Asgard V : stabilization of the gondola

The project:

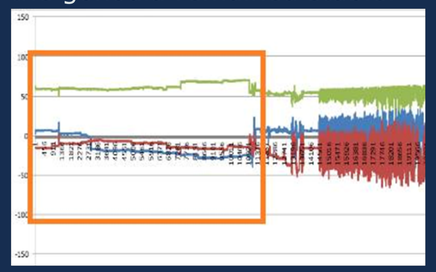
On the project Asgard V, a stratospheric balloon is launched. Students of different schools are invited to attach their project which they want to test on a high altitude of approximately 30 km. It is organized by the Sint-Pieters college of Jette in cooperation with. The royal meteorological institute of Belgium each year. This year was the 5th time the project was executed. Our part of the project was to stabilize this gonodla using wheels attached to it, so a camera could take good pictures and it wouldn't swing from one side to the other.

The 3D printer and lasercutter:

We went to look for a way to make our wheels.
At the beginning we wanted to 3D-print the wheels so they would be precise and symmetrical but we ended up using a laser-cutter to be more precise. We tested it a couple of times until it finally worked.

The results:

Luckily for us there was another participating school who recorded the changes in the magnetic field. On the graph you can see the preliminary results of the magnetic field sensor. The orange square corresponds to the first 93 minutes of the flight. The blue and the red component should be alternating a lot if the gondola is rotating around it's axis. This is not the case. Which proves the the gonodla remained stable.



The setup:

The gondola eventually remained stable when we placed the wheels on a bar above the gondola like you can see on the picture.

The launching:

On the 22nd of april the balloon was launched with our wheels attached to the gondola below the balloon. When it landed later that day we found that our wheels had had the desired effect.