

Contemporary Perspectives on Cosmology and Gravity

Rapport sur les contributions

ID de Contribution: 24

Type: **Non spécifié**

Colloquium: Analogue Gravity and its applications to water waves

mardi 25 novembre 2025 13:30 (1 heure)

Analogue Gravity is a transdisciplinary field that explores and exploits the mathematical correspondence between, on one hand, field propagation in curved spacetime, and on the other, wave propagation in laboratory-based systems. In the long-wavelength limit, where the microscopic particulate nature of matter is lost from view, this correspondence is exact: the system is analogous to a gravitational one, with a background flow engendering an effective spacetime metric that governs the behaviour of wave-like perturbations. Unruh [Phys. Rev. Lett. 46, 1351 (1981)] was the first to suggest a concrete use of this analogy: to experimentally investigate Hawking radiation from black holes, which occur when the flow passes from a subcritical region to a supercritical one. The analogy can thus bring certain gravitational phenomena, hidden from view by practical difficulties, into the realms of observational accessibility via lab-based experiments.

I will give an overview of Analogue Gravity and present some applications to the particular system of water waves, which is being studied at Institut Pprime near Poitiers.

Orateur: ROBERTSON, Scott (Institut Pprime / CNRS)

ID de Contribution: 26

Type: **Non spécifié**

On Testing General Relativity with Gravitational Waves and Neutron Stars

jeudi 27 novembre 2025 14:00 (1 heure)

Orateur: HERTZBERG, Mark (Tufts University)

ID de Contribution: 27

Type: **Non spécifié**

Secondary Gravitational Waves in Modified Gravity

mercredi 26 novembre 2025 14:00 (1 heure)

Orateur: DOMENECH, Guillem (Leibniz University Hannover)

ID de Contribution: 28

Type: **Non spécifié**

Theories with Torsion and Nonmetricity: From cosmology to Astrophysics

lundi 24 novembre 2025 11:00 (1 heure)

Orateur: BAHAMONDE, Sebastián (Institute for Basic Science)

ID de Contribution: 29

Type: **Non spécifié**

Imperfect dark matter with higher derivatives

lundi 24 novembre 2025 15:00 (1 heure)

Orateur: GORJI, Mohammad Ali (Institute for Basic Science (IBS))

ID de Contribution: 30

Type: **Non spécifié**

An extra-natrual mechanism of superheavy Kaluza-Klein particle production

mardi 25 novembre 2025 11:00 (1 heure)

Orateur: YAMADA, Yusuke (IBS CTPU-CGA)

ID de Contribution: 31

Type: **Non spécifié**

Non-Gaussianity of tensor induced density perturbations

mercredi 26 novembre 2025 10:00 (25 minutes)

Orateur: BARI, Pritha (University of Padova)

Classification de Session: Workshop

ID de Contribution: 32

Type: **Non spécifié**

Cosmological correlators beyond the de-Sitter lamppost

mercredi 26 novembre 2025 11:40 (25 minutes)

Orateur: ZHU, Yuhang (IBS-CTPU-CGA)

Classification de Session: Workshop

ID de Contribution: 33

Type: **Non spécifié**

Decoherence of primordial perturbations in the view of a local observer

mercredi 26 novembre 2025 10:50 (25 minutes)

Orateur: SANO, Fumiya (Institute of Science Tokyo / Institute for Basic Science)

Classification de Session: Workshop

ID de Contribution: 34

Type: **Non spécifié**

non-Markovianity in stochastic inflation

mercredi 26 novembre 2025 10:25 (25 minutes)

Orateur: KURODA, Tomotaka (IBS-CTPU-CGA/Institute of Science Tokyo)

Classification de Session: Workshop

ID de Contribution: 35

Type: **Non spécifié**

Nonsingular Cosmologies in Horndeski Gravity

mercredi 26 novembre 2025 12:05 (25 minutes)

Orateur: PETROV, Pavel (IBS CTPU CGA)

Classification de Session: Workshop

ID de Contribution: 36

Type: **Non spécifié**

Black holes as a laboratory for dark matter

jeudi 27 novembre 2025 10:00 (25 minutes)

Orateur: DING, Qianhang (Institute for Basic Science)

Classification de Session: Workshop

ID de Contribution: 37

Type: **Non spécifié**

Slowly rotating black holes in scalar-tensor theories of gravity

jeudi 27 novembre 2025 10:25 (25 minutes)

Orateur: CANDAN, Hugo (Observatoire de Paris / IJCLab)

Classification de Session: Workshop

ID de Contribution: 38

Type: **Non spécifié**

Theoretical filters for shift-symmetric Horndeski gravities

jeudi 27 novembre 2025 10:50 (25 minutes)

Orateur: NAKAS, Theodoros (Institute for Basic Science, CTPU-CGA)

Classification de Session: Workshop

ID de Contribution: 39

Type: **Non spécifié**

Quantum Ghost

jeudi 27 novembre 2025 12:05 (25 minutes)

Orateur: JALALI, Atabak (CEICO, FZU)

Classification de Session: Workshop

ID de Contribution: 40

Type: **Non spécifié**

Post-Newtonian tidal effects in the gravitational waveform from binary inspirals in scalar-tensor theories

jeudi 27 novembre 2025 11:40 (25 minutes)

Orateur: DONES, Eve (LUX - Observatoire de Paris)

Classification de Session: Workshop

ID de Contribution: 41

Type: **Non spécifié**

A Photon Cloud Induced from an Axion Cloud

jeudi 27 novembre 2025 15:30 (25 minutes)

Orateur: TANG, Zi-Yu

Classification de Session: Workshop

ID de Contribution: 42

Type: **Non spécifié**

Multimodal axion emissions from Abelian-Higgs cosmic strings

jeudi 27 novembre 2025 15:55 (25 minutes)

Orateur: UWABO, Michiru (IBS-CTPU-CGA)

Classification de Session: Workshop

ID de Contribution: 43

Type: **Non spécifié**

Decay and lifetime of oscillons coupled to an external scalar field: Insights from instability band analysis

jeudi 27 novembre 2025 16:20 (25 minutes)

Orateur: LI, Siyao (IBS CTPU-CGA/Institute of Science Tokyo)

Classification de Session: Workshop

ID de Contribution: 44

Type: **Non spécifié**

Imprints of energy injection by compact dark stars during reionization

mercredi 26 novembre 2025 15:55 (25 minutes)

Orateur: BETANCOURT, Boris (IBS-CTPU-CGA)

Classification de Session: Workshop

ID de Contribution: 45

Type: **Non spécifié**

On the fate of explicit diffeomorphism violation in gravity

mercredi 26 novembre 2025 15:30 (25 minutes)

Orateur: NILSSON, Nils A. (IBS CTPU-CGA)

Classification de Session: Workshop

ID de Contribution: 46

Type: **Non spécifié**

Termination of Superradiance from a Binary Companion

mercredi 26 novembre 2025 16:20 (25 minutes)

Orateur: ZHU, Huiyu (Institute for Basic Science)

Classification de Session: Workshop