

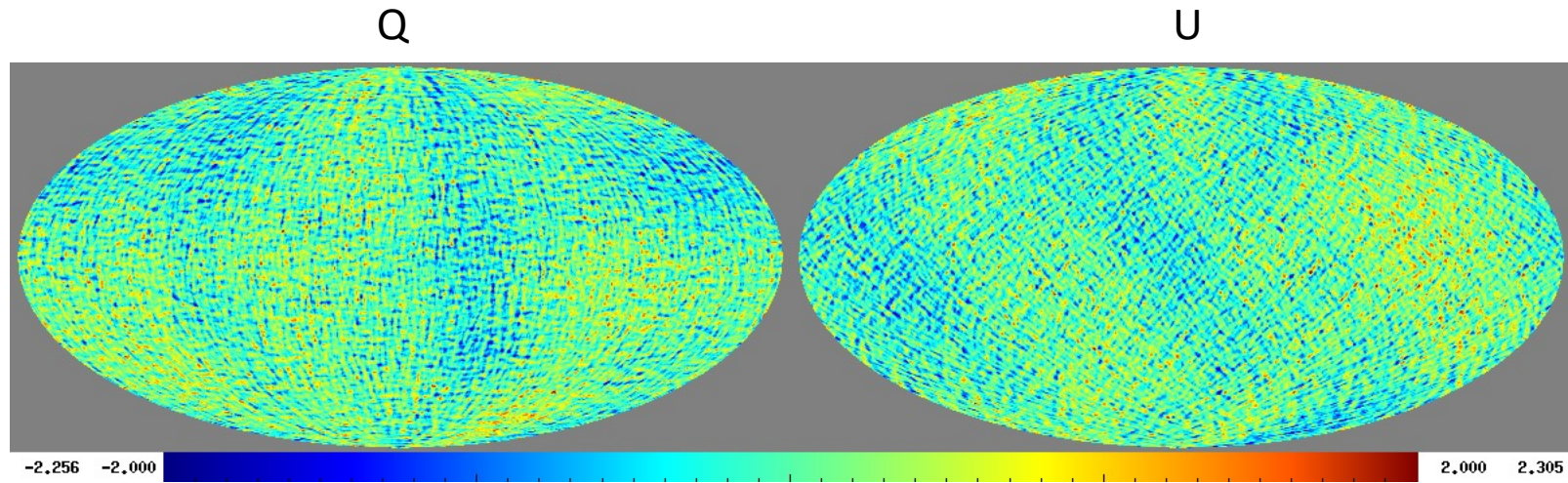
Pico

Commander updates 18.03.2021
Ragnhild Aurlien and the Oslo group

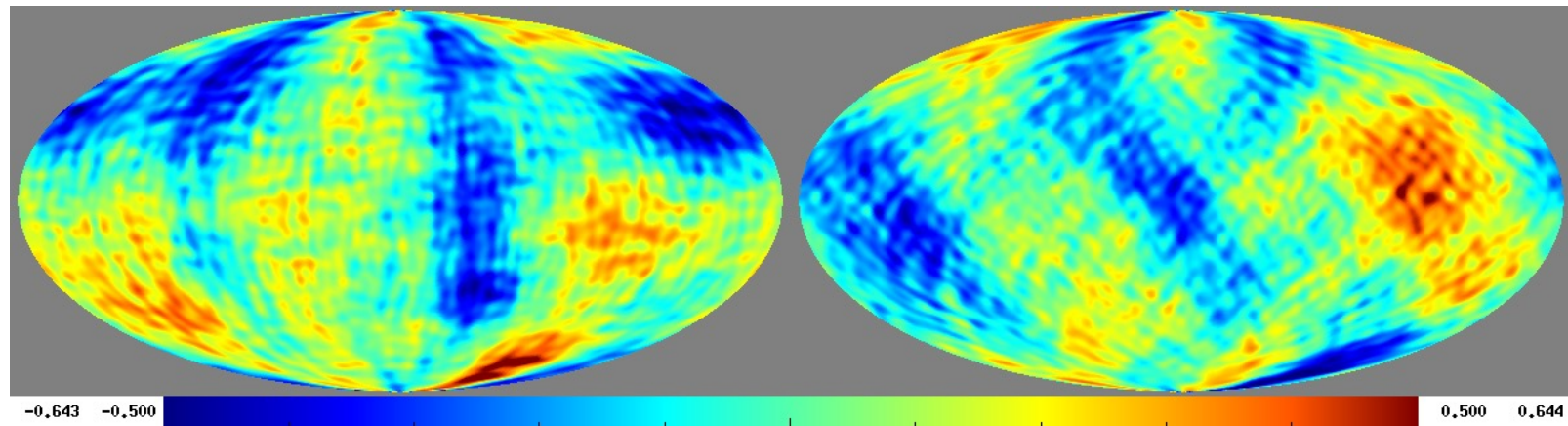
Simulations generated directly at nside 256

