

Not a UFO: Atmospheric Data Collection

Preston Furulie, Emma Landis, Garret Nordmeyer, Jose Ocampo, Ethan Pierson, Loukos Stevenson

Mentors: Ed Ong and Ernest Villicana

Phoenix College NASA ASCEND! Team

Overview: Phoenix College's payload features a modular construction of parallel sensor packages: Arduino suite for telemetry and UV, gieger reading gamma & beta, and particle & CO₂. We demonstrated the reliability of our carbon fiber body and custom built central battery. Top facing camera captures the balloon burst at apogee again.

Introduction

The PC ASCEND! Team has had numerous successful launches with our carbon fiber body payload.

Results

Launch and recovery were successful. Complete flight data was successfully recorded and analysed.

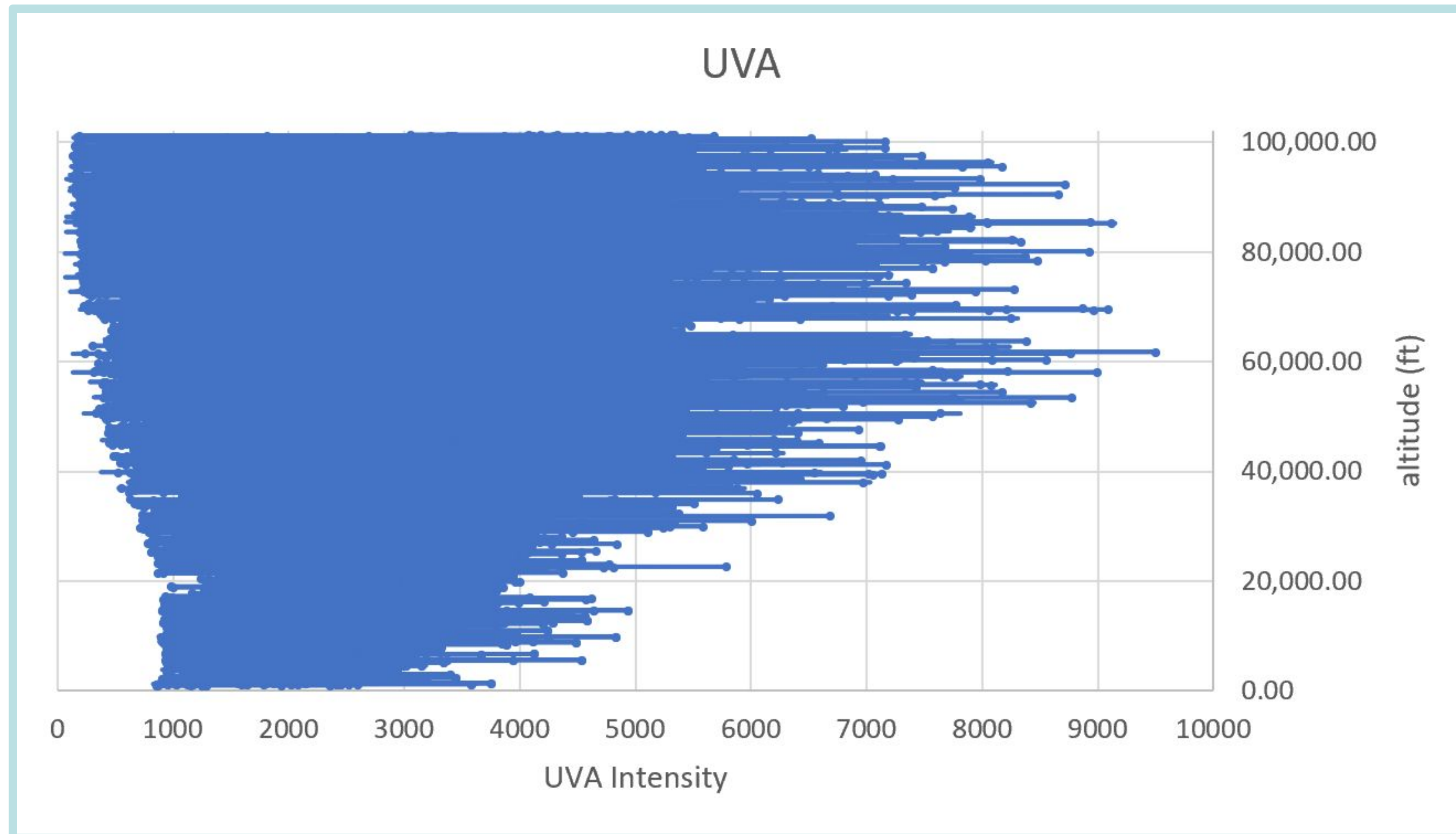


fig.1 UVA [$\mu\text{W}/\text{cm}^2$] vs Altitude [ft]

