Rubin LSST-France, LPSC Grenoble, 24-26/11/2025

Rapport sur les contributions

ID de Contribution: **1**   Type: **Non spécifié**

Simulation-based cosmological inference from optically-selected galaxy clusters

mardi 25 novembre 2025 15:40 (20 minutes)

Galaxy clusters are among the most powerful probes of cosmology, providing key insights into the growth of structure and the nature of dark energy. However, translating cluster observations into robust cosmological constraints remains challenging, primarily due to uncertainties in mass calibration and systematic effects. Upcoming surveys such as the Rubin Observatory's LSST and *Euclid* will deliver samples of hundreds of thousands of optically selected clusters, requiring new data analysis approaches to fully exploit their potential.

In this talk, we introduce capish, a new simulation-based inference framework for optical cluster cosmology. capish forward-models cluster abundances and lensing masses while naturally incorporating essential systematics —including correlated scatter between cluster richness and cluster lensing mass, selection effects, and super-sample variance of has number counts —without relying on simplified analytic likelihoods.

Auteur: PAYERNE, Constantin (CEA/DPhP/Irfu)

Orateur: PAYERNE, Constantin (CEA/DPhP/Irfu)

Classification de Session: Science talks

ID de Contribution: **2**   Type: **Non spécifié**

Invited talk : Rubin TOO

Orateur: MACBRIDE, Sean (University of Zürich)

ID de Contribution: **3**   Type: **Non spécifié**

Introduction

lundi 24 novembre 2025 14:00 (10 minutes)

Orateur: RACINE, Benjamin (CPPM/IN2P3/CNRS)

Classification de Session: General updates

ID de Contribution: **4**   Type: **Non spécifié**

News from Rubin and DESC + communication

lundi 24 novembre 2025 14:10 (40 minutes)

Orateur: Dr BREGEON, Johan (IN2P3 LSPC)

Classification de Session: General updates

ID de Contribution: **5** Type: **Non spécifié**

EDI

lundi 24 novembre 2025 14:50 (15 minutes)

Classification de Session: General updates

ID de Contribution: **6**   Type: **Non spécifié**

Computing + update CC

lundi 24 novembre 2025 15:05 (30 minutes)

Orateurs: BOUTIGNY, Dominique (LAPP);   HERNANDEZ, Fabio (CC-IN2P3)

Classification de Session: General updates

ID de Contribution: **7**   Type: **Non spécifié**

lightning DP1/DP2?

lundi 24 novembre 2025 15:35 (25 minutes)

Classification de Session: General updates

ID de Contribution: **8** Type: **Non spécifié**

Introduction to Calibration and Instrument Signal Removal

mardi 25 novembre 2025 09:30 (40 minutes)

Orateur: GUILLEMIN, Thibault (LAPP)

Classification de Session: Science talks

ID de Contribution: **9**   Type: **Non spécifié**

Invited talk: retrospective on the filter loader

lundi 24 novembre 2025 16:50 (35 minutes)

Orateur: VEZZU, Francis (LPSC)

ID de Contribution: **10**   Type: **Non spécifié**

Introduction on what we do in a 3x2pt cosmological analysis

lundi 24 novembre 2025 18:00 (30 minutes)

Orateur: DOUX, Cyrille (LPSC)

ID de Contribution: **11**   Type: **Non spécifié**

Introduction to DESC tools

mardi 25 novembre 2025 09:00 (30 minutes)

Orateur: BARROSO, eduardo (LAPP)

ID de Contribution: **12**   Type: **Non spécifié**

Early Inference of Supernova Light Curve Parameters with Physics-Informed Neural Networks

mercredi 26 novembre 2025 09:20 (20 minutes)

