

ATILA project

Analyse of The Impact of the Level of Air pollution



ATILA CubeSat

The balloon for ATILA CubeSat will fly in the end of February 2021 and has two main objectives. The first one is to test the new technology never used in the previous years for stratosphere missions. The other objective of this balloon is to make relevant scientific measurements. With a variety of sensors, the balloon will be able to recover data from its environment concerning the composition of the atmosphere. After the flight, our team will analyze those data to produce a study of the atmosphere pollution above Occitanie.



Scientific objectives

To Estimate the air quality by measuring the concentrations of ozone, formaldehyde and the intensity of ultraviolet radiation over the Occitanic region.



Innovation

Innovated a new technology at the base of the technicality developed

by the community LoRa technology. In order to achieve this objective,



Prediction & Estimation

Prediction is essential, we have developed calculation tools (With C++, and Python - Django-JavaScript) to make these approaches more efficient.



Board Technology

The purpose of ATILA was to initiate and take control of an Arduino embedded system device. This initiation was carried out with the aim of launching a probe balloon planned for the end of February 2021, with various sensors in the nacelle making it possible to measure air quality.

We plan to connect different sensors such as a temperature and humidity sensor, a formaldehyde (CH₂O) sensor, an ozone (O₃) sensor, an ultraviolet radiation (UV) sensor, a particulates detector, a GPS, a barometer, a Pitot's tube, a camera to an TTGO LoRa32 SX1276 OLED Board.

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