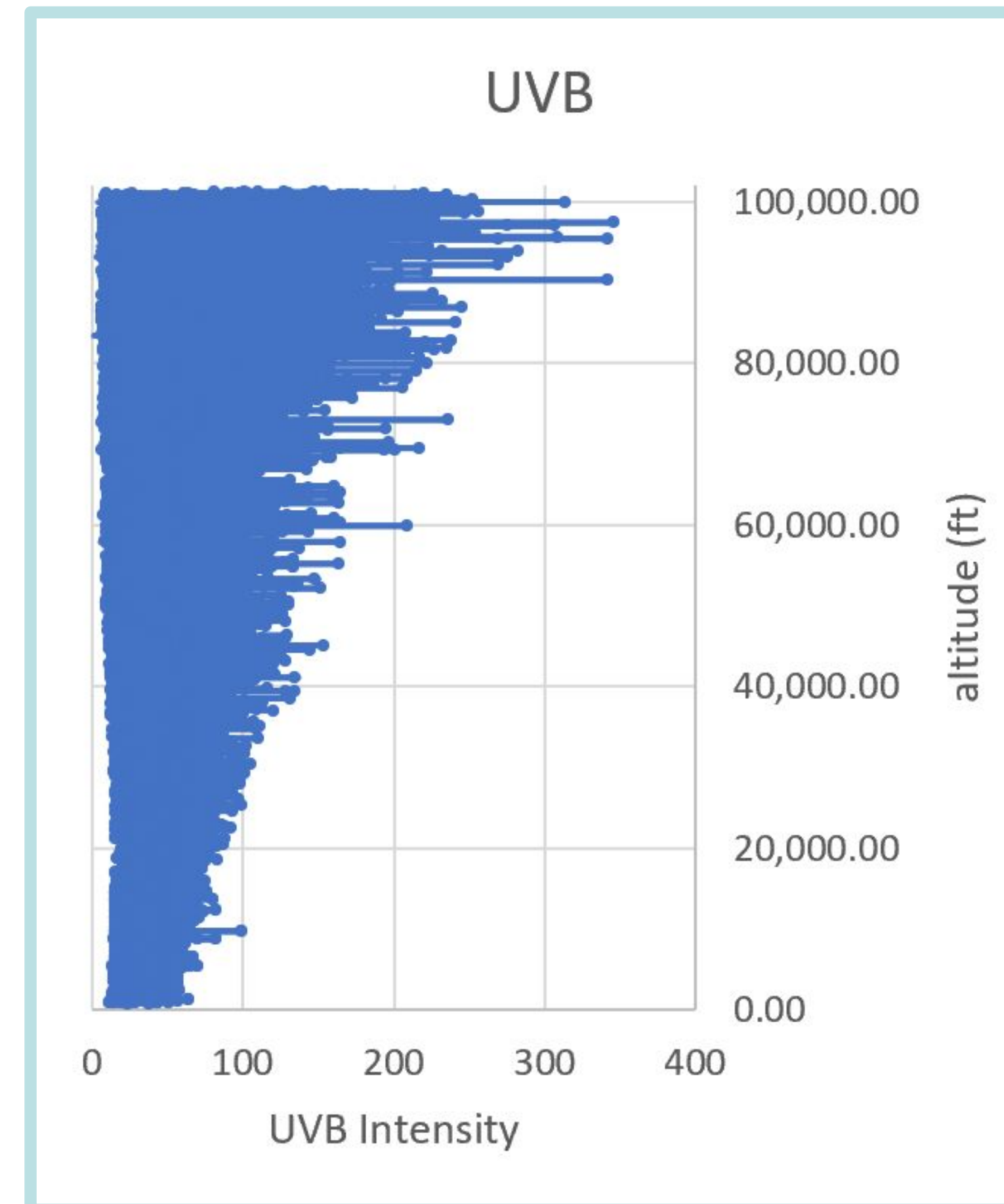


fig.2 UVB [$\mu\text{W}/\text{cm}^2$] vs Altitude [ft]