The early light curves of supernovae provide critical insights into the properties of their progenitor systems and, in some cases, play an essential role in our understanding of the evolution of the Universe. With the advent of wide-field surveys such as the Vera C. Rubin Observatory Legacy Survey of Space and Time (LSST), large samples of early supernova light curves will become available, offering unprecedented opportunities to study massive star evolution and explosion physics. LSST, in particular, will dramatically increase the discovery rate of supernovae during the earliest phases of their explosions. Given the vast number of nightly alerts, rapid and accurate characterization of early light curves from photometric follow-up observations is essential. Here we present a Physics-Informed Neural Network framework to model supernova light curves, combining shock-cooling models for Type II supernovae with color-based models for Type Ia. Using the Type II-P supernova SN 2022acko as a test case, we demonstrate that our method can constrain progenitor star radii from limited data, achieving reliable results within just a few days of observations. This approach provides a scalable path toward extracting physical parameters from the influx of early-time data expected in the LSST era.

Auteur: TEIXEIRA, Gabriel (Centro Brasileiro de Pesquisas Físicas)

Co-auteurs: Dr DE BOM, Clecio; Dr ISHIDA, Emille

Orateur: TEIXEIRA, Gabriel (Centro Brasileiro de Pesquisas Físicas)

Classification de Session: Science talks

ID de Contribution: **13**   Type: **Non spécifié**

Fink broker Status Update

mercredi 26 novembre 2025 09:00 (20 minutes)

I will give an overview of the last activities of the Fink broker, and describe the status of processing Rubin alerts.

Auteur: Dr ISHIDA, Emille (CNRS/LPC-Clermont)

Orateur: Dr ISHIDA, Emille (CNRS/LPC-Clermont)

Classification de Session: Science talks

ID de Contribution: **14** Type: **Non spécifié**

Discussions on AI

mardi 25 novembre 2025 16:30 (1 heure)

Classification de Session: Parallel

ID de Contribution: **16**   Type: **Non spécifié**

Computing environment for Rubin science analysis at IN2P3

I will present the plans to deploy the computing infrastructure in support of Rubin science at IN2P3. I will also describe the tests that we intend to perform on the short term to validate and improve the model.

Auteur: BOUTIGNY, Dominique (LAPP)

Orateur: BOUTIGNY, Dominique (LAPP)

Classification de Session: General updates

ID de Contribution: **17**   Type: **Non spécifié**

Toward 1 mmag Photometric Precision in Y band : PWV Measurement Challenges and Advances

mardi 25 novembre 2025 11:00 (20 minutes)

Accurate modeling of precipitable water vapor (PWV) variations is essential to meet Rubin Observatory's photometric precision requirements, particularly in the Y band. Simulations with *getObsAtmo* and *rubin_sim* show that achieving photometric errors below 1, 5, and 10 mmag corresponds respectively to statistical PWV uncertainties of $\Delta PWV_{stat} < 0.03, 0.1,$ and 0.5 mm.

PWV measurements combining the empty and OG550 filters currently reach a repeatability of $\sigma(PWV) \approx 0.1$ mm, consistent with the 5 mmag precision goal. However, systematic effects —including diffraction order contamination, biased throughput , and bad PSF model —still dominate, keeping repeatability about an order of magnitude above the statistical limit. Restricting the analysis to the OG550 filter mitigates first- and second-order mixing, revealing statistical errors as low as 0.01 mm.

Residual differences between targets are weakly correlated with magnitude or color and may partly reflect real atmospheric fluctuations. Observations separated by more than one hour show random PWV variations of 0.1–0.2 mm, consistent with genuine temporal and spatial gradients in atmospheric transmission.

From steady-phase observations, a per-measurement precision of $\sigma(PWV) = 0.07$ mm is achieved. Considering the current level of systematics and the demonstrated statistical performance, a precision of 0.01 mm in PWV —equivalent to 1 mmag accuracy in the Y band —appears attainable after forthcoming instrumental improvements.

