

Relationship between the eclipse of partial eclipse and solar radiation and illumination intensity

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Partial solar eclipses were seen across the country in Japan for the first time in about three years from 8:40 to 11:30 on Sunday, January 6, 2019. So on January 6th and January 7th, we measured and compared the amount of solar radiation and illuminance every 10 minutes from 8 o'clock to 12 o'clock on the roof of the school. The amount of solar radiation was measured using solar panels, and the illuminance was measured manually using a luminometer. In addition, it was not possible to measure an accurate value because it became cloudy after 10:20 on January 6. The ratio of the solar radiation and the illuminance on January 6 to the solar radiation and the illuminance on January 7 was determined and graphed. As a result, both the amount of solar radiation and the illuminance decreased gradually from around 9 o'clock, and the minimum value was recorded at 9:50. From the measurement results, it was thought that there is a relationship between the ratio of the missing area of the sun, the amount of solar radiation, and the change in illuminance. Therefore, we used the solar eclipse calculation software to calculate the diameter of the sun and the moon and the amount of food for each measurement time, and we conducted reproducible experiment from this data and considered it.

Keywords: Partial solar eclipses, Solar radiation , Illuminance

