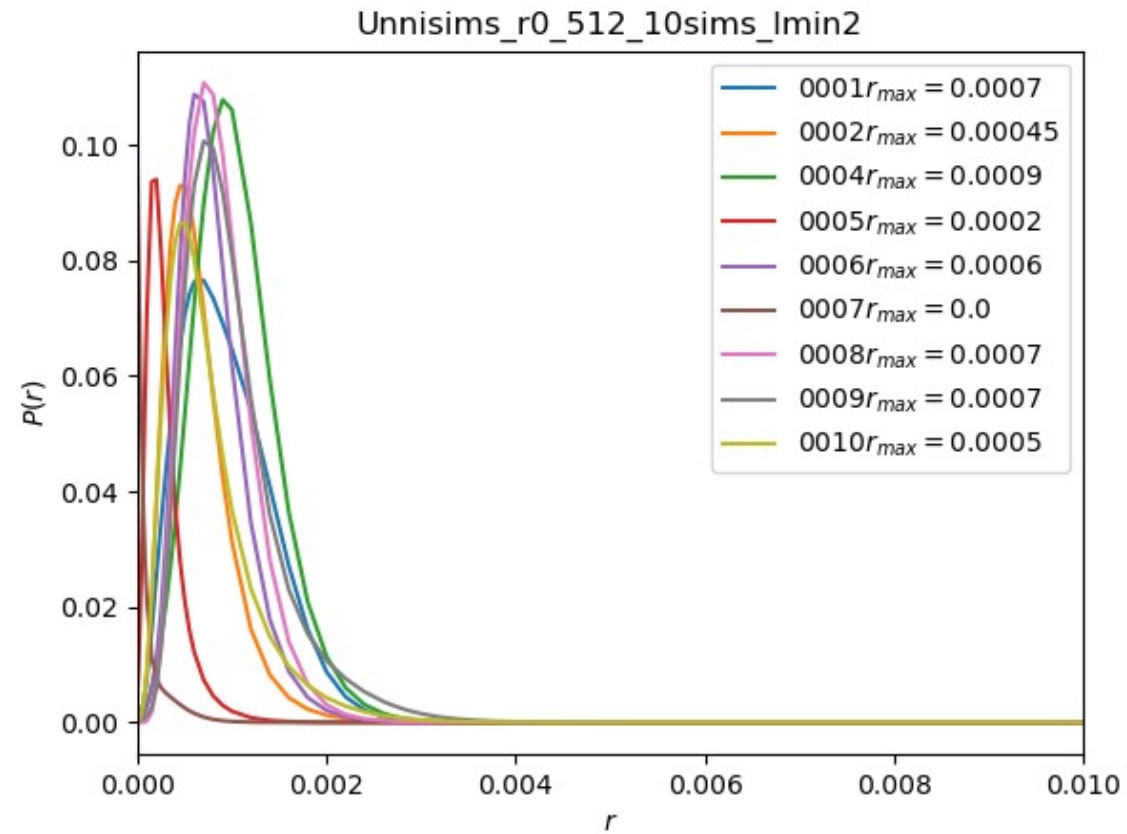
# 90.91

- Running Commander1 fitting 6 parameters pr pixel
  - CMB ( $A_{cmb}$ )
  - One dust model ( $A_{dust}, T_{dust}, \beta_{dust}$ )
  - Synchrotron model ( $A_{sync}, \beta_{synch}$ ) (inside64)
- 10 simulation sets with  $r = 0$  and 10 with  $r = 0.003$
- Masking 20% of the sky
- $\sim 100$  iterations with infilling inside the mask (pr simulation set)
- Blackwell-Rao estimator for estimating  $r$

