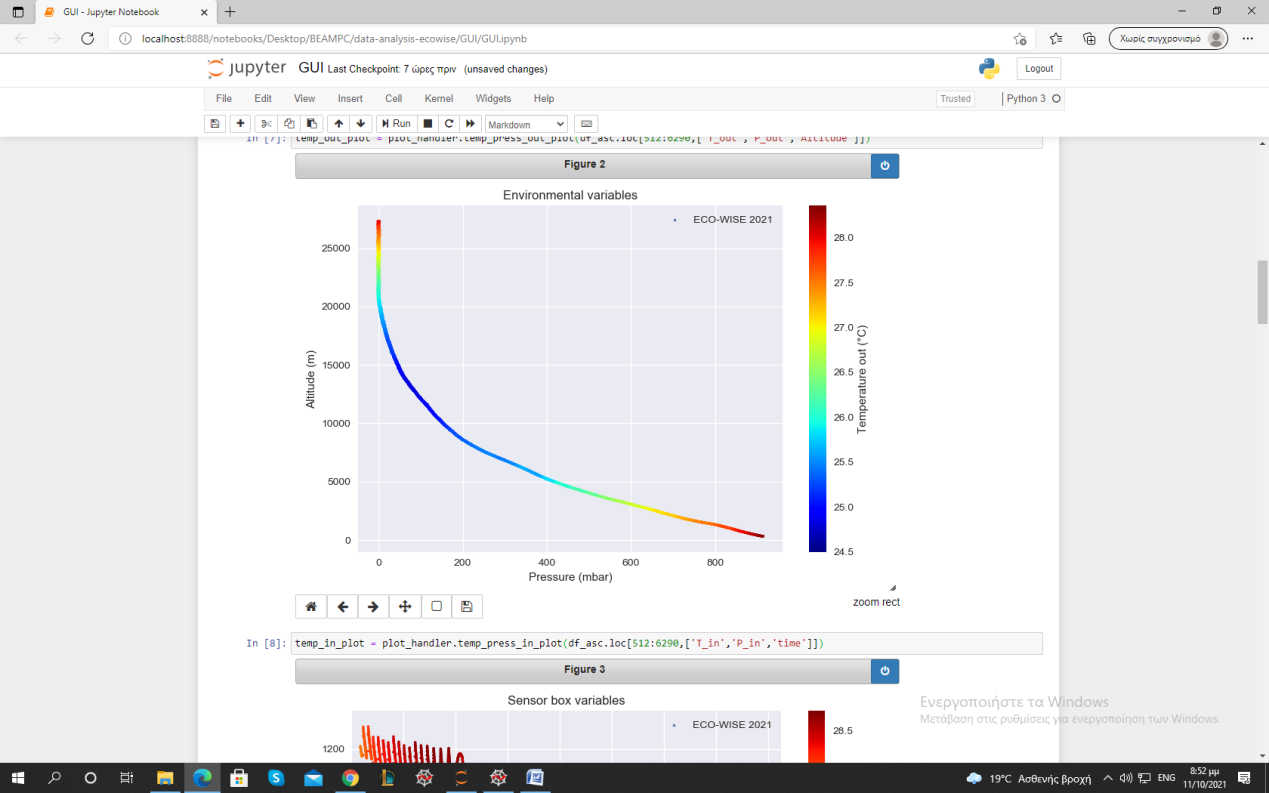
Environmental and Experiment’s conditions

Some of the most important measurements of the experiment were the pressure (P), temperature (T), and humidity (H) determination inside and outside the experiment. These variables are measured inside the Sensorbox (using the index “in”), and outside the Sensorbox while inside the Ecobox (using the index “out”). The environmental conditions (using the index “env”) were not measured by the experiment’s components, but they are provided by the BEXUS gondola.

In the following paragraphs these measurements, alongside others relevant to temperature, will be presented.

# Ascending

The variables Tout and Pout as functions of the gondola’s altitude are given in the below graph, regarding the ascending phase.