Auteur: Dr DAGORET, Sylvie (IJCLab)

Co-auteurs: LAMURE FONTANINI, Angelo (IJCLab); Dr RAVOUX, Corentin (LPCA); Dr VAN DEN ABEELE, Enya (IJCLab); Dr NEVEU, Jeremy (IJCLab); Dr MONIEZ, Marc (IJCLab); Dr PAUNA, Nicoleta (LPCA); Dr GRIS, Phillipe (LPCA)

Orateur: Dr DAGORET, Sylvie (IJCLab)

Classification de Session: Science talks

ID de Contribution: **18**   Type: **Non spécifié**

Halo Mass Function closure tests

mardi 25 novembre 2025 15:20 (20 minutes)

The Halo Mass Function (HMF) is a parametric function that allows to describe the distribution of halos masses given a cosmology and the redshift. It is thus widely used in cluster analyses to extract cosmological parameters like sigma_8 and Omega_M from the observation of clusters. Many different HMF exist in the literature with different parameterizations as a function of redshift and cosmological parameters. In the DESC cluster pipeline, no choice has been yet done on which function to use. I propose in this talk to make a quick review of what the HMF is, what are the different ones that exist in literature, and then compare them. The comparison is based on their capability to extract the cosmology of the LSST simulation (cosmoDC2), ie making a closure test. If results are ready on time, I will also show how this closure evolves when instead of just using clusters detected with FoF or SOD algorithms in cosmoDC2, we use the full DESC cluster pipeline.

Auteur: LORENZO MARTINEZ, Narei (LAPP)

Orateur: LORENZO MARTINEZ, Narei (LAPP)

Classification de Session: Science talks

ID de Contribution: **19**   Type: **Non spécifié**

Cosmology with peculiar velocities from LSST supernovae

mardi 25 novembre 2025 14:20 (20 minutes)

We present the first forecast for the measurement of the cosmic growth-rate parameter, fσ8, using peculiar velocities (PVs) derived from Type Ia supernovae (SNe Ia) in the Vera C. Rubin Observatory's Legacy Survey of Space and Time (LSST). We produce simulations of different SNe types using a realistic LSST observing strategy, incorporating noise, photometric detection from the Difference Image Analysis (DIA) pipeline, and the PV field modeled from the Uchuu Universe Machine simulations. Using the maximum likelihood method, we show that LSST can measure fσ8 with an accuracy of 10% in the redshift range 0.02 < z < 0.14 for our most realistic scenario.
We present the future projects of the DESC PV group that summarize the last updates discussed during the DESC workshop which happened last September in Marseille.

Auteur: ROSSELLI, Damiano (CPPM)

Orateur: ROSSELLI, Damiano (CPPM)

Classification de Session: Science talks

ID de Contribution: **20**   Type: **Non spécifié**

Simulation-Based Inference (SBI) for cosmology with type Ia Supernovae (SNe Ia).

mardi 25 novembre 2025 15:00 (20 minutes)

Systematic uncertainties associated to calibration, selection function and astrophysical effects are dominating the error budget of SN Ia cosmology. Correction methods applied to account for these systematics, and especially for the complex combination of selection function and astrophysical variability, are questionable, particularly given the current H0 and Lambda tensions for which SN Ia data are central.

Recently, the ZTF survey has produced a volume-limited sample of more than a thousand of SNe Ia, allowing us to directly probe the distribution of SNe Ia parameters without being affected by selection effects. We use the skysurvey simulator to simulate the ZTF volume limited dataset in order to train a neural network that infers input simulation parameters.

This novel inference method, called SBI, is a promising avenue to solve the complex problem of cosmological inference with SNe Ia data, and thus to accurately derive H0, w0 and wa. I will review in this talk the status of this ongoing activity.

Auteur: TRIGUI, Adam (IP2I)

Orateur: TRIGUI, Adam (IP2I)

Classification de Session: Science talks

ID de Contribution: **21**   Type: **Non spécifié**

Early identification of Optical Tidal Disruption Events: A science module for the Fink broker

mercredi 26 novembre 2025 10:20 (20 minutes)

Tidal disruption events (TDEs) refer to the destruction of a star by the tidal forces around a black hole, leading to outbursts that can last for months. Although modern optical time-domain surveys have substantially expanded the known TDE sample, these events remain rare. Further increasing the sample is crucial for advancing our understanding of the underlying physics, making TDE discovery a key science goal for surveys like Rubin.