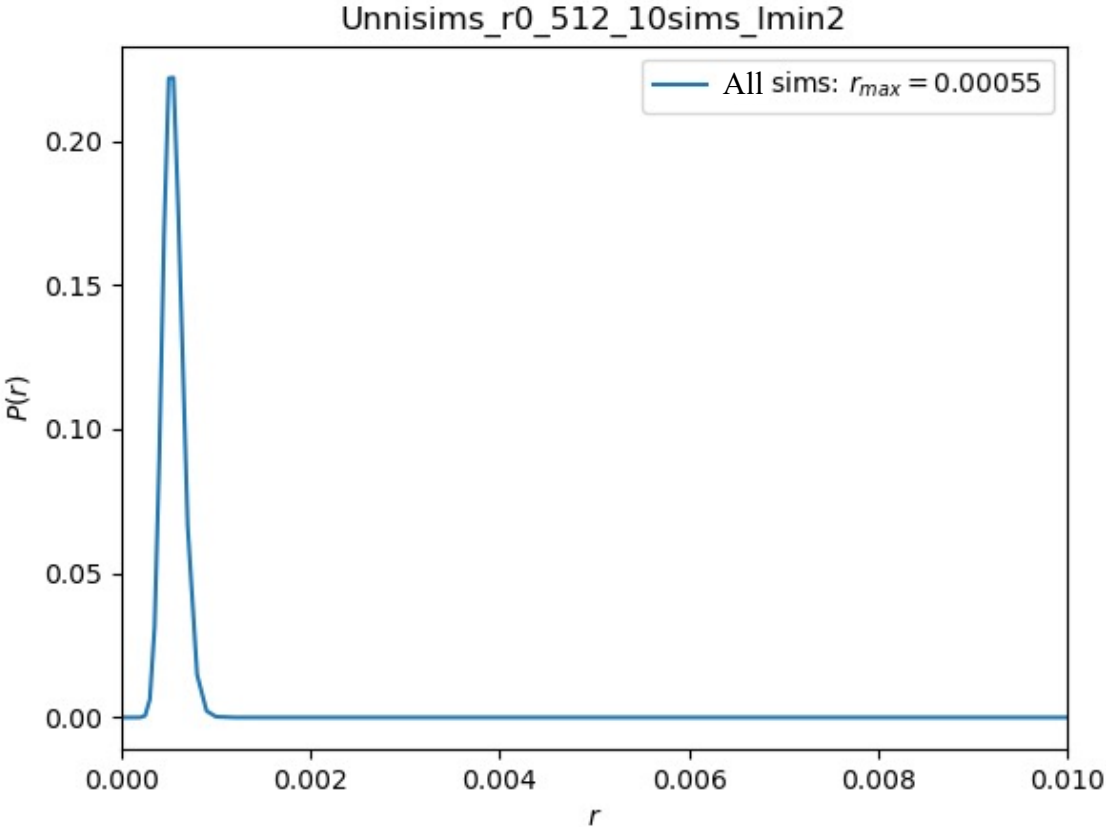
Powerspectrum of  $\sim 100$  iterations for one set of simulation  
 $r = 0$