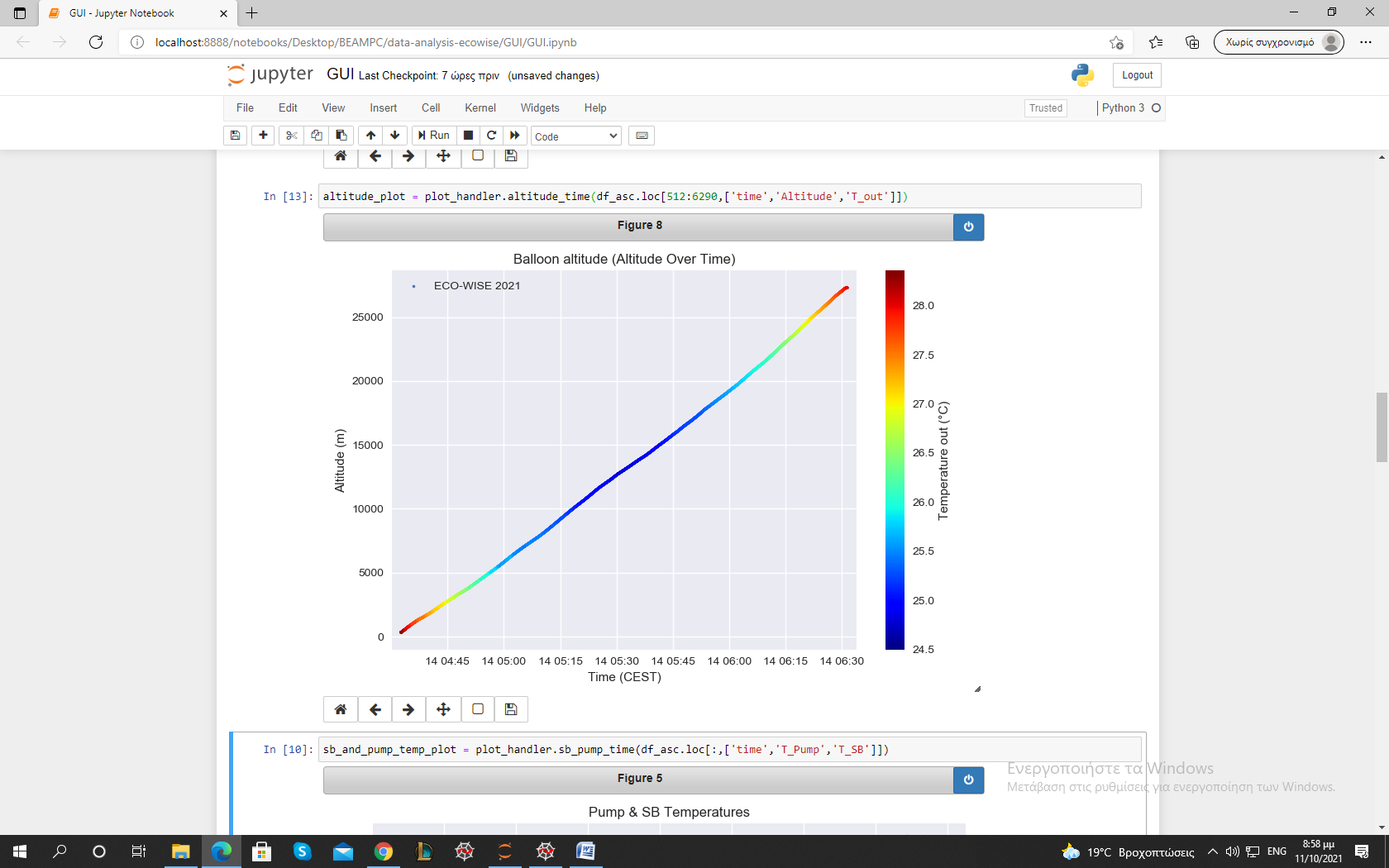


Graph 1: Environmental variables (P, T)

The extrema values of Tout were [24.5 oC, 28.5 oC]. In comparison with the ambient temperature, these are extremely high, even without being inside the Sensorbox. Παραπομπή στο Thermal για την αιτία αυτού.

