

Probing the Cosmological Principle with weak lensing shear

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The Cosmological Principle is a cornerstone of the standard model of cosmology and shapes how we view the Universe and our place within it. It is imperative, then, to devise multiple observational tests which can identify and quantify possible violations of this foundational principle. One possible method of probing large-scale anisotropies involves the use of weak gravitational lensing. In this talk, I will outline how late-time anisotropic expansion would imprint itself upon the cosmic shear signal. Thereafter, I will speak about the detectability of this anisotropic signature in upcoming surveys like Euclid. In particular, I will motivate the importance of the cross-correlation of shear E- and B-modes on large angular scales as a possible probe of large-scale anisotropy.

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