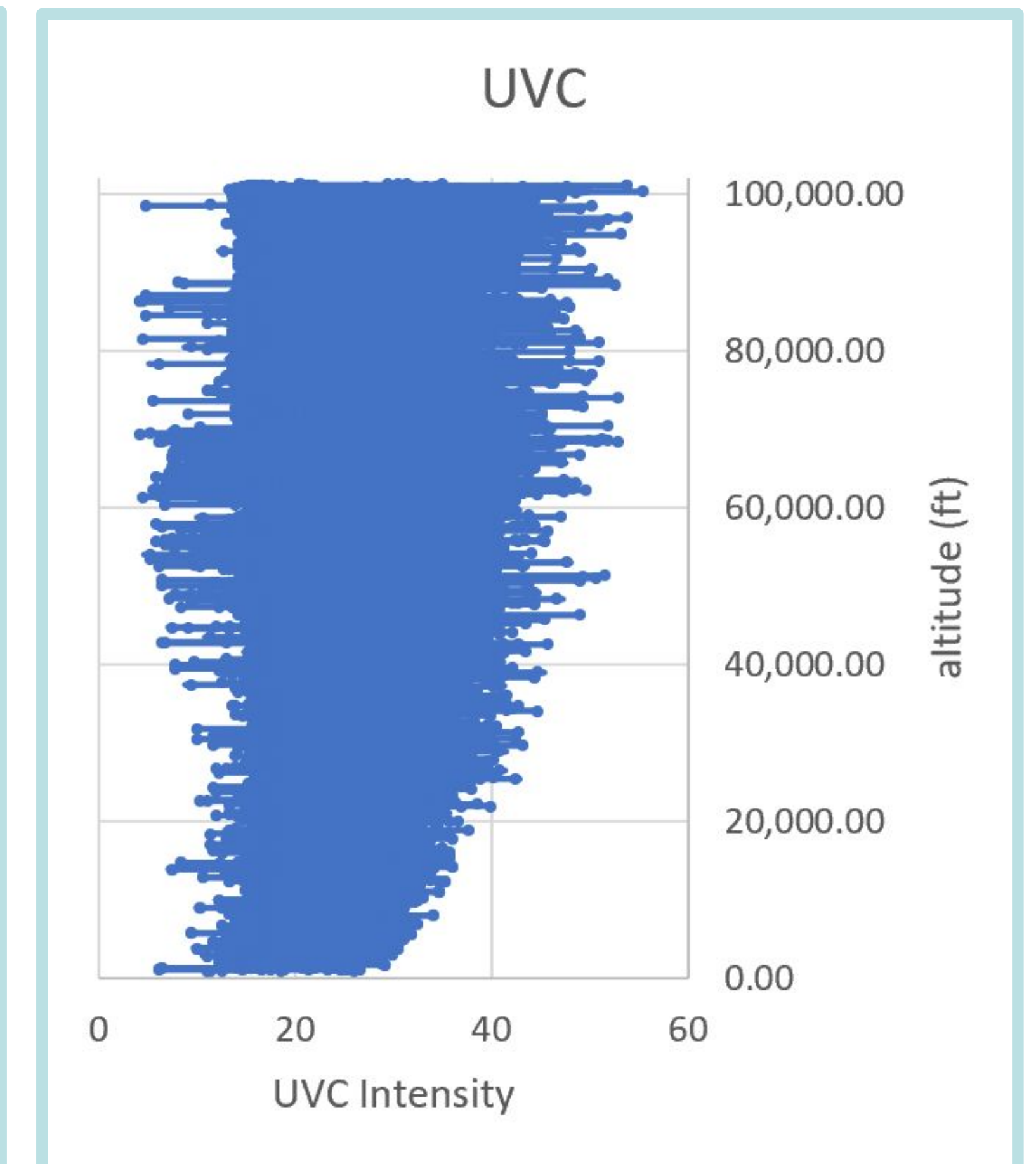


fig.3 UVC [$\mu\text{W}/\text{cm}^2$] vs Altitude [ft]

Data Methods

Data collected via integrated Arduino sensor suite:

- Barometric altitude, temperature, and pressure
- Acceleration and absolute orientation
- UV A,B,C

Lazer diffraction detection of six particle sizes

Carbon dioxide and humidity sensor

Gieger counter gamma and beta radiation

Conclusion

We collected a wealth of data series consistent with data from previous launches. UTC timestamps greatly aided data analysis.