- 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)
- 10 different CMB and white noise realisations
 - With both $r = 0$ and $r = 0.003$
- Run Commander1 with the same parameters as previously
- Generated by Unni Fuskeland

Resulting CMB map using Unnis simulations

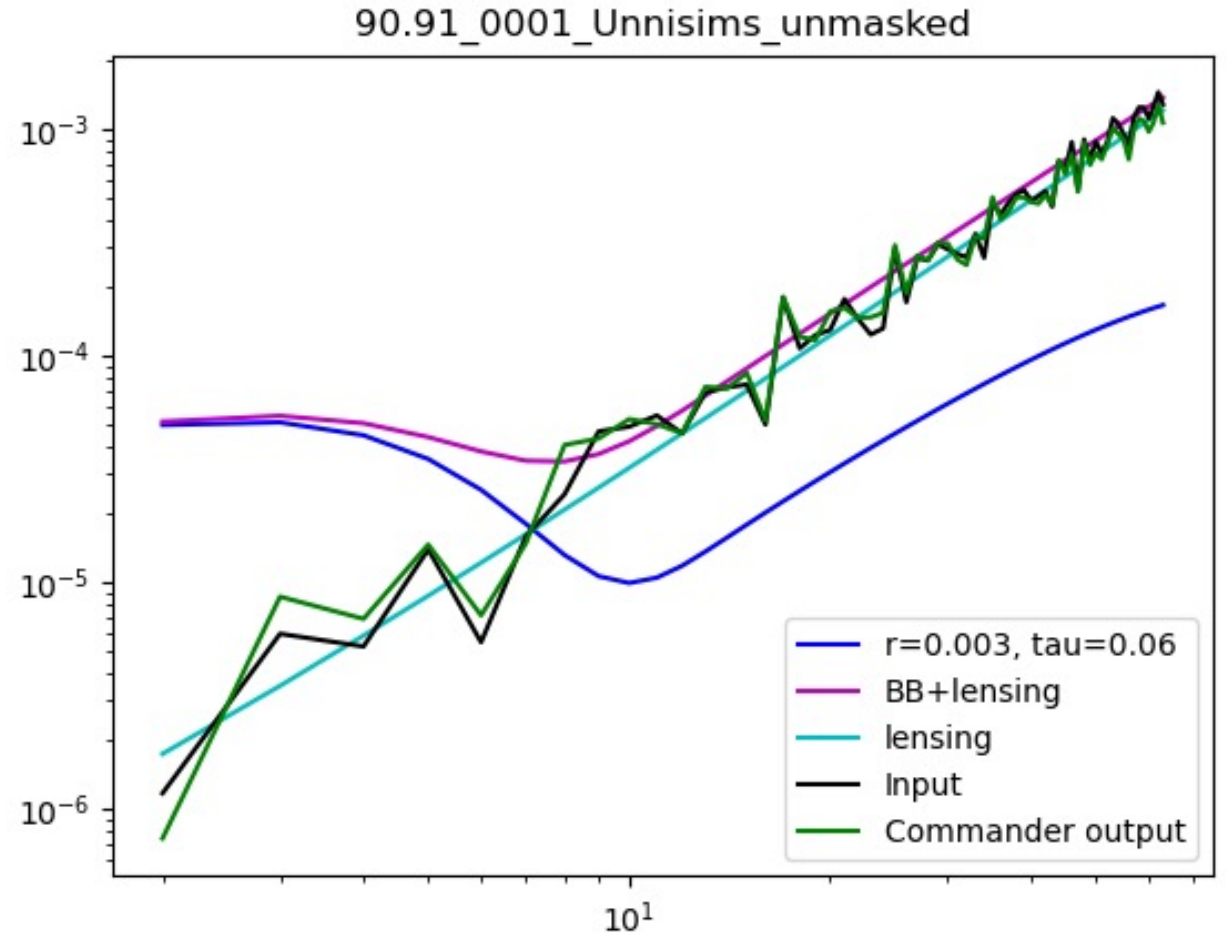


Smoothed to a
5 degree beam



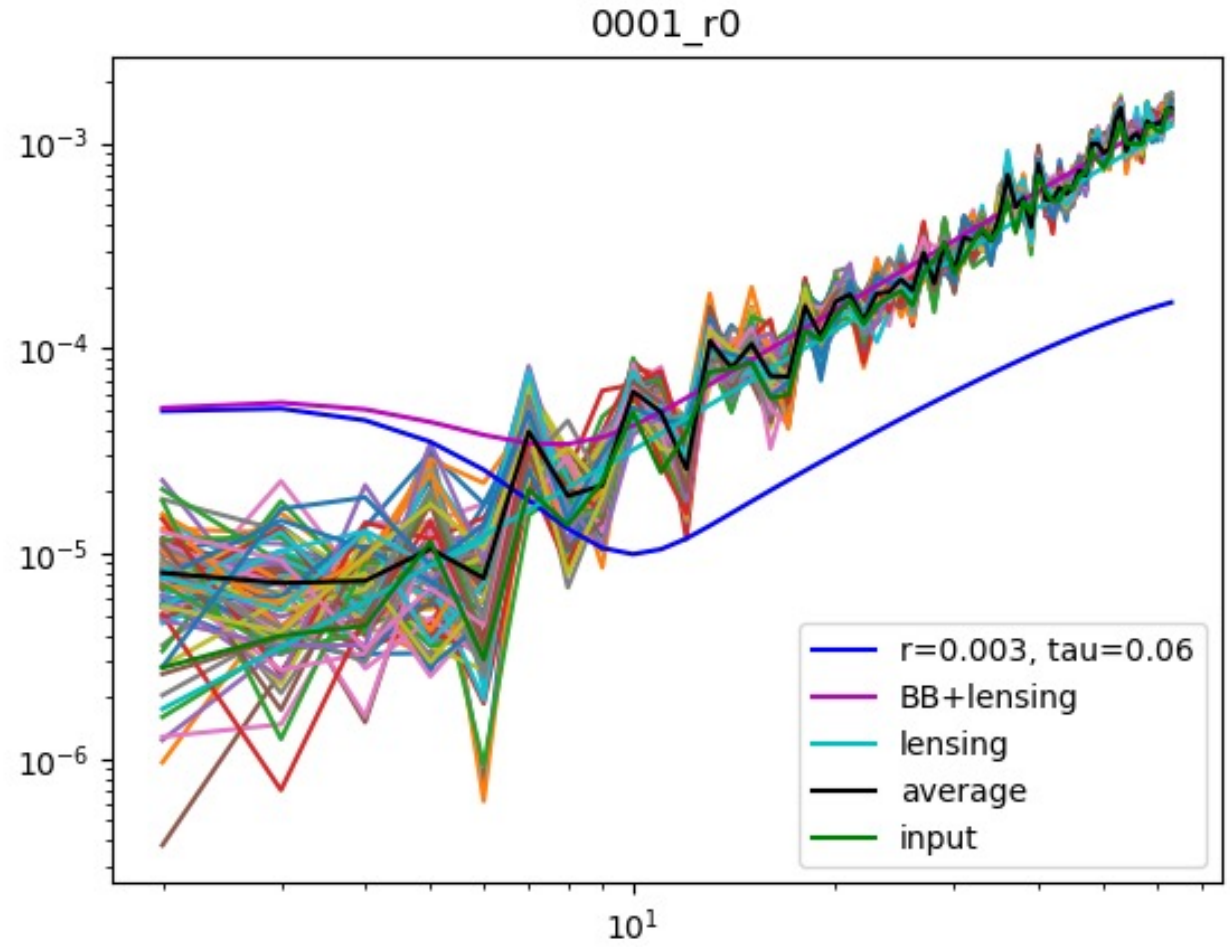
CMB powerspectrum

- Run with $r = 0$
- Power spectrum from both input and output CMB map plotted
- Unmasked CMB maps



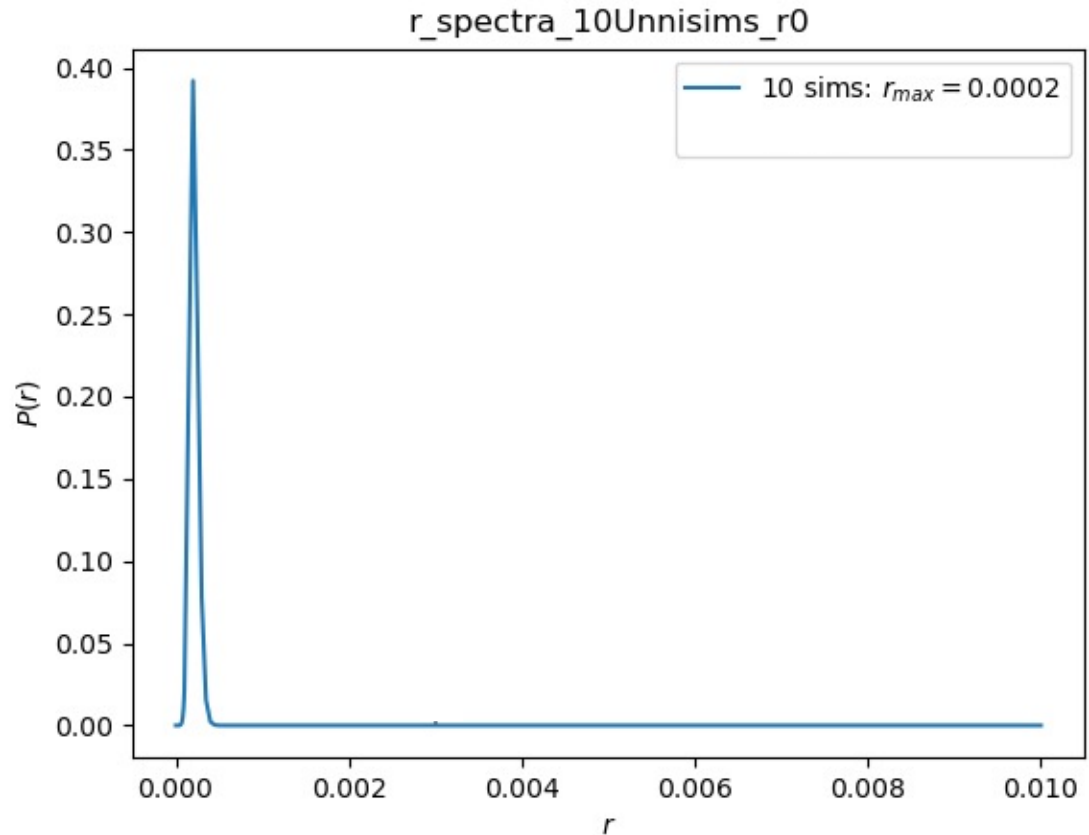
Powerspectrum after infilling

- CMB realization with $r = 0$
- CMB map from Commander masked with a 15% mask based on the dust amplitude map
- 80 different inpainted (Wiener filtering) realizations
 - After 20 iterations for burn in
- Average and input spectra also plotted