Efficiently identifying TDEs within the vast alert streams generated by such surveys requires automated, robust, and reliable classification pipelines capable of selecting promising candidates in real time.

In this presentation, I will introduce a module within the Fink alert broker that we developed to identify TDEs during their rising phase. It currently operates on ZTF data and will soon be adapted for Rubin. It autonomously filters the alert stream and reports a small list of candidates every night through a user-friendly interface for manual inspection, enabling spectroscopic and multi-wavelength follow-up near peak brightness.
I will also showcase a few noteworthy nuclear transients that were identified in archival data during the module's development and conclude with a discussion of the challenges and plans for scaling the module to Rubin's alert stream.

Auteur: Dr LLAMAS LANZA, Miguel (IRAP)

Orateur: Dr LLAMAS LANZA, Miguel (IRAP)

Classification de Session: Science talks

ID de Contribution: **22**   Type: **Non spécifié**

skysurvey : a Python library for fast, easy, and realistic transient simulations for LSST-like surveys

mardi 25 novembre 2025 14:40 (20 minutes)

Realistic transient simulations are essential to interpret the observations of surveys such as LSST. I will present skysurvey, a Python library developed in the cosmological team in Lyon, that simulates astrophysical transients, and in particular Type Ia supernovae, for any survey, including LSST. skysurvey aims to combine computational efficiency, ease of use, and physical realism and complexity in transient simulations.

I will present the main features of skysurvey, its application to LSST-like simulations, and discuss the ongoing developments and perspectives of this project.

Auteur: DELLAZZERI, Luna (Institut de Physique des 2 Infinis de Lyon)

Orateur: DELLAZZERI, Luna (Institut de Physique des 2 Infinis de Lyon)

Classification de Session: Science talks

ID de Contribution: **23**   Type: **Non spécifié**

The cosmic matter dipole problem and weak lensing

mercredi 26 novembre 2025 11:10 (20 minutes)

The Ellis and Baldwin formula provides a model-independant way to measure our own velocity with respect to matter at large scale. However, this measurement doesn't coincide with the same measurement with respect to the CMB, which puts into question the existence of the Cosmological Rest Frame [Secrest et al. 2021]. I will explain how LSST will provide an extremely useful data set to work on this issue, and what are the systematics and specificities that have to be taken into account. In particular, I will talk about weak lensing, and its potential impact on this measurement.

Auteur: BONNEFOUS, Albert (Institut d'Astrophysique de Paris)

Orateur: BONNEFOUS, Albert (Institut d'Astrophysique de Paris)

ID de Contribution: **24**   Type: **Non spécifié**

Full-Field Weak Lensing Inference at LSST Scale with Differentiable, Distributed Simulations

mercredi 26 novembre 2025 11:30 (20 minutes)

Weak gravitational lensing maps contain rich, non-Gaussian information that standard two-point statistics miss. **Full-field inference** tackles this by forward-modeling the entire map—evolving initial conditions through structure formation and observational effects—and using the maps themselves to learn about cosmology, without compressing to summary statistics.

In this talk, I will present a scalable, **JAX-based**, fully differentiable forward model for weak lensing at LSST scale. Built on the latest **JAXPM**, it produces spherical shear and convergence (κ) maps and runs efficiently on distributed GPUs; I will describe how we executed the pipeline on the **Jean Zay** supercomputer. I'll focus on the practical design choices that make end-to-end differentiation and multi-GPU scaling feasible, and outline the next steps toward a complete inference pipeline on realistic survey data, including survey masks, noise, and photometric-redshift effects.

