Development of a web platform to trigger and analyse data from follow-up telescopes – *Développement d'une plateforme web pour le pilotage de télescopes d'observations*

In the context of the international GRANDMA collaboration

3 to 6 months internship - Between February 2022 and July 2022 – IJCLab (Orsay, France)

Point of contact: Dr Julien Peloton (julien.peloton@ijclab.in2p3.fr)

Level: 4th or 5th year (Engineering school, M1 or M2 in computer science.

Profile and skills required:

- Proficiency in English.
- Good programming skills (web development). Ideally Python and Javascript (react.js).
- MYSQL knowledge will be a plus.

Key words: Data Analysis, Web Development – and interest for Astrophysics

In the context of the GRANDMA astronomical project (https://grandma.ijclab.in2p3.fr/), we would like to propose an engineering software development project for a web platform in astronomy.

The Global Rapid Advanced Network Devoted to the Multi-messenger Addicts (GRANDMA) is a network of telescopes spread all over the world. Mostly run robotically, the telescopes observe the sky in the visible range to explore the Violent Universe such as the death of stars or merger of black holes, targeting counterparts to gravitational wave emissions.

In this internship, we propose to support the development of the web platform used by scientists for managing the collection of astronomical data in real time. A first prototype was developed last year (https://gitlab.in2p3.fr/icare/icare), and we propose to merge existing features to the existing SkyPortal project (https://skyportal.io/), and develop new frontend features for GRANDMA in SkyPortal. The challenge will be to adapt the current work for observational campaigns that will be performed in 2022. Thanks to this online platform, scientists will perform further diagnostics on the data in order to understand their value, eventually leading to breakout discoveries.