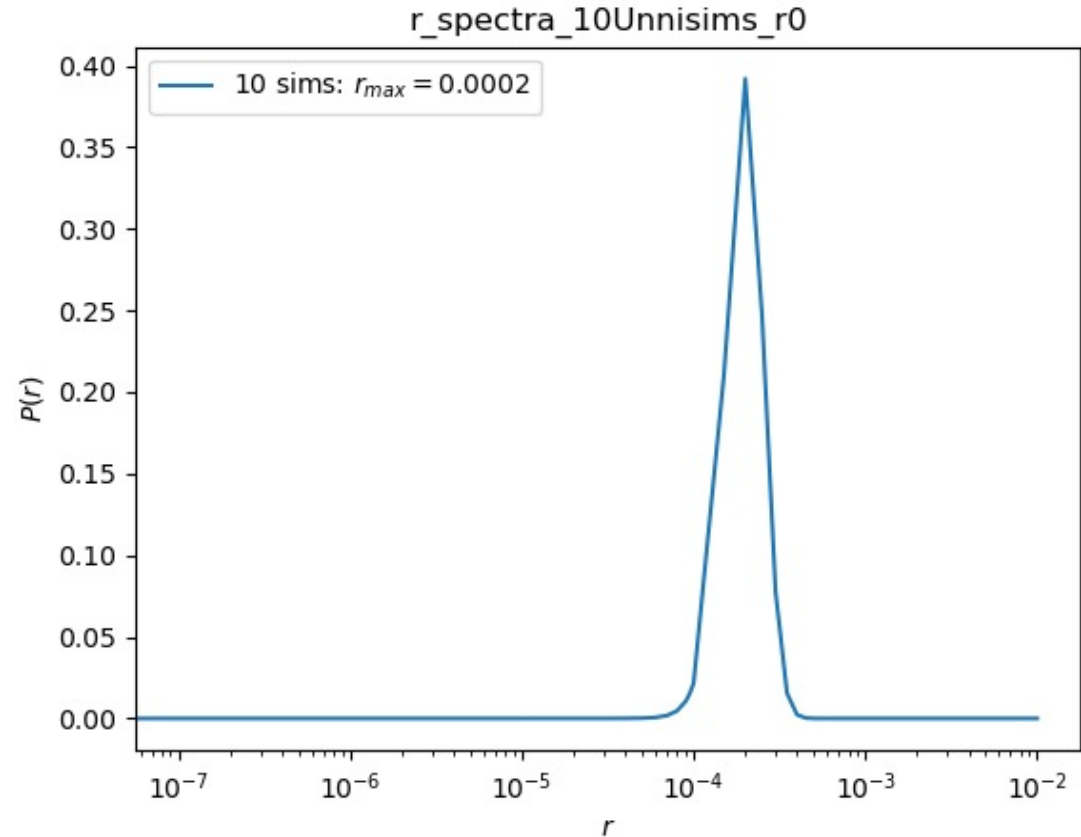
r-estimation

- Estimated using Blackwell Rao estimation based on the 80 inpainted CMB realizations for each of the 10 sets of simulations
- Estimated based on l from 2 to 12



