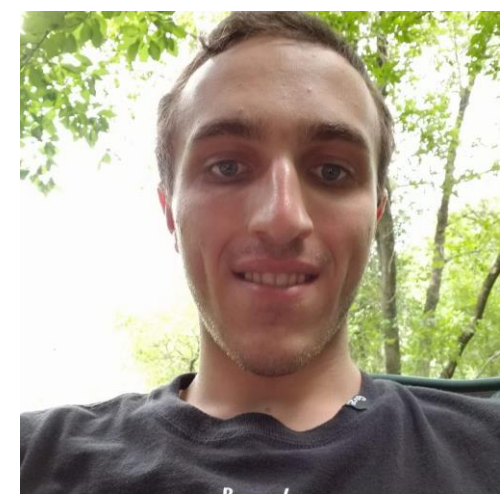


Rayleigh Scattering
is the reason the sky
is blue.



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Introduction

There are two types of light scattering; namely, Rayleigh Scattering and Mie Scattering. Rayleigh scatters blue light and Mie scatters other types of light such as red light.

Rayleigh Scattering occurs when light hits air molecules making the sky blue. Mie Scattering occurs when light hits larger molecules or particles (e.g., clouds). We will see how one type of scattering affects the other.

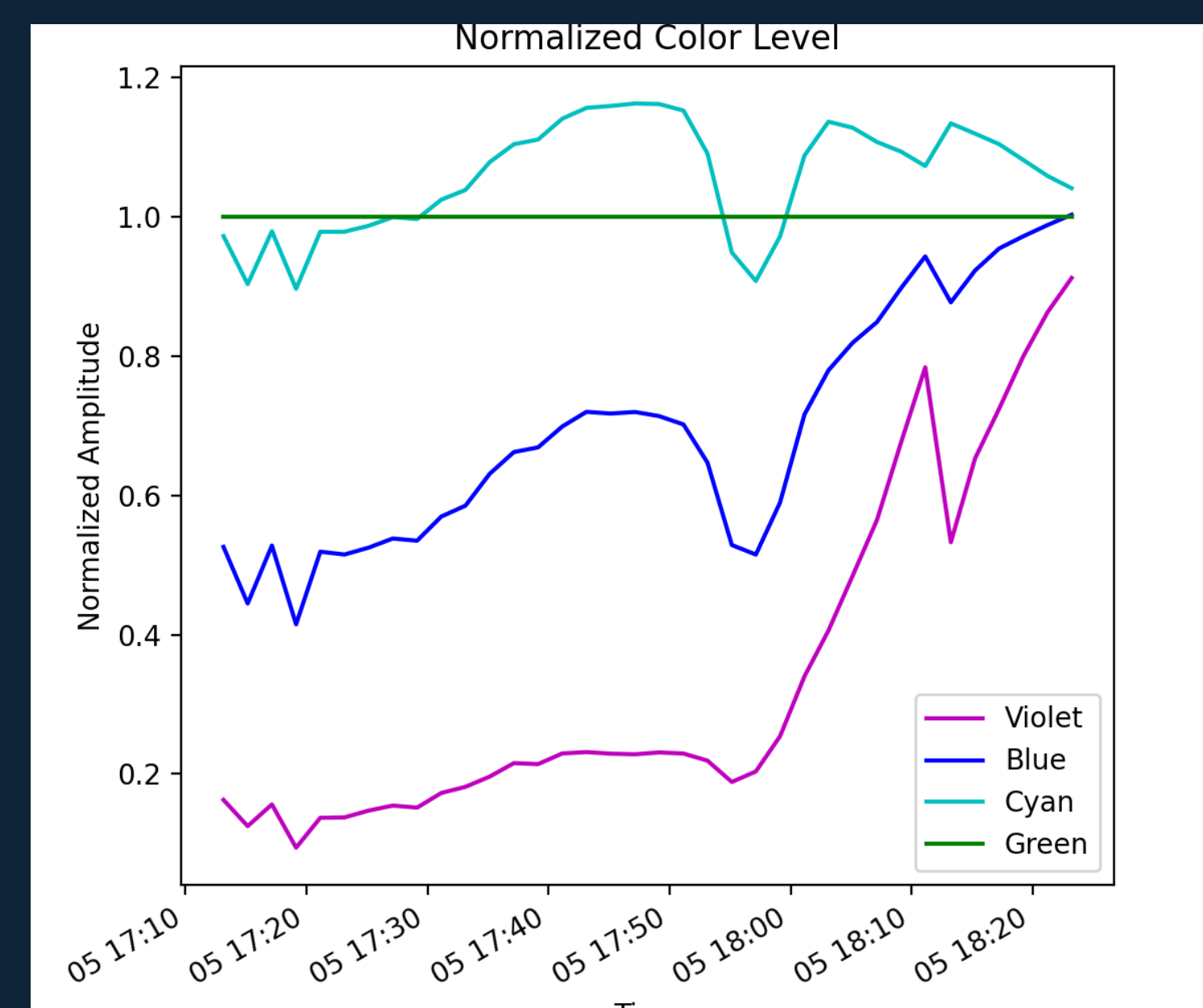
Methods

In this experiment what was used was a spectrometer and a camera to capture light data over time. The spectrometer was next to a window to collect the light.

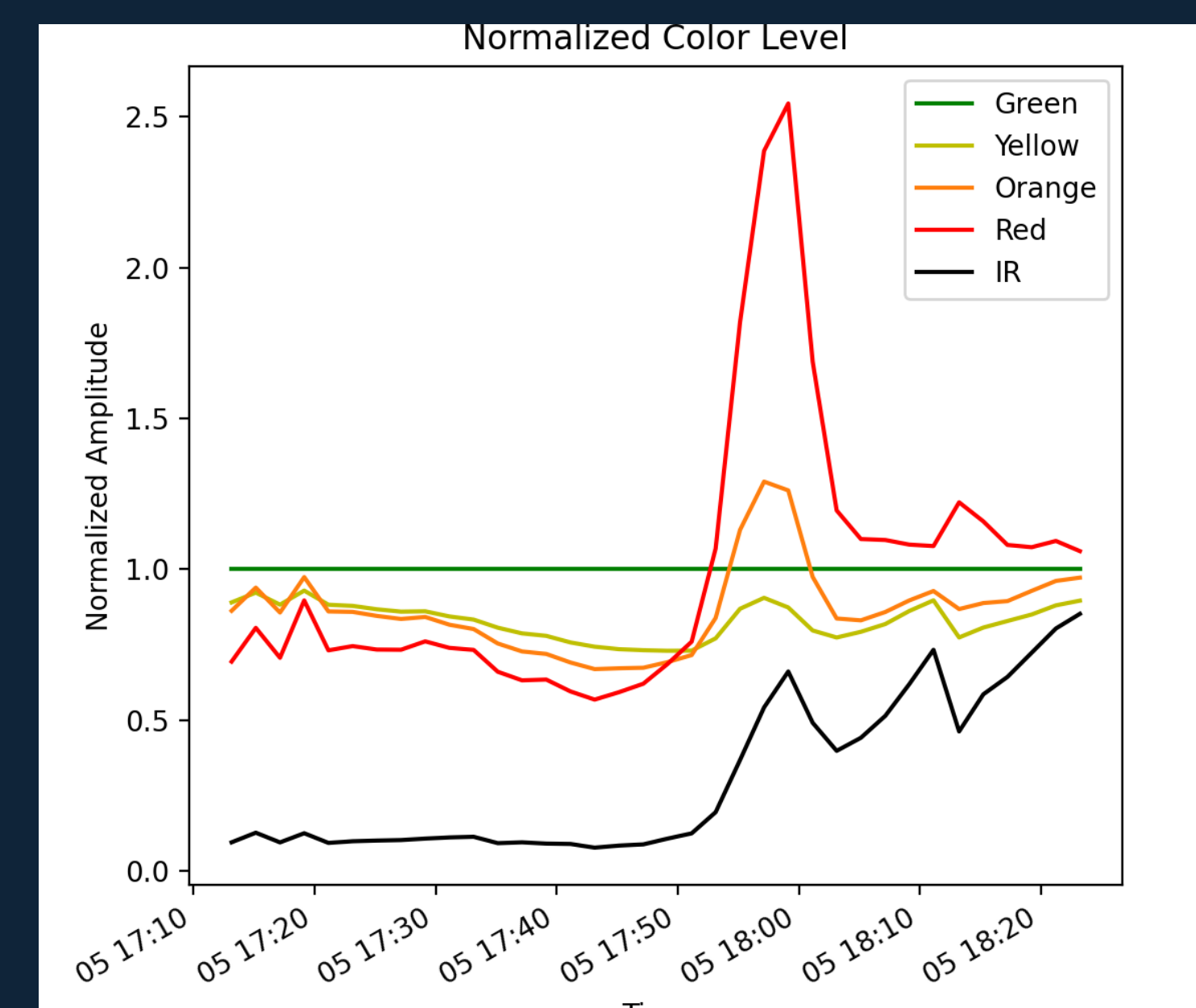
Using the data collected and the wavelengths of light identified use software to organize the data.

