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Real Space Lensing Reconstruction using CMB Temperature and Polarisation

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Abstract content
   (Max 300 words)
Formatting &
Special chars

Gravitational lensing of the cosmic microwave background (CMB) probes the distribution of matter in our universe, of which dark matter forms a large part. It also allows us to delens the CMB and obtain an accurate picture of its primordial fluctuations. We explore methods of reconstructing the lensing field from the lensed CMB temperature and polarisation in real space, as an alternative to the harmonic space estimators currently in use. Real space estimators have the advantage of being local in nature and they are thus equipped to deal with the nonuniform sky coverage, galactic cuts and point source excisions found in actual data. These estimators can be applied to temperature and polarisation maps from CMB data to reconstruct the lensing convergence and shear.

Apply to be
 considered for a student
   award (Yes / No)?

Yes

Level for award
 (Hons, MSc,
   PhD)?

MSc

Main supervisor (name and email)
and his / her institution

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Would you like to
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No

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