Measuring UV Index vs. Altitude

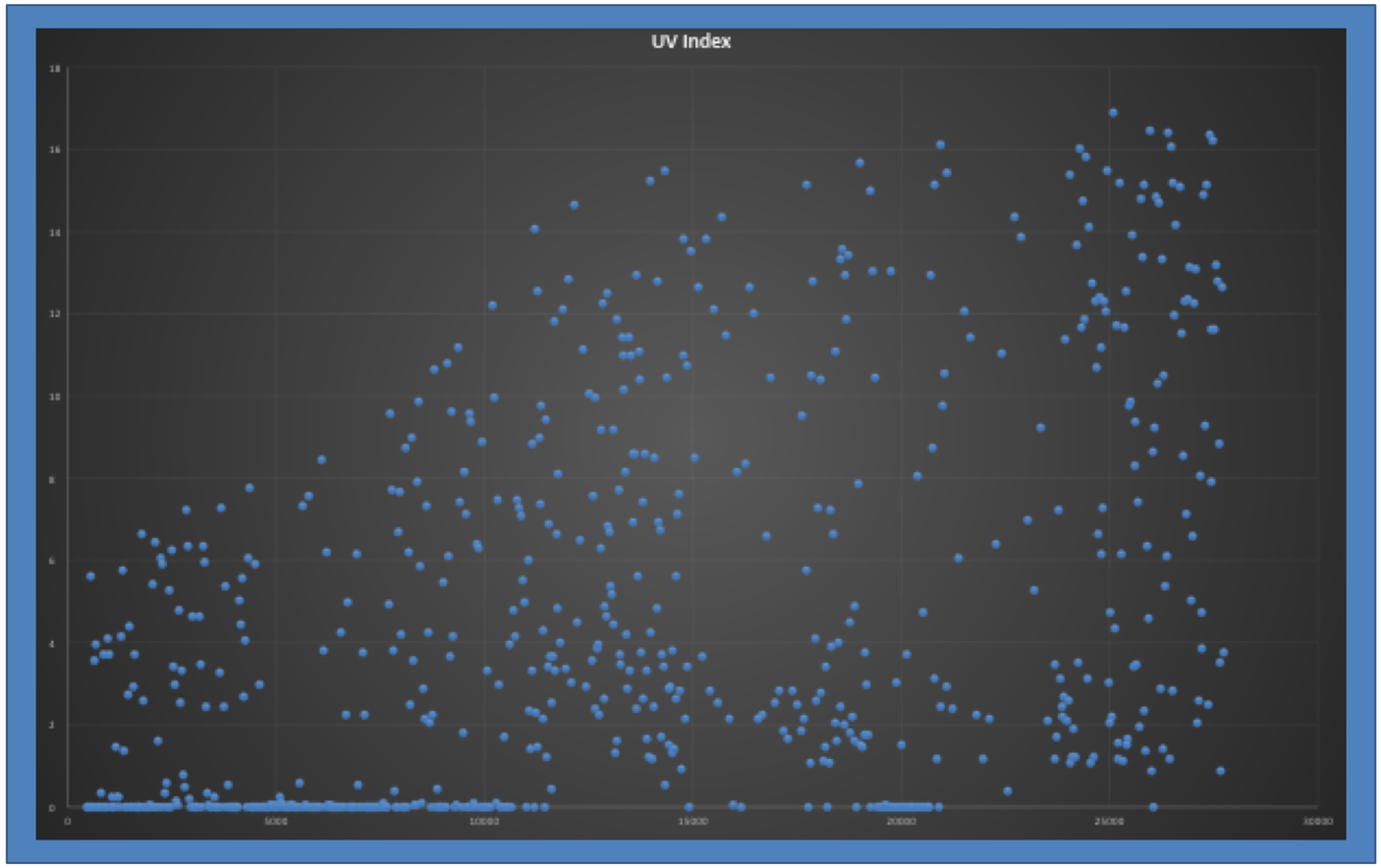
METROPOLITAN Community College

INTRODUCTION

- Our experiment sought to identify a relationship between UV light intensity and altitude.
- UV Index is commonly used when determining UV light intensity and the danger of sun exposure.

METHOD

- We utilized a UV sensor that records UV-A and UV-B intensity and calculates a value in units of Volts. Multiplying this Voltage value by 10 gives UV Index.
- We plotted UV index against altitude in meters, as seen on the right.



RESULTS

- Data received had maximum spikes that can be used to show a relation between Altitude and UV Index.
- Data included many zero points in between readings, this could be from the module pointing away from the sun as the module rotates.

CONCLUSIONS

- We found that as altitude increases from ground level to around 15,000 meters, UV index increases linearly. At 15,000 meters UV index had a spike about three times the ground level reading. As altitude goes beyond 15,000 meters, the increase in UV index is not as great.
- This shows us that increasing your altitude increases the UV index you are exposed to, but after you have left the atmosphere the UV index does not experience as great of an increase.

CONTACT

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References

http://nearspacescience.com/mcc-launch-4-27-19/