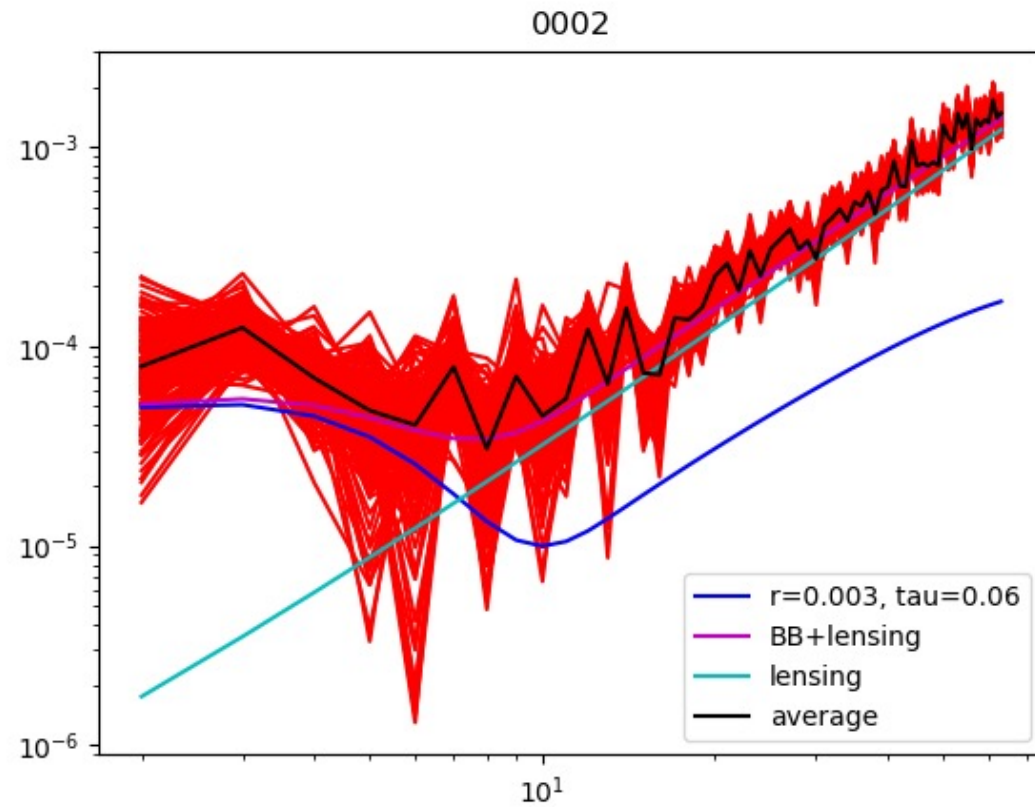
# r-estimation for each simulation



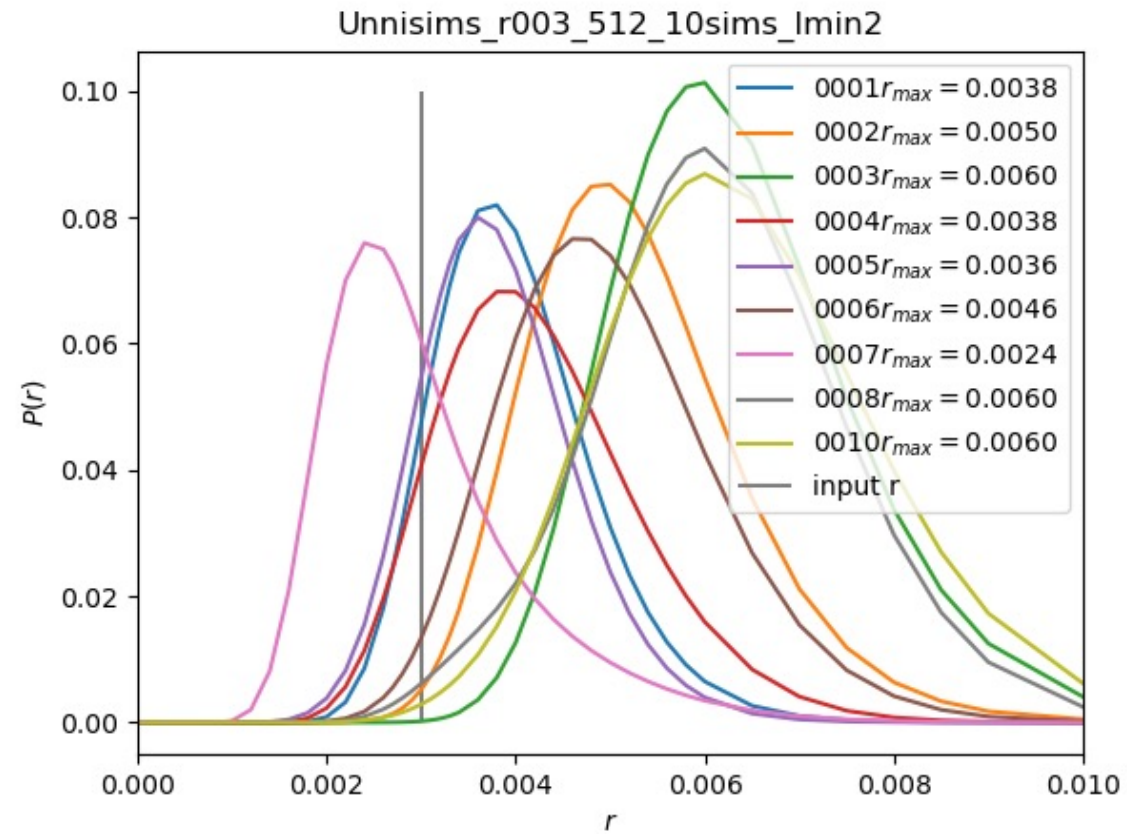
# Total r-estimation



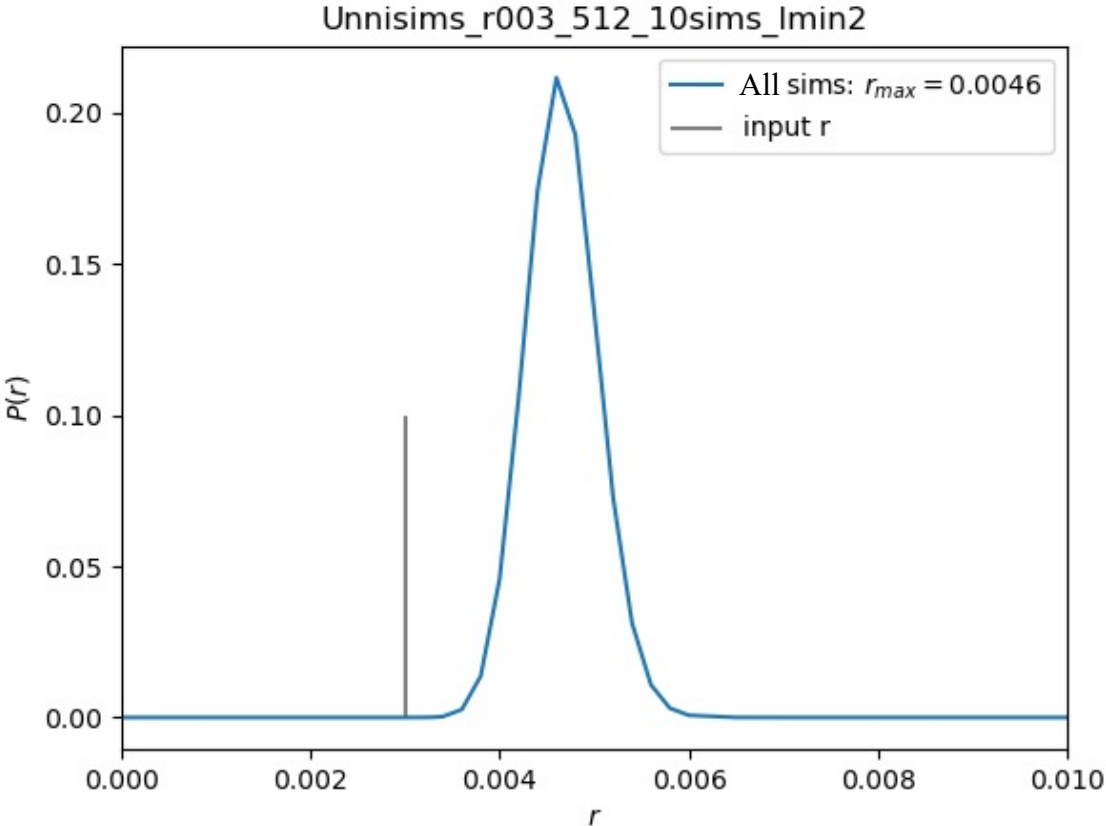
Powerspectrum of  $\sim 100$  iterations for one set of simulation  
 $r = 0.003$



# r-estimation for each simulation



# Total r-estimation



# Work in progress

- Improve component separation for 90.91 to get rid of bias
  - Then re-run infilling and r-estimation
- Component separation for 90.92 is in progress