When **blue light** is detected, **red light** diminishes and vice versa.

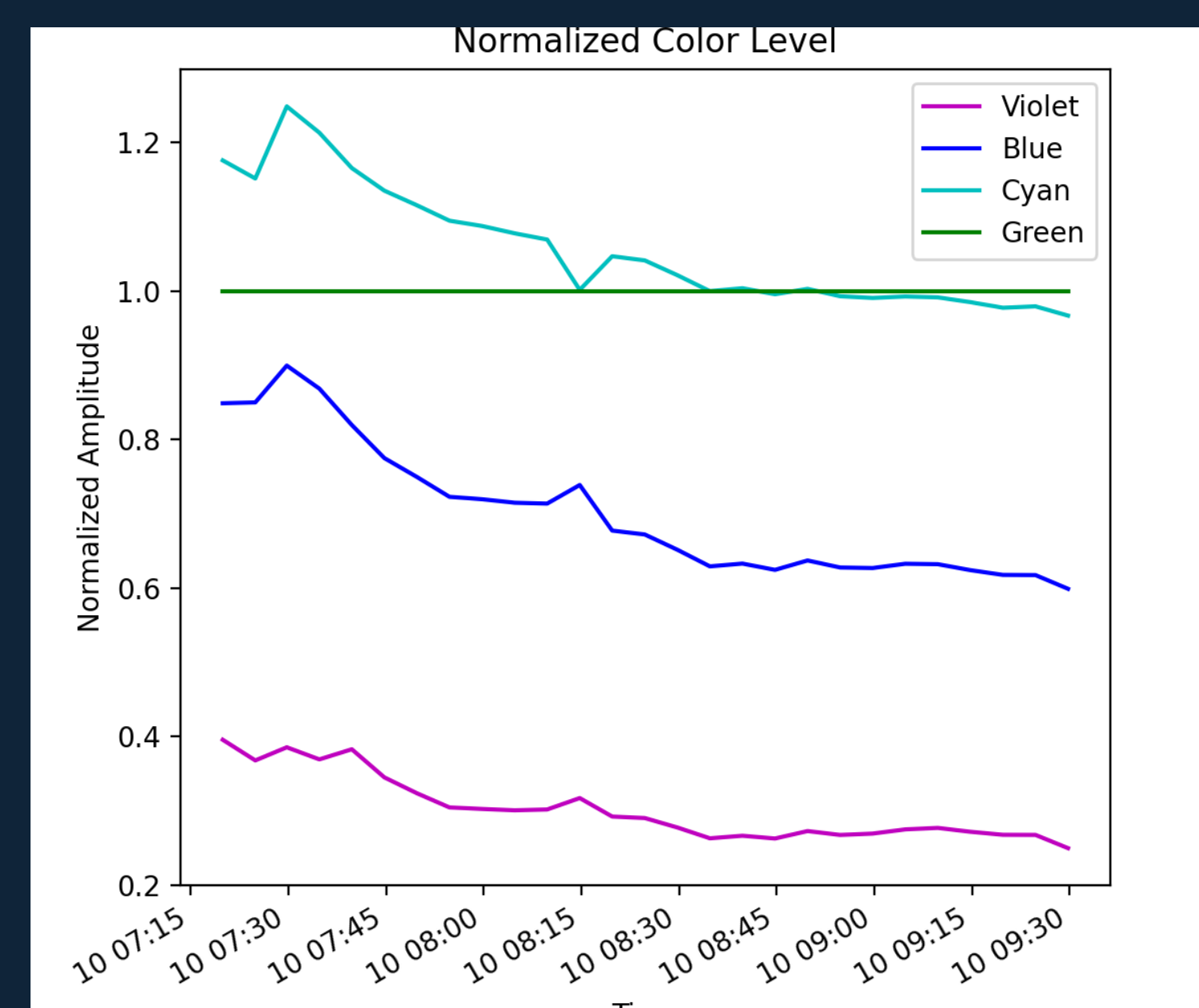
1.