Auteur: KABALAN, Wassim (CNRS APC/IN2P3)

Co-auteurs: Dr BOUCAUD, Alexandre (CNRS / APC); Dr LANUSSE, François (CNRS / AIM)

Orateur: KABALAN, Wassim (CNRS APC/IN2P3)

ID de Contribution: **25**   Type: **Non spécifié**

Probabilistic Inference of Galaxy Properties from Multi-Modal Latent Space Representations

mercredi 26 novembre 2025 11:50 (20 minutes)

Cosmological research in the era of deep, wide-area surveys such as Euclid and Rubin/LSST benefits greatly from combining datasets collected with different instruments. However, the large volume of data makes analysis increasingly challenging. To address this, we developed a package based on the Variational Autoencoder (VAE) architecture that enables compact representations of spectroscopic and photometric datasets in a common latent space. This framework allows us to infer probability distributions for key galaxy parameters –such as redshift and stellar population properties –by jointly modeling spectral and photometric modalities. Our method provides a scalable probabilistic approach to galaxy property inference across large photometric and spectroscopic datasets, and we have successfully applied it to spectroscopic data from DESI and photometric data from HSC within the HSC-SSP survey area.

Auteur: GRISHIN, Kirill (Astroparticle and Cosmology Lab., CNRS)

Co-auteurs: Dr ROSSET, Cyrille (Astroparticle and Cosmology Lab., CNRS); Dr ROUCELLE, Cécile (Astroparticle and Cosmology Lab., CNRS); Dr AUBOURG, Eric (Astroparticle and Cosmology Lab., CNRS)

Orateur: GRISHIN, Kirill (Astroparticle and Cosmology Lab., CNRS)

ID de Contribution: **26** Type: **Non spécifié**

StarDICE IV: a new hope

mardi 25 novembre 2025 10:10 (20 minutes)

StarDICE is a photometric calibration experiment attempting to establish NIST-traceable spectrophotometric standard stars for the upcoming LSST supernova survey. Since the last LSST-France meeting, the experiment has resumed observations after upgrades in the data acquisition, and a thorough measurement campain of the instrument transmission curves using a dedicated instrument called monoDICE.

In this contribution we intend to present the monoDICE measurement results and review the improvements in the analysis. We then discuss the progress and perspectives for the new survey.

Auteur: BETOULE, Marc (LPNHE)

Orateur: BETOULE, Marc (LPNHE)

Classification de Session: Science talks

ID de Contribution: **27**   Type: **Non spécifié**

The Rubin ToO Program

lundi 24 novembre 2025 17:25 (35 minutes)

Rubin Observatory is a discovery machine, with the capability to identify exotic astrophysical transients faster than any existing observatory. 3% of the LSST has been allocated for Target of Opportunity observations, which includes an observatory response to gravitational wave events, high energy neutrinos, potentially-hazardous asteroids, and other astrophysical phenomena. Target of Opportunity observations exist outside of the usual LSST operational mode, and therefore require special attention to ensure maximum discovery capabilities. I will briefly review the community designed ToO observing strategies, integration activities during 2025, ToO's pursued since LSST first photon, and the Rubin-LVK-IceCube ToO mock data challenge.

Auteur: MACBRIDE, Sean (University of Zurich)

Orateur: MACBRIDE, Sean (University of Zurich)

ID de Contribution: **28**   Type: **Non spécifié**

New AuxTel standards with Gaia

mardi 25 novembre 2025 11:20 (20 minutes)

The Auxiliary telescope (AuxTel) of the Rubin Observatory is a spectrometer that precisely characterizes the atmosphere during LSST observation. Observing standard stars and comparing the resulting spectra with out-of-atmosphere CALSPEC spectra gives the whole atmospheric transmission curve. This procedure is performed with a forward modeling software called Spectractor, which is implemented in the main LSST pipeline. In particular, the water content of the atmosphere (PWV) can have a significant impact on the magnitude of the redder LSST bands (i, z, y) and thus on high-redshift supernovae. The CALSPEC star catalog does not cover the full LSST sky, especially for deep drilling fields (DDFs). I will present the use of the GAIA star spectra catalog for AuxTel. We tested the performance of Spectractor with GAIA standards on the available dataset, showing an unbiased determination of PWV. We created a dedicated GAIA source catalog that is optimal for AuxTel and the following of DDF fields. Finally, we derived a correction of the GAIA spectra by directly comparing the CALSPEC/GAIA catalogs. This correction drastically improved the capacity of AuxTel to determine the atmospheric ozone content with GAIA.