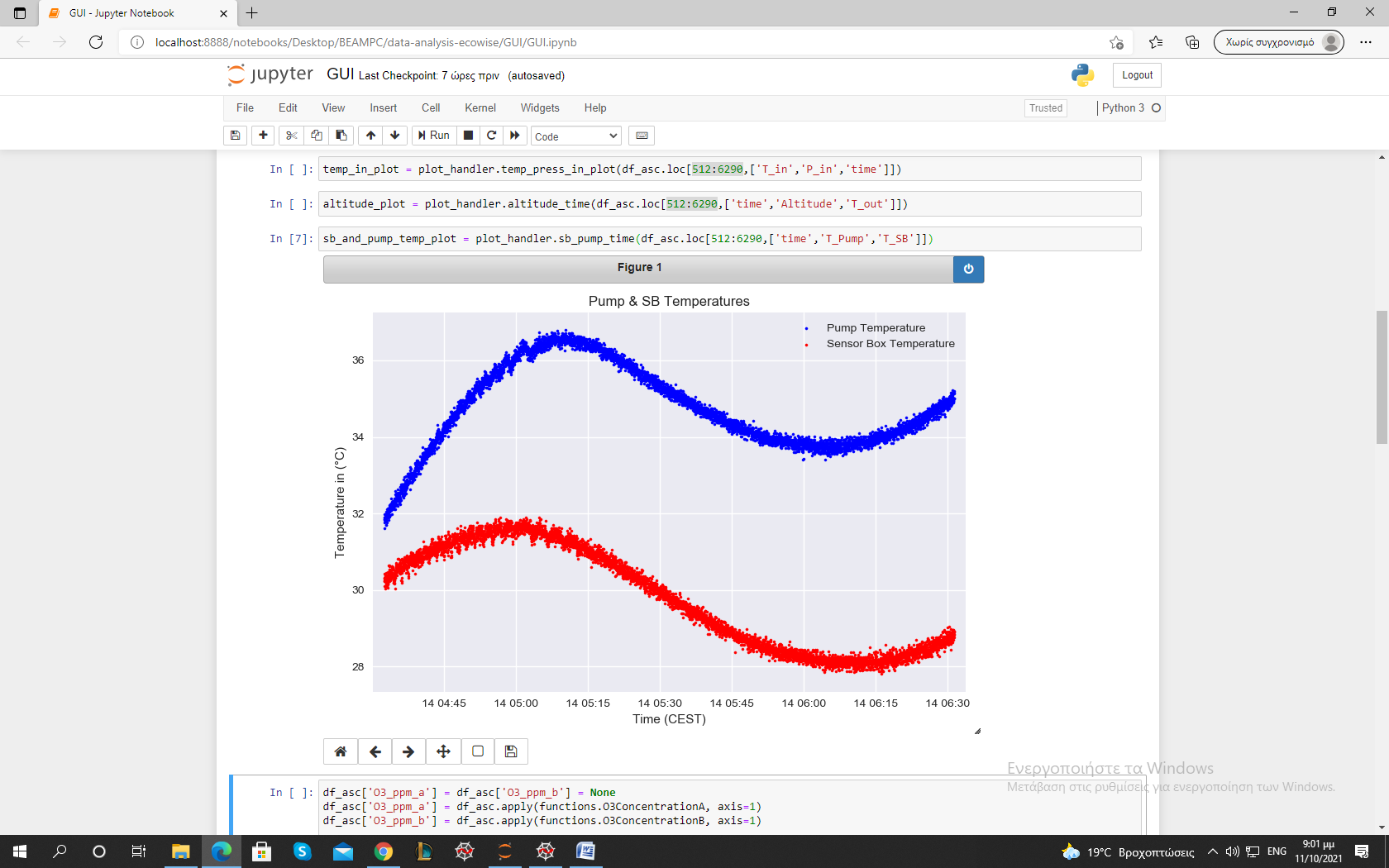
Όταν πάρω τις πραγματικές P out, Tout , να συγκρίνω με αυτές, ΕΙΔΙΚΑ ΠΙΕΣΗ

The ascending phase ended at 27.3 km, and it was linear. The mean gondola’s velocity was about 3.7 m/sec.



