

Abstract Submitted
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Cosmological constraints from lensing ratios JUDIT PRAT MARTI, IFAE Barcelona, DARK ENERGY SURVEY (DES) COLLABORATION — In this talk, measurements of lensing ratios involving galaxy lensing and CMB lensing using data from the Dark Energy Survey (DES), the South Pole Telescope (SPT) and Planck are presented. These ratios between lensing-galaxy two-point functions are defined in such a way that the dependency on the galaxy power spectrum cancels and therefore do not rely on assumptions about the galaxy bias and the matter power spectrum, while still being sensitive to the geometry of the Universe. The use of lensing ratios involving CMB lensing as a geometrical probe was first proposed in Das & Spergel (2009) and the first measurements were recently presented in Miyatake et al. (2017). In this work, using data from the first year of observations of the Dark Energy Survey (DES Y1), for the first time we use a set of lens galaxies obtained from a photometric survey. Also, we perform a complete cosmological analysis to obtain parameter constraints from the lensing ratio and joint constraints with other cosmological probes.

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