Acknowledgments

Special thanks to: Michelle Coe, Shirley Campbell, and Arizona Near Space Research

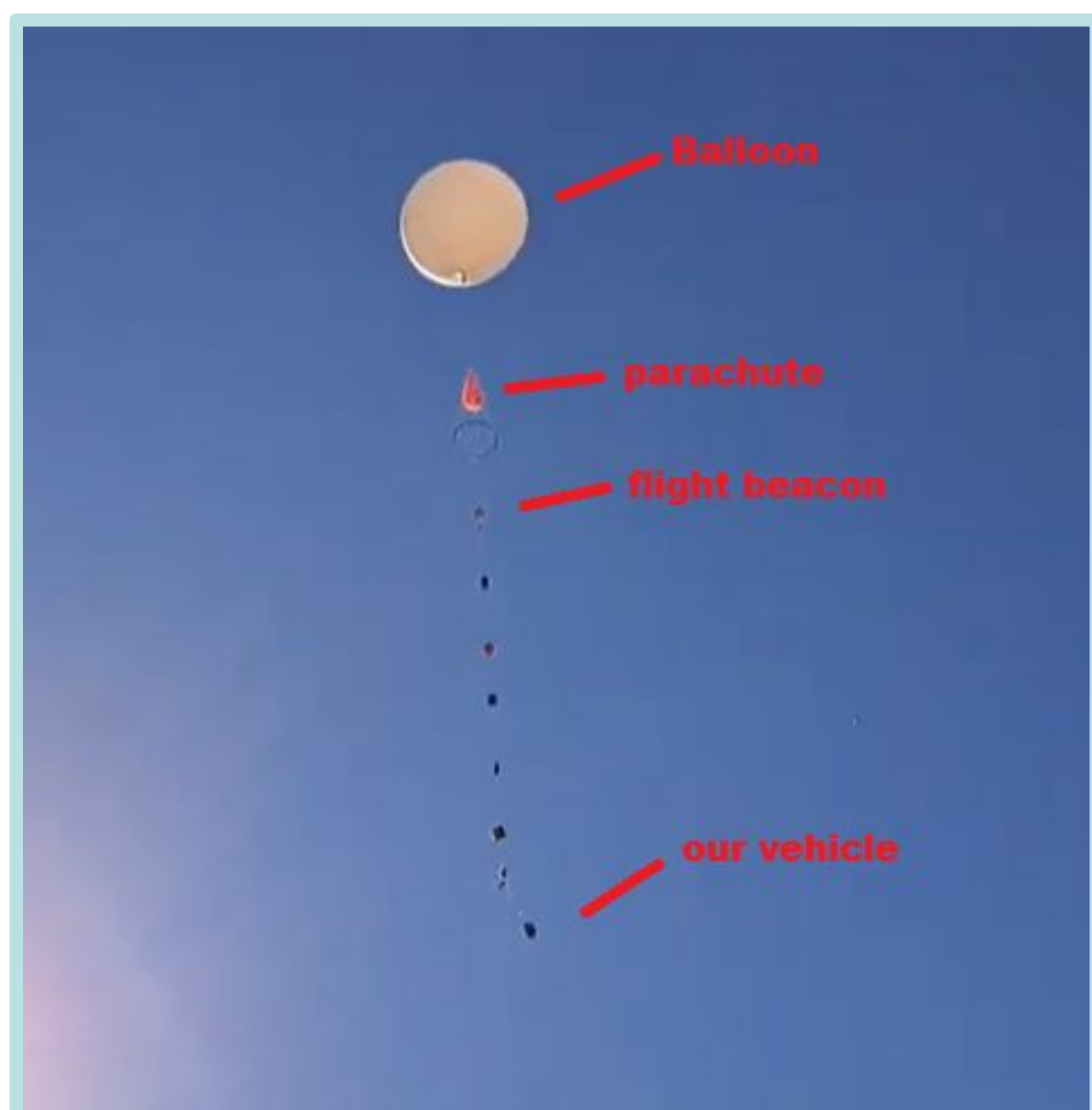


fig.4 Balloon Train



fig.5 PC ASCEND Site

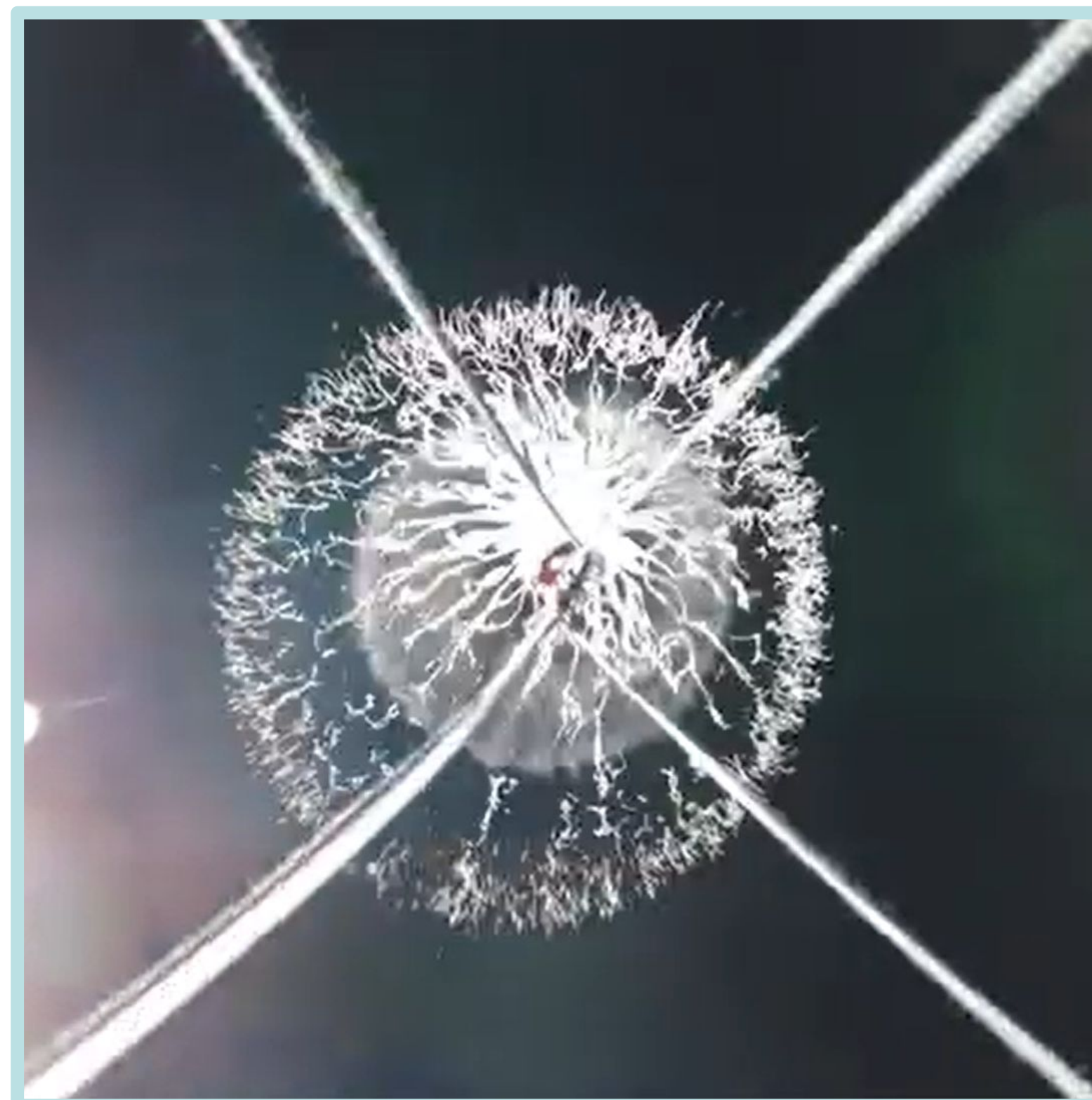


