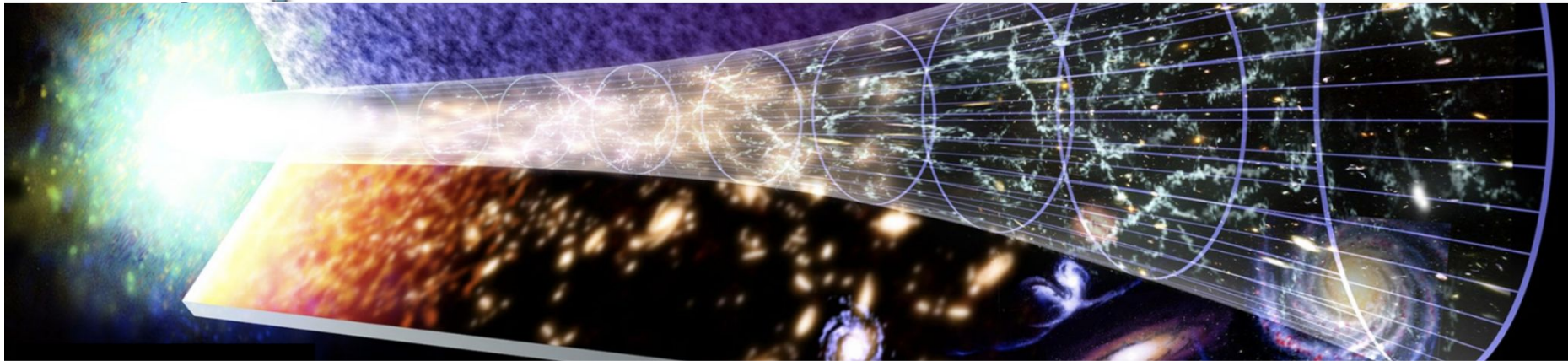




Cosmological Physics GDR



(*) GDR="Groupement De Recherche"

ABOUT THE COPHY GDR

What is it ?

The Groupement De Recherche (GDR) CoPhy aims to bring together all actors working in the field of Cosmology in France, experimentalists, phenomenologists and theorists, and to provide opportunities for meetings and joint discussions. It will contribute to promote and give visibility to young researchers in the field.

CoPhy Science Drivers

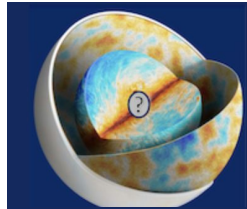


Initial conditions and primordial Universe

Fundamental laws of the Universe

Matter and energy content of the Universe

Working Groups



Colloque national
CMB-France

TUG

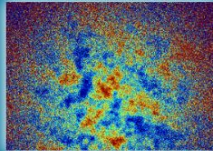
Main principles:

- * build on existing initiative
- * not reinvent the wheel
- * Enlarge the topics of the ADE Tools WG => a GDR WG



Dark Energy

The Dark Energy Working
Group



CMB

The Cosmic Microwave Background
Working Group



TUG

The Theory, Universe and Gravitation
Working Group



Tools

The Tools and Methodology Working
Group

General meetings of the community as a whole + **Transverse Task Forces**

Transverse Task Forces

What is it ???

“Transverse Task forces will be put in place as needed to meet the ad-hoc interests and needs of the GDR members. They aim at focusing on more narrow, dedicated topics, and will have a limited duration. Some examples could be non-linearities, cross-correlations or table-top experiments.”

=> a way to gather together some collaborators to work on a dedicated subject, based on the needs/interests of the community

When will we discuss the Transverse Task Forces topics ???

mer. 18/01

10:00

Discussions (links with other GDR, Task forces..)

Amphi Charpak, LPNHE

10:00 - 11:00

To prepare tomorrow's discussion, please share your proposals in:

<https://docs.google.com/presentation/d/1peJKvDdduyWWH0GgvK0WzjNtUjQ86YujlGztThr23Bc/edit#slide=id.p>

GDR Coordination Team

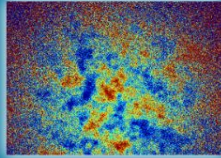
For a period of 4 years (starting Jan. 2023), the GDR is coordinated by Sophie Henrot-Versillé as director,
and Samuel Boissier and Vincent Vennin acting as deputy directors,
together with a steering committee composed of Working Groups coordinators



Dark Energy

The Dark Energy Working Group

Alain Blanchard
Philippe Brax
Pauline Zarrouk



CMB

The Cosmic Microwave Background Working Group

François Bouchet
Matthieu Tristram



TUG

The Theory, Universe and Gravitation Working Group

Vivian Poulin
Pasquale Serpico



Tools

The Tools and Methodology Working Group

Guilhem Lavaux
Yann Rasera

+ a Point Of Contact in each lab to ease the communication

First actions

The web page:

<https://gdr-cophy.in2p3.fr/>

For the record, the mailing lists:

- to contact us:
 - copil-gdr-cophy@services.cnrs.fr
 - dir-gdr-cophy@services.cnrs.fr
- to contact you:
 - gdr-cophy-all@services.cnrs.fr

And a slack channel:

- gdr-cophy.slack.com



You can register: click [here](#) !



