

Groupe Analyse de données

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GW data analysis

► PTA:

- Ongoing data analysis of real data with an increasing number of TOAs
- Complex noise modeling and overlapping permanent sources
- Large number of parameters

► LISA:

- After 20 years of data challenges, the LISA project is performing heavy prototyping until 2031 organized by the LISA Distributed Data Processing Center (>200 contributors) driven by the releases of common dataset of increasing complexity (next one: Mojito Light release in dec 2025)
- Preparation of the scientific exploitation by the LISA Consortium

► LVK:

- Ongoing data analysis of real data: large data volume, fast analysis, multiple methods
- Well separated deterministic sources + permanent (SGWB, continuous)

► ET:

- Large volume of data with overlapping sources (similar to LISA?)
- Starting data analysis development, with a first Mock Data Challenge

Activities

- ▶ **2024**: workshop on 1 day in person in Marseille, just after the AG:
 - Talks on the three frequency bands with interesting exchanges
 - but low participation.
 - ▶ **2025**: new format
 - **2 half days** in remote with focus topics
 - We identified two possible topics at the moment:
 - Time domain analysis (wavelets, etc)
 - Agnostic analysis
 - Other suggestions?
 - Two pools have been sent to the GdR to identify the dates and the topics:
 - Dates: <https://evento.renater.fr/survey/demi-journees-workshop-analyses-de-donnees-gdr-ogs-act2f6o4>
 - Topics: <https://docs.google.com/forms/d/e/1FAIpQLSeunVgyCxGAaHhyqmXHzFgYGbbIrGbg-36xlqVnGli3SbL2YA/viewform?usp=dialog>
- => Please answer!

Today: 2 talks

- ▶ "Gravitational-wave background detection using machine learning" [Hugo Einsle]
- ▶ "Constraints on the EOS from a large set of simulated BNS mergers accelerated by ROQ with the LVK network" [Alexis Boudon]