Auteur: RAVOUX, Corentin (LPC Clermont-Ferrand CNRS/IN2P3)

Orateur: RAVOUX, Corentin (LPC Clermont-Ferrand CNRS/IN2P3)

Classification de Session: Science talks

ID de Contribution: **29**   Type: **Non spécifié**

$f\sigma_8$ measurement with the type Ia Supernovae from the Zwicky Transient Facility DR2.5

mardi 25 novembre 2025 14:00 (20 minutes)

$f\sigma_8$ is a powerful probe at low redshift to discriminate between different theories of gravity. In linear theory, this parameter is directly related to the velocity field. In this talk, I will show how the peculiar velocities of ZTF Type Ia supernovae can be used to measure $f\sigma_8$. I apply a maximum likelihood approach together with realistic simulations based on N-body mocks. I also investigate systematic effects in preparation for the analysis of the ZTF Data Release 2.5.

Auteur: KEBADIAN, Rafael (CPPM)

Orateur: KEBADIAN, Rafael (CPPM)

Classification de Session: Science talks

ID de Contribution: **30**   Type: **Non spécifié**

Study the blazar variability through ZTF/LSST and the CTAO with Fink

mercredi 26 novembre 2025 10:00 (20 minutes)

To date, blazars constitute the largest population of objects in the extragalactic gamma-ray sky. They generate over 50% of the extragalactic diffuse gamma-ray background photon flux at energies higher than 100 MeV. They are a subclass of active galactic nuclei that exhibit a relativistic jet pointing towards Earth at an angle of less than 10°. Their electromagnetic emission spans from radio to TeV gamma rays, with half of their power emitted in the latter range.

The emission and acceleration processes of blazars remain a mystery to the scientific community. The typical model used to describe the emission spectrum of blazars accounts for synchrotron emission in the optical range and inverse Compton emission in the gamma-ray range, suggesting a possible correlation between the two wavelengths. The acceleration of particles in the jet up to TeV energies is one of several extreme properties of blazars. Other notable features include their extreme variability in emission with no typical timescale (ranging from minutes to years). Studying this variability would improve our understanding of the aforementioned acceleration and emission processes.

This variability highlights the importance of observing blazars in different states to investigate various scientific phenomena. First, we will describe the Fink tools that enable such a follow-up programme. This programme is necessary for both optical blazar observations and possible gamma-ray follow-ups from the CTAO triggered by LSST. Next, we will examine the duty cycle of blazar emission activity to gain insight into their properties (e.g. the Fourier index).

Auteur: HAMO, Julian (IJCLab)

Orateur: HAMO, Julian (IJCLab)

Classification de Session: Science talks

ID de Contribution: **31**   Type: **Non spécifié**

Vetting Fast transients with LSST : preparatory work with ZTF

mercredi 26 novembre 2025 09:40 (20 minutes)

The LSST will provide an excellent opportunity to study a wide range of fast transients and to better understand the diverse physical mechanisms driving explosive astrophysical events. During the first month of my PhD, I conducted research aimed at distinguishing rapid explosive transients and performed systematic scans using the Skyportal platform and the private ZTF alert stream. These same cuts will then be adapted and applied to the LSST, and I will share my findings based on my month-long experience with the ZTF.

