Measuring magnification bias in photometric galaxy surveys

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Abstract

In this contribution, we analyze how cosmic magnification may be detected in upcoming large photometric galaxy surveys and how some systematic effects can affect it. Magnification manifests itself as an enhancement or decrease of galaxy/quasar number counts at very high redshifts due to the magnifying weak lensing effect of intervening matter in the line of sight. It usually shows up in observations as a correlation or anti-correlation at low angular scales in the cross-correlation function. Its amplitude is directly related to the galaxy bias and cosmological parameters. We focus on three particular systematics and we are carrying out this study in the context of the Dark Energy Survey (DES) that will cover 5000 square degrees and reach $i_{AB} < 24$ making measurements up to $z \approx 1.4$ with a photo-z resolution of 0.03(1+z).