**The Influence of 28th of July 2018 Lunar Eclipse on Night Sky Brightness at Observatorium Ilmu Falak Universitas Muhammadiyah Sumatera Utara**

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ABSTRACT

The measurement was made at the Observatorium Ilmu Falak Universitas Muhammadiyah Sumatera Utara (OIF UMSU) during the total lunar eclipse on July 28th 2018. The sky brightness was measured using 3 Sky Quality Meters (SQM) which were directed to the eastern horizon, zenith, and western horizon with 2 second resolution. The results obtained show the SQM data of the zenith direction undergoes a change in the brightness level of the sky which shows the influence of the lunar eclipse. Before eclipse, the value of the sky brightness was 14 MPAS. Then the value of the sky brightness in the total lunar eclipse phase was 18 MPAS. Meanwhile the results shown in the SQM data of the eastern horizon and the western horizon do not show changes when the lunar eclipse takes place which is 15 MPAS. This is due to the area in the direction of the eastern and western horizons are affected by fog and high light pollution from the downtown.

Keywords: *Lunar Eclipse, Sky Quality Meter, and Light Pollution*

References

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| [1] | F. Espenak, eclipse.gsfc.nasa.gov/eclipse.html (2018) |
| [2] | Y. Pramudya, M. Arkanuddin, *Journal of Physics: Conference Series* **771**(2016) 12013 |
| [3] | A. Y. Raisal, Y. Pramudya, Okimustava, Muchlas, *International Journal of Science and Applied Science: Conference Series* **2** (2017) 1 |
| [4] | D. Herdiwijaya, S. Nurlaela, Y. Fadilah, S. Kurnia, Adam, *Prosiding Seminar Himpunan Astronomi Indonesia* (2011) |