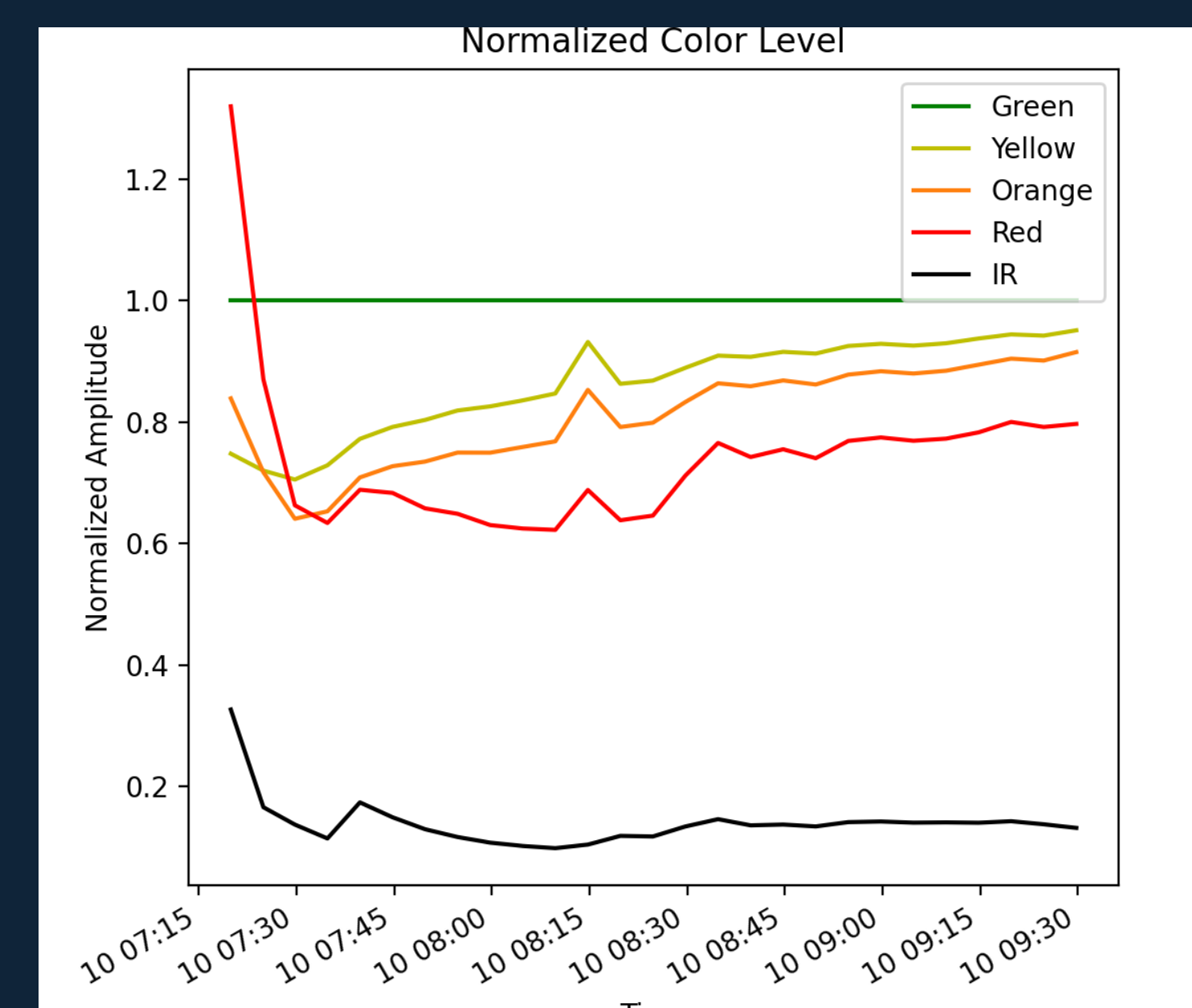
2.



3.



4.