Graph 2: Balloon altitude over time

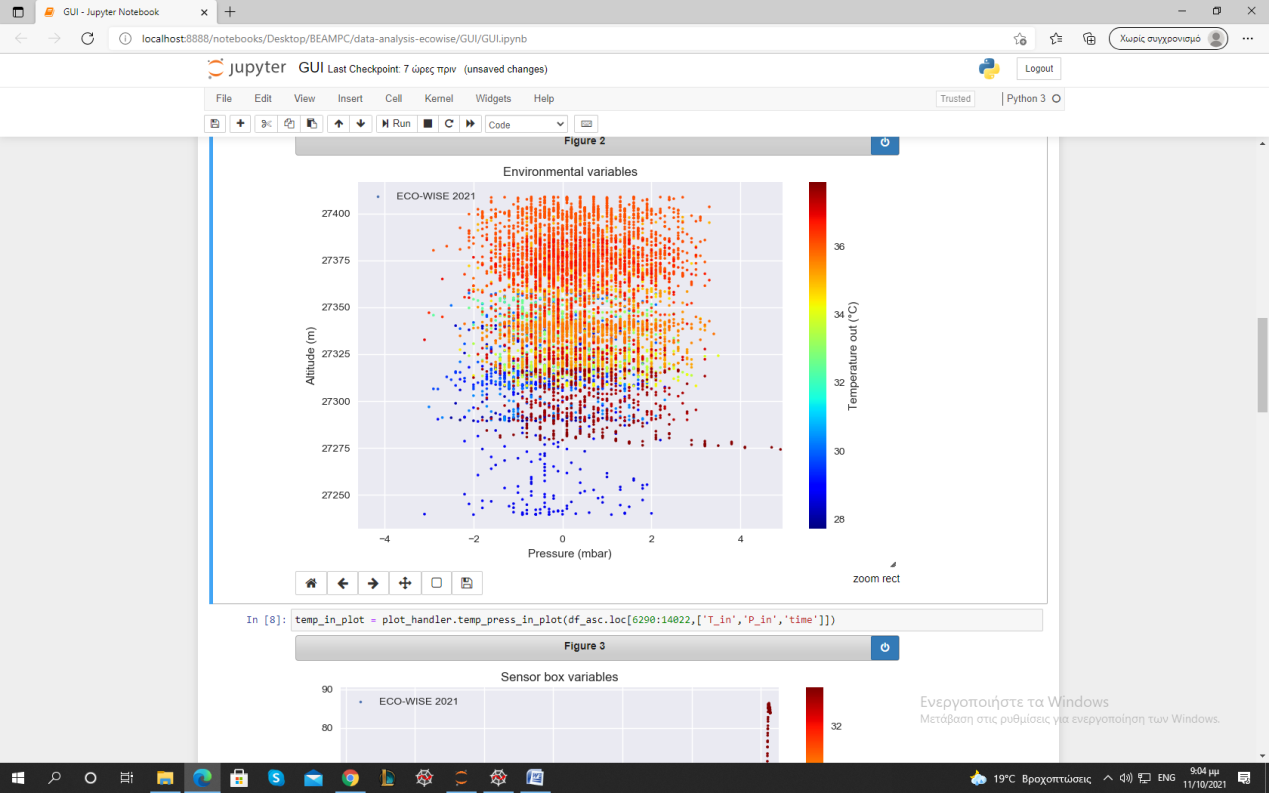
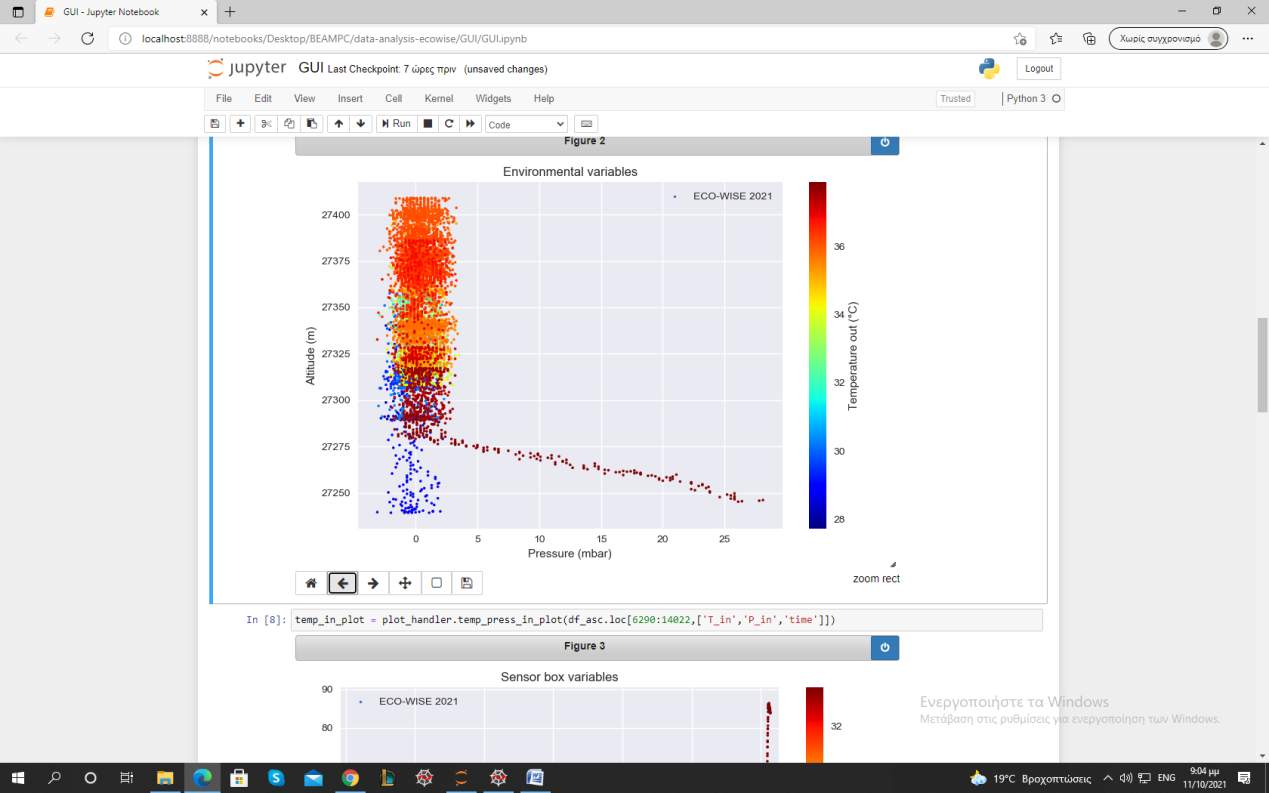
The sensor’s and the pump’s temperatures were also very high in comparison with the ambient. We observe similar behavior during this phase. These components also contributed to the thermal preservation of the whole experiment. HEATERS????



