

Lundi 11 juin 11h00

CEA-Saclay Bat 141, salle André Berthelot

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# Constraints on dark energy and modified gravity models from CFHTLenS weak lensing

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I present results from weak gravitational lensing by the large-scale structure from CFHTLenS (Canada-France-Hawaii Lensing Survey). Using multi-band optical data over 155 square degrees, we measure the weak lensing correlation of high-redshift galaxies from small out to very large, linear scales. We reconstruct the largest maps of dark matter ever made, and infer information on cosmological parameters for flat and curved  $\Lambda$  and dark-energy CDM models, and modified gravity (the latter together with redshift-space distortions from Wiggle-Z). In addition, by comparing the lensing observations with the light distribution from galaxies, we measure the relation (bias and cross-correlation) between total and luminous matter.

I will give an introduction to weak gravitational lensing and its use in cosmology. I will present an overview over the CFHTLenS lensing analysis and the likelihood and sampling methods (Population Monte Carlo, PMC). These results will be put in a larger context of large on-going and planned ground- and space-based galaxy surveys such as DES and Euclid.

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Le café sera servi 10 minutes avant.

NB : La présentation d'une pièce d'identité est exigée à l'entrée du centre. Tous les auditeurs extérieurs sont priés de prévenir à l'avance Emilie Chancrin, tél. 01 69 08 23 50, e-mail : [emilie.chancrin@cea.fr](mailto:emilie.chancrin@cea.fr). (U.E. : délai de 24 h, hors U.E. : délai de 4 jours).