1 & 2 - Sunset on Feb. 5, 2022
3 & 4 - Sunrise on Feb. 10, 2022



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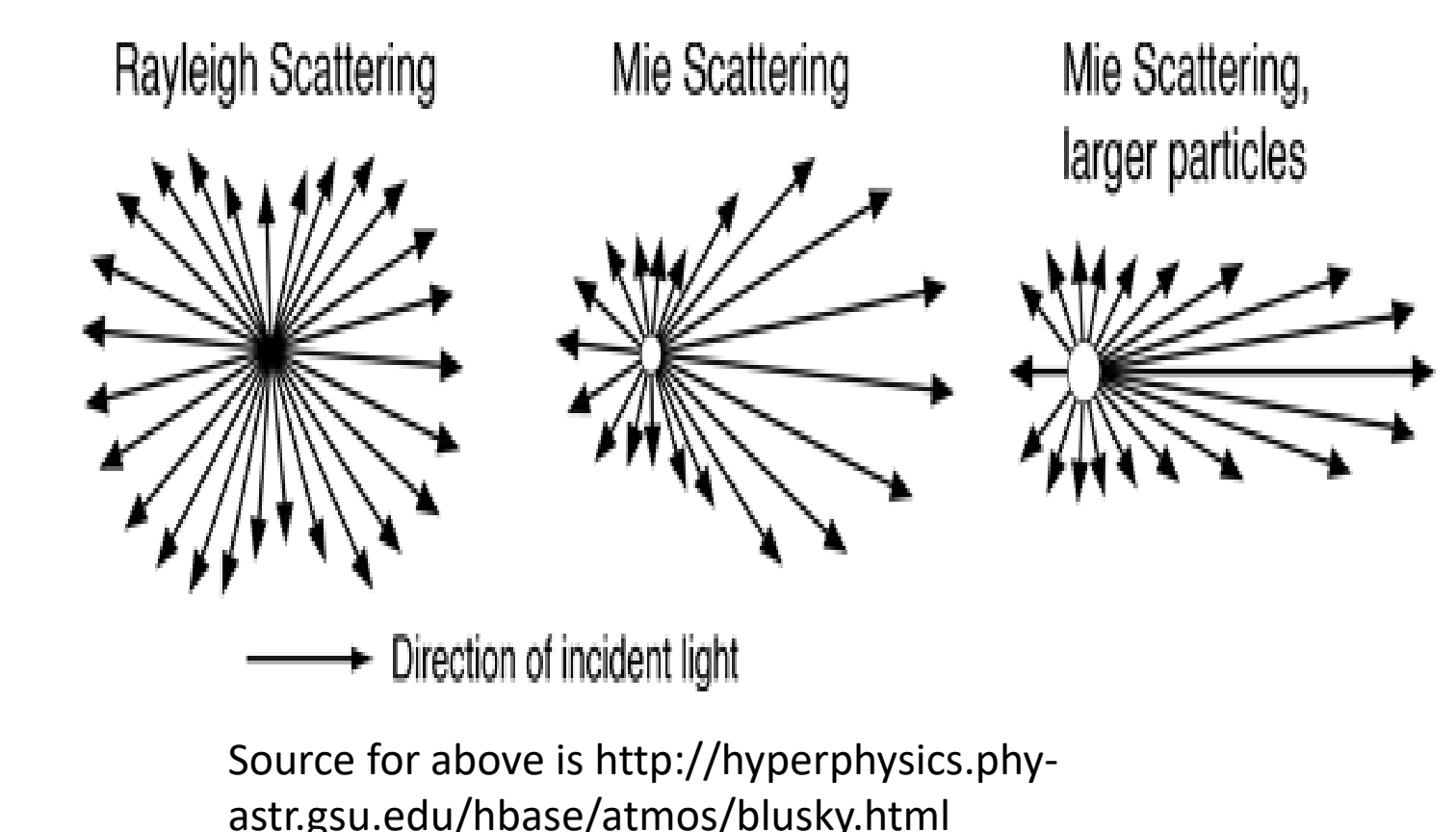
Results

The results from this experiment we throughout the day you would have high levels of blue light, with drops in blue light, always corresponding to a spike in red light. These shifts are due to cloud cover. We see the effects of Rayleigh scattering in the blue light, and Mie scattering in red light.

We see the effects of Rayleigh scattering in clear sky, and the effects of Mie scattering in cloudy sky



This is the sunset on February 5 that produced different types of scattering..



Extra results

We also see a lot of red light at a sunrise and a sunset