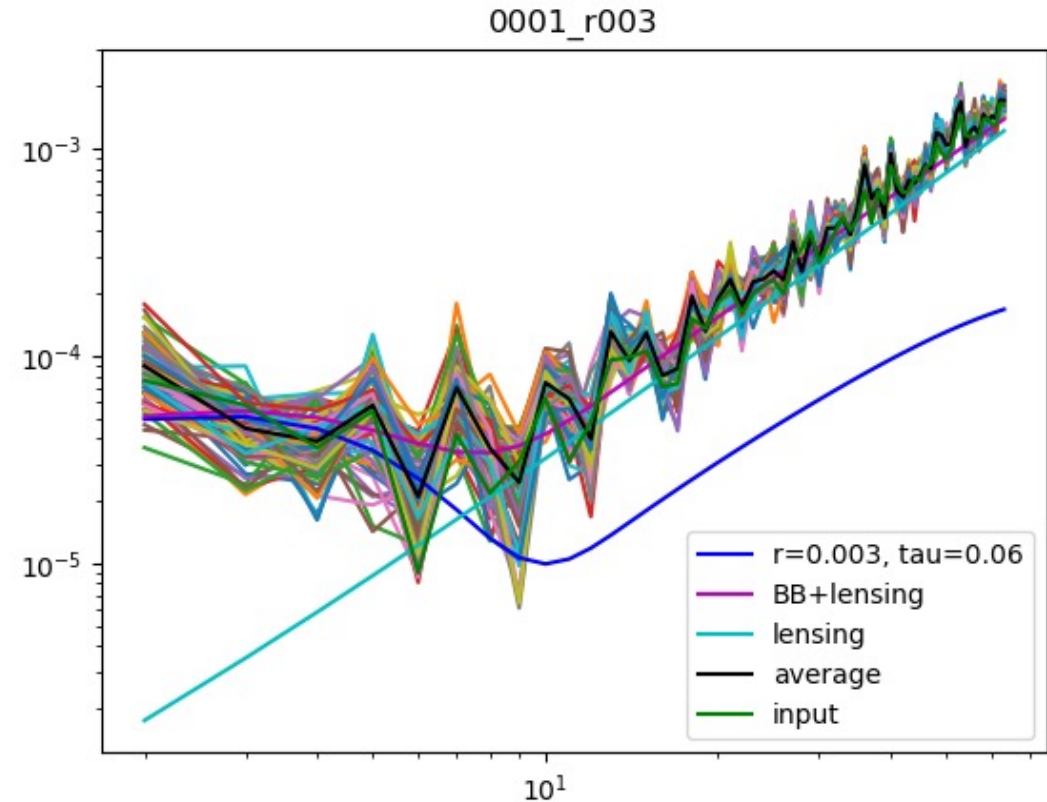
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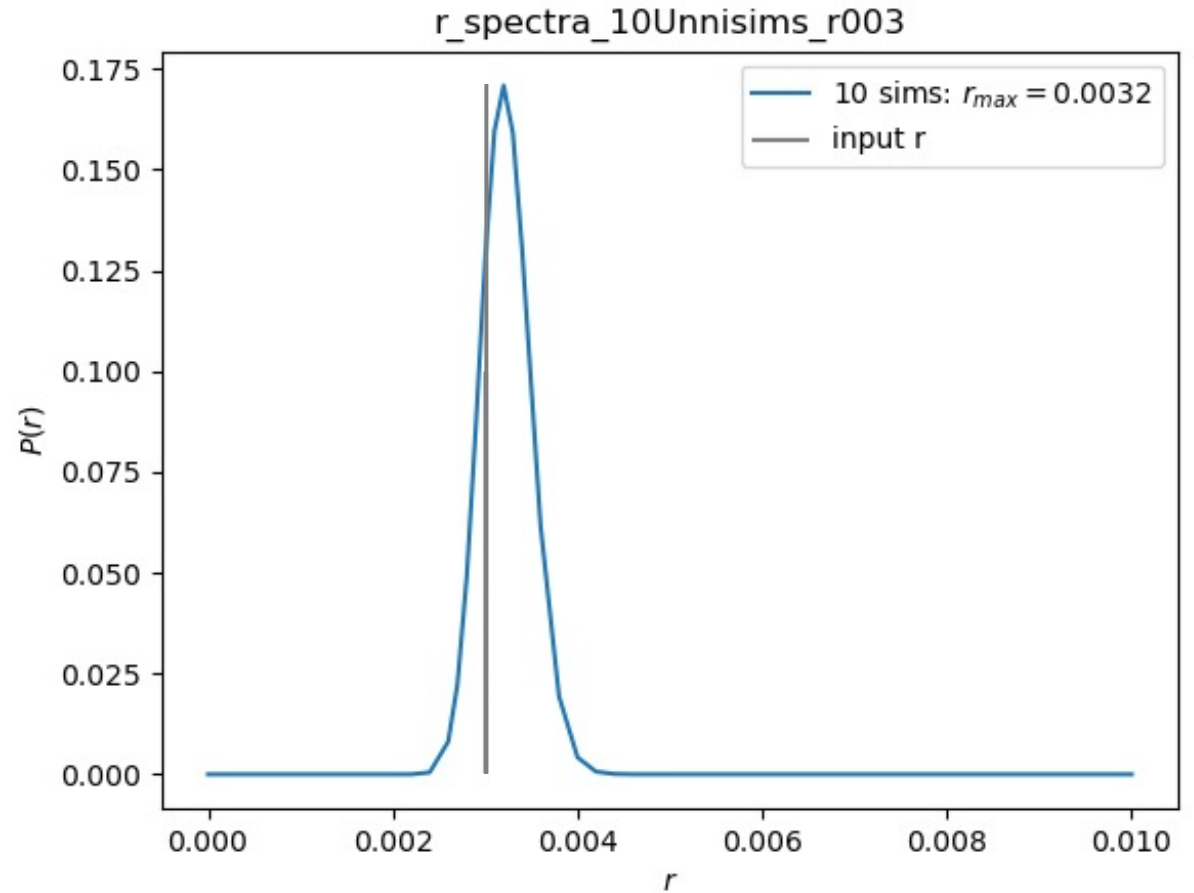
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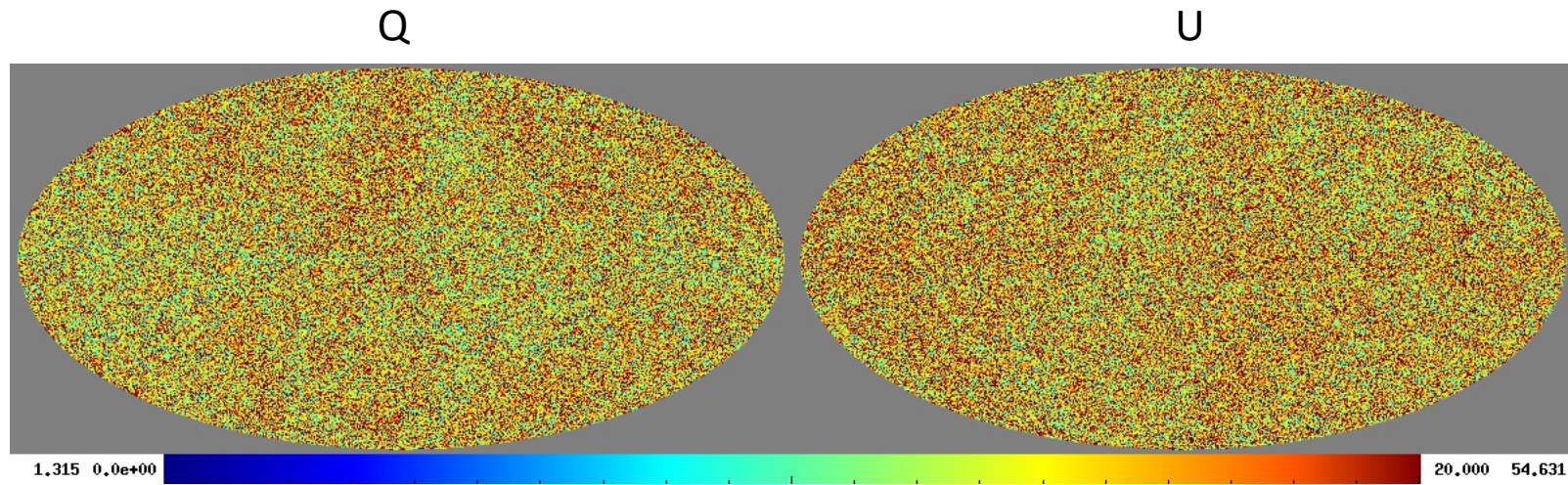


Next step

- Decide if we are happy with these simulations generated by Unni
- If we are; make 90.92 simulations and run these as well

Chisquare

Chisquare, not
reduced chisquare



Smoothed to a
5 degree beam