Auteur: JACQUESSON, Alex (IJCLab pôle a2c og)

Orateur: JACQUESSON, Alex (IJCLab pôle a2c og)

Classification de Session: Science talks

ID de Contribution: **32** Type: **Non spécifié**

Retour d'expérience avec les CBP

mardi 25 novembre 2025 11:40 (20 minutes)

Je propose une présentation pour la session parallèle CBP. Je parlerai des différentes versions du CBP qui ont été construites parallèlement à celui de Rubin, pour mettre en lumière leurs résultats, leurs avantages et inconvénients, ainsi que les leçons apprises qui font écho aux travaux sur le CBP Rubin.

Auteur: NEVEU, Jérémy (IJCLab)

Orateur: NEVEU, Jérémy (IJCLab)

Classification de Session: Parallel

ID de Contribution: **33**   Type: **Non spécifié**

Estimating Rubin/LSST sensitivity to dark matter subhalos impact on stellar streams

Dark matter subhalos with masses from 10^6 to 10^9 solar masses are mostly invisible, but could impact the structure of stellar streams observed by LSST. Presentation on how LSST systematics could impact density fluctuations measurements in stellar streams, used to set dark matter constrains.

Auteur: PELISSIER, Matthieu (LPSC/UGA)

Orateur: PELISSIER, Matthieu (LPSC/UGA)

Classification de Session: Science talks

ID de Contribution: **34**   Type: **Non spécifié**

Cosmology from the Rubin Void Size Function

mercredi 26 novembre 2025 12:30 (20 minutes)

Cosmic voids are a powerful tool to extract cosmological constraints and study galaxy properties' dependence on the environment. This project builds a pipeline for constraining cosmological parameters using the void size function (VSF). We build the void catalogs from the SkySim5000 galaxy catalogs using the publicly available VIDE void finder. The cosmological constraints'inference relies on the state of the art theoretical model for the VSF and this project is the first to confront theoretical models to measurements made from voids obtained from photometric redshift tracer data, without assuming a spherical shape for voids. As such, it investigates the impact of statistical and systematic photometric redshift uncertainties on void statistics. Extracted constraints include constraining the dark energy equation of state, sigma 8, the dark matter density, the content of the Universe and the sum of neutrino masses.

Auteur: BOCCARD, Pierre (CPPM)

Orateur: BOCCARD, Pierre (CPPM)

ID de Contribution: **35**   Type: **Non spécifié**

Estimating Rubin/LSST sensitivity to dark matter subhalos impact on stellar streams

mercredi 26 novembre 2025 12:10 (20 minutes)

Dark matter subhalos with masses from 10^6 to 10^9 solar masses are mostly invisible, but could impact the structure of stellar streams observed by LSST. Presentation on how LSST systematics could impact density fluctuations measurements in stellar streams, used to set dark matter constrains.

Auteur: PELISSIER, Matthieu (LPSC/UGA)

Orateur: PELISSIER, Matthieu (LPSC/UGA)

ID de Contribution: **36** Type: **Non spécifié**

Other contributions to CBP // session

mardi 25 novembre 2025 12:00 (40 minutes)

Classification de Session: Parallel

ID de Contribution: **37**   Type: **Non spécifié**

Centre Pierre Binétruy

mardi 25 novembre 2025 17:35 (20 minutes)

I will present the Centre Pierre Binétruy, located on the campus at UC Berkeley and working closely with Stanford and SLAC. The Center's role is to facilitate collaborations between French researchers and researchers in the Bay Area: UC Berkeley, LBNL, Stanford, SLAC. We have funds to support travel and can host short- and long-term visitors. One of our flagship projects is Rubin/LSST.

Auteur: Prof. BARTLETT, James (Centre Pierre Binétruy)

Orateur: Prof. BARTLETT, James (Centre Pierre Binétruy)

ID de Contribution: **38**　　　　　　　　　　　　　　　　Type: **Non spécifié**

Last words

mercredi 26 novembre 2025 12:50 (10 minutes)

Orateur:　Dr BREGEON, Johan (IN2P3 LSPC)