Graph 3: Pump and sensor temperature.

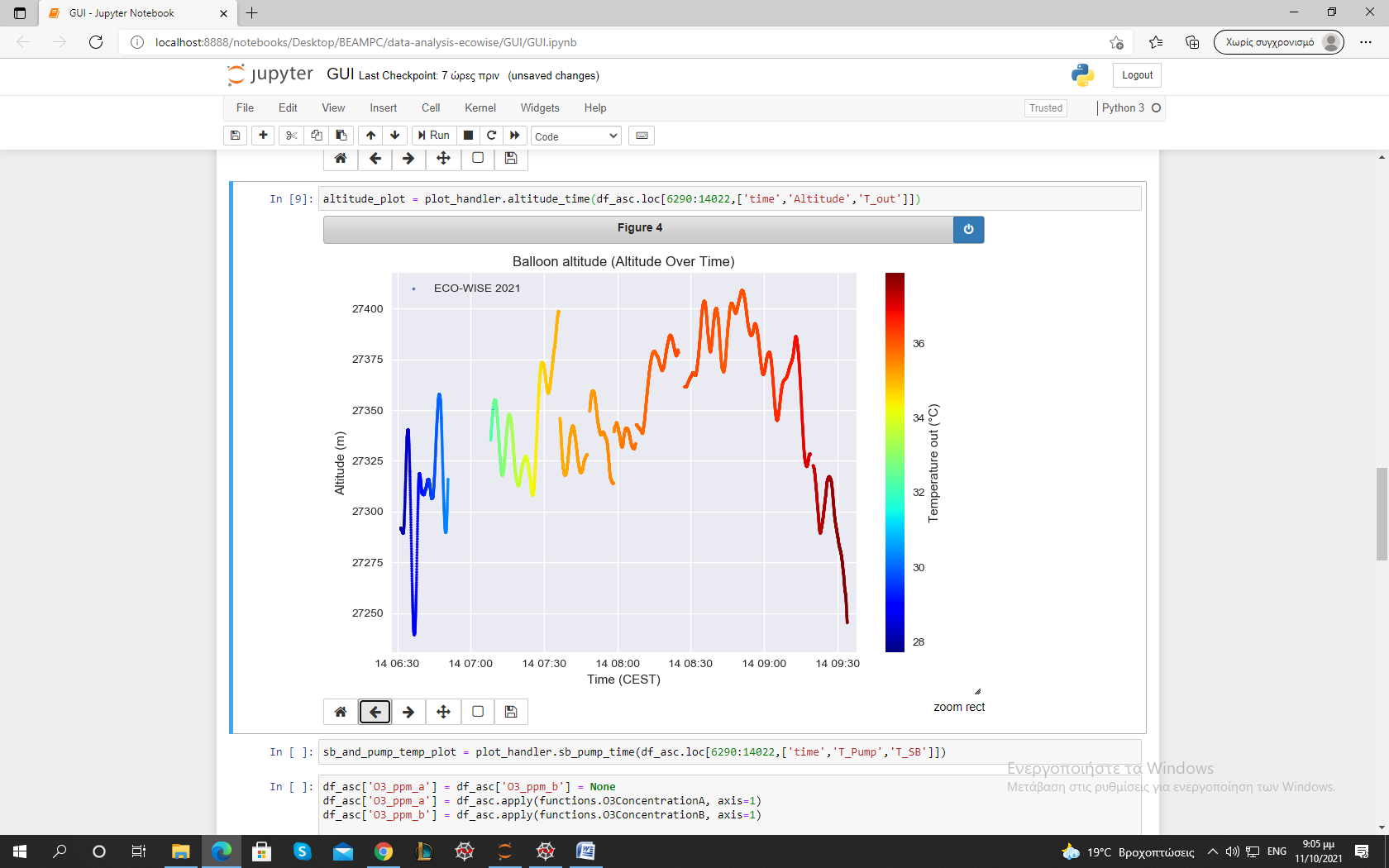
# Floating

During the floating phase the pressure was extremely low and therefore the pressure sensor was not reliable. There are even negative values.



ΠΩΣ ΤΟ ΕΞΗΓΩ;;; ΜΗΠΩΣ ΤΑ ERRORS ΕΙΝΑΙ ΠΟΛΥ ΜΕΓΑΛΥΤΕΡΑ ΑΠΟ ΤΟ ΕΥΡΟΣ; ΜΗΠΩΣ ΔΕΝ ΜΕΤΡΑΕΙ ΑΠΟ ΜΙΑ ΠΙΕΣΗ ΚΑΙ ΚΑΤΩ;

The fluctuations in the altitude during the floating phase are presented in the following graph. In this phase the connection was lost for some minutes and this is the reason of the first wide gap in the data. The other discontinuities are attributed to the restarting of the experiment in order to change the maximum value of Pin, since the pump was not capable of reaching the initial pressure target.



The component’s temperature in the floating phase increased. ΓΙΑΤΙ???

