**APEX: Proposal**

**SPECTRUM**

1. Team:
2. Polan Alex (Captain)
3. Lacika Oliver (Member)
4. Kulka Alexander (Member)
5. Daubner Richard (Member)
6. Project Summary:

Our Project will Focus on analyzing the distribution of light at different wavelengths as altitude increases. We will also be tracking other data, like temperature, humidity, and possibly also record the outside. (And maybe for some obscure reason that is only known by 3 memebrs we will be deploying maths homework)

1. Collected Data:

* Temperature as Altitude increases
* Humidity as Altitude increases
* The altitude itself using a barometer
* The distribution of visible light at different wavelengths
* The amount and type of UV light as altitude increases
* Possibly a video of the balloon ascending (also includes the homework dropping)
* A video of the light spectrum through a prism (Image 1)

1. Components

Temperature and Humidity Sensor: TBA

Barometer: ms5611

Controlling chips: ESP32, Raspberry Pi Pico, (Raspberry Pi Zero)

Cameras: ESP-cam and raspi-cam or GoPro

Spectrometer: AS7341

UV Sensor: TBA

2 LiPo batteries (400, 1000 mAh)

Motors

Voltage Regulators

Wires, 3d printed parts, etc.

1. Concerns

* GoPro relatively expensive (80€)
* Sensors about 5-10€ each
* Raspberry pis and esp32s
* The observed light distribution might not visisbly change by much
* The Homework dropping might fail
* The weight might be too high

1. Images

Image 1:

Ein Bild, das Text, Diagramm, Reihe, Handschrift enthält.

KI-generierte Inhalte können fehlerhaft sein.