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Tomographic cross-correlation of the CMB lensing and galaxy clustering - systematic errors from cross-talk between redshift bins of galaxies

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The effect of gravitational lensing of the cosmic microwave background (CMB) provides a unique opportunity to obtain a picture of the gravitational potential of the large-scale structure of the Universe at very high redshifts. Tomographic cross-correlation of the gravitational potential with other tracers of the large-scale structure at known redshifts allows tracing the evolution of the structure and testing cosmological models. However, the analysis of upcoming data will require a very good understanding of any systematic errors that may bias cross-correlation measurements. In this talk we will present studies of systematic errors arising from cross-talk between redshift bins of galaxies with photometric redshift uncertainties. We show their impact on the cross-correlation measurement and cosmological parameter estimates for future data sets. We also present an efficient method for removing the errors.

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