fig.6 Fall '25 Burst

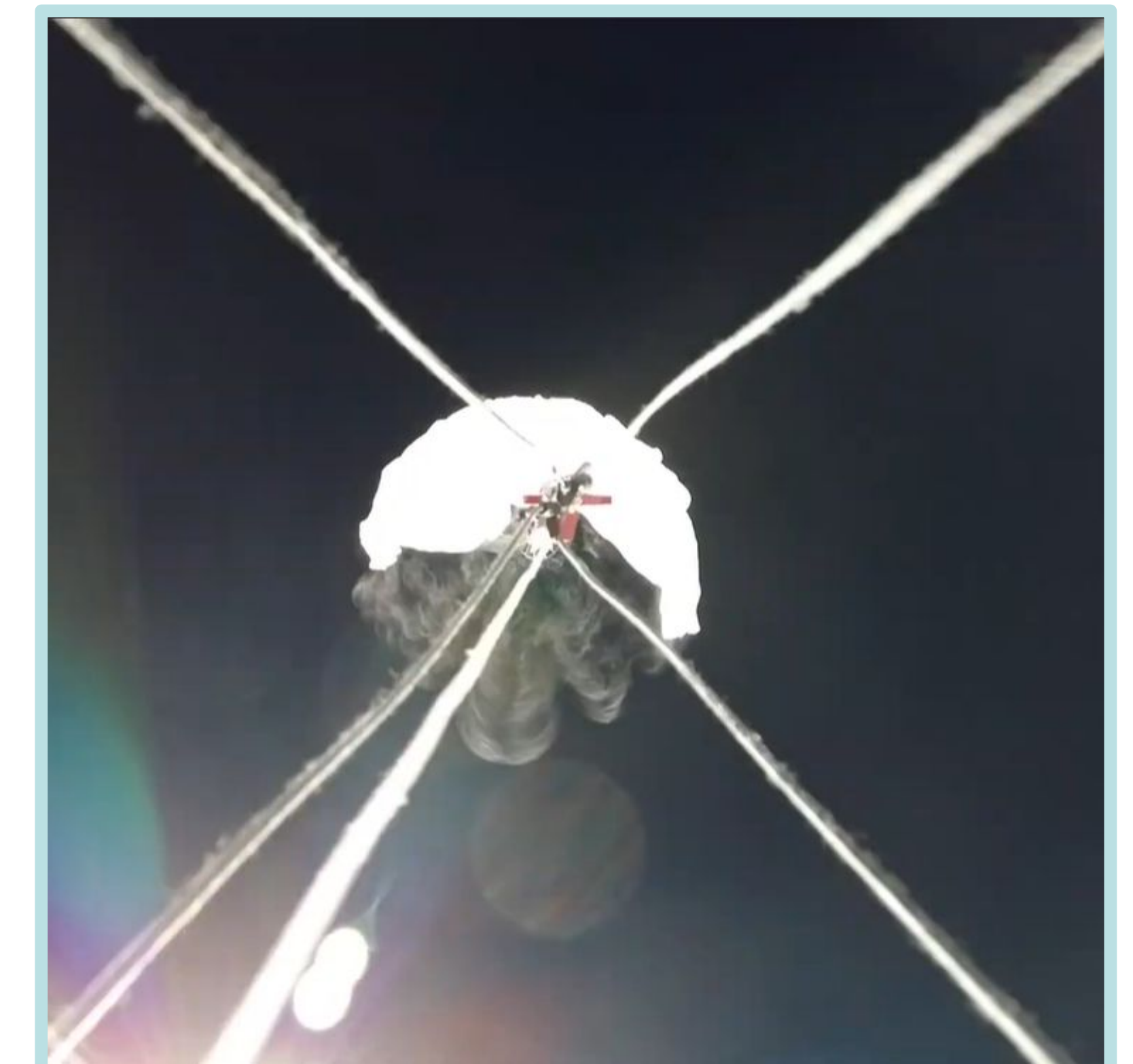


fig.7 Spring '26 Burst

Future Work

Experimental: Add new particle collection apparatus | Repeat collection of previously collected data series.

Engineering: Fabricate new carbon fiber exterior to reduce payload mass.

2026 Arizona Space Grant Consortium
Statewide Student Research Symposium



PHOENIX COLLEGE
A MARICOPA COMMUNITY COLLEGE



Partner