You can register : enter your information [there](#) !!
(requires a validation: check your emails)

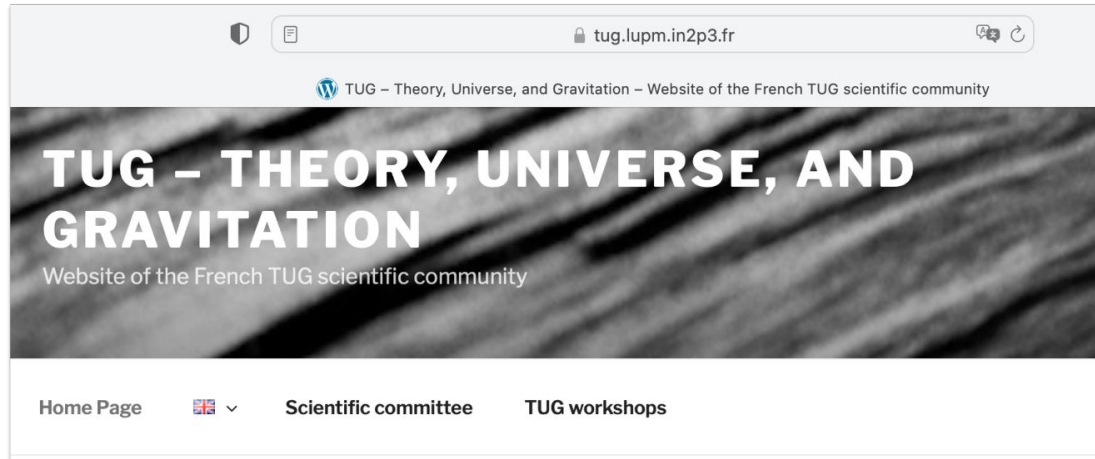
THE kick Off Meeting ! => starting today !

Liste des participants

156 participants

Théorie, Univers et Gravitation (TUG)

3-year-old **Agora** for French-based **theoretical physicists** working in a **broad range of topics**
(*from primordial universe to large-scale structures, from GR in the strong field regime to quantum gravity,
from astroparticle phenomena to string cosmology & more formal questions*)



Grassroots initiative of people working in different areas and different institutes to foster exchanges, make each other aware of different approaches, and create a reference network for young scientists

Main event: Annual meeting (next planned in LPENS, dates TBA)

Supported by PNCG, PNHE, PNGRAM + Laboratory funds

“Tools and methodology” Working Group

Guilhem Lavaux / Yann Rasera

A former ADE... new transverse WG

HomePage

action dark energy

TOOLS MAIN PAGE

A template for your Tool page

Wiki Sandbox

Boite à idées

Working Group Members

Collaboration tools

Useful links

Common workspace

Meetings

Homogeneous expansion

Linear perturbations

Simulations

Methods

ACTION NATIONALE DARK ENERGY

Changes - (Group) Search Go

View Edit History Print

TOOLS /

TOOLS Main Page

Welcome to the wiki page of the TOOLS group.

People

Working Group (Members, collaboration tools, useful links, common workspace)

Meetings

Boite à idées

Science

Homogeneous expansion (FLRW and beyond)

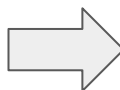
Linear perturbations (Einstein-Boltzmann solvers)

Simulations (cosmological simulations)


Non-linear evolution (approximate methods such as perturbation theory, halo model)

Methods for analysis (methods for data processing such as objects finder, correlator, MCMC, machine learning)

Visualization



The Tools and Methodology Working Group of the GDR CoPhy



Index

Submit a new tool

Database

Website of Action Dark Energy

Site administration

© 2022-2023, Guilhem Lavaux / Yann Rasera

Design: HTML5 UP

Logo image: Charles Telford, 2003, CC BY-NC-SA 2.0

Description of the WG activities

This working group is dedicated to raise awareness of new tools and methodology developed in the wider French community to do cosmology. The tools must be understood in a wide sense: it may be large software stack, online websites, or Mathematica® notebook.

Learn More

Who we are

The WG is currently (2022-2023) lead by:

- Guilhem Lavaux (IAP/CNRS)
- Yann Rasera (LUTH/UPC/Paris Observatory)

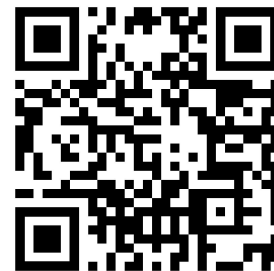
Planned activities

- Aims at “sharing and helping the development of tools for which the needs are common to all the actors of the GDR”
- Tools may be understood in a wide sense
 - software (simulation, analysis code, ...)
 - notebook (theory)
- And with a wide range of applications e.g. :
 - predictions of cosmological observables and/or uncertainties
 - estimators for data analysis
 - cosmological inference
 - production of validation data
 - symbolic calculation in the cosmological context

We identify three levels of action so far:

- **Website**
 - Deployed at: https://univers.iap.fr/gdr_tools/ (NEW)
 - Dynamic database to collect tools from the French community
- **Highlight talks by developer(s) of these “softwares” at GDR meetings e.g. at this meeting:**
 - Machine Learning (F.Lanusse)
 - Magrathea-pathfinder (M-A.Breton)
 - Sibelius-Dark (G. Lavaux)
- **Dedicated workshops in coordination with the other WGs**

What we want from you



- *Website:* Connect to https://univers.iap.fr/gdr_tools/
- Fill up the database (“Submit a new tools”), it takes **1 minute** ([demo](#))
- You may improve the existing entries
- New tools/Modifications are validated by us manually
- *Talks & Workshops:*

Propose Talks/Workshops on relevant tools to us (javaux@iap.fr, yann.rasera@obspm.fr)