**Night sky brightness Measurement during the March 2018 Earth Hour in Yogyakarta**

Mega Sukma1 , Yudhiakto Pramudya2,Muchlas Arkanuddin3, Okimustava4

*1,2,3 ,4* Program Studi Magister Pendidikan Fisika Universitas Ahmad Dahlan, Jl. Pramuka 42,

Yogyakarta 55161, Indonesia

Pusat Studi Astronomi Universitas Ahmad Dahlan, Jl. Gondosuli 1, Yogyakarta 55166,

Indonesia

ABSTRACT

Turning off the light for one hour is annual global event to celebrate the Earth Hour. At that time, there is also campaign to observe the night sky with minimal light pollution. Hence, during this event, it is important to measure the level of light pollution using the Sky Quality Meter (SQM) device that was directed to the zenith. The research is intended to obtain comparison of the night sky brightness (NSB) between typical days (23th and 25th of March) and Earth Hour day (24th of March). The measurement was performed in Yogyakarta that is located in 07º 48 ' South and 110º 21'West using the SQM-LU device. The location is the city center where the artifiical light comes from the building, advertising boards, city lights and vehicles. The data distribution analysis was performed to obtain the mode value of NSB for each day. The mode value of NSB on 23th, 24th, and 25th of March 2018 are 15,5 mag/arcsec2 , 14,61 mag/arcsec2 15,02 mag/arcsec2 and the mode value on the Earth Hour day is 17.4 mag/arcsec2. Hence, it can be concluded that the night sky in Yogyakarta has a high level of light pollution. By turning off the light, the light pollution can be reduced.

*Keywords:*  light pollution, night sky brightness, SQM, Earth Hour