

## ABSTRACT

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Title : Measurement of The Night Sky Brightness on Zenith Direction  
at Eastern Bandung Region

The brightness of the night sky is important for the ecosystem. This is because many living things are active at night, such as nocturnal and plant animals. In addition, the brightness of the night sky is very important for astronomical observations. But now, the condition of the night sky is getting worse, especially in urban areas. The light source in the sky is divided into two, namely natural sources, such as moonlight, dawn and dusk, and sources that come from man-made or called light pollution. Measuring the brightness of the night sky can be an indicator of the level of light pollution in an area. Therefore, this study aims to determine the level of light pollution in Eastern Bandung region by measuring the value of night sky brightness using Sky Quality Meter (SQM). The study was conducted using the observation method of monitoring the sky brightness in the zenith direction during July-September 2018 at the Integrate Laboratory of UIN Sunan Gunung Djati Bandung. As a result, the brightness of the night sky is different each phase of the Moon. When the full moon phase, the brightness of the night sky is brighter than when the Moon phase is not full. Then, the brightness value of the night sky is classified based on the Bortle Scale and converted into the Naked Eye Limiting Magnitude (NELM) value. As a result, the night sky at Eastern Bandung region included in class 6, namely Bright Suburban Sky with a value of 19.38 mpdbp or in NELM with a magnitude of 5.05.

**Keywords: Night Sky Brightness, Light Pollution, SQM, Bortle Scale**

## ABSTRAK

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Judul : Pengukuran Kecerahan Langit Malam Arah Zenit Di Wilayah Bandung Timur

Kecerahan langit malam merupakan hal yang penting bagi ekosistem. Hal tersebut dikarenakan banyak makhluk hidup yang beraktivitas di malam hari, seperti hewan *nocturnal* dan tumbuhan. Selain itu, kecerahan langit malam pun sangat penting bagi pengamatan astronomi. Namun saat ini, kondisi langit malam sudah semakin buruk, terutama di daerah perkotaan. Sumber cahaya di langit terbagi kepada dua, yaitu sumber alami, seperti cahaya Bulan, fajar dan senja, serta sumber yang berasal dari buatan manusia atau disebut polusi cahaya. Pengukuran kecerahan langit malam dapat menjadi indikator tingkat polusi cahaya di suatu wilayah. Maka dari itu, penelitian ini bertujuan untuk mengetahui tingkat polusi cahaya di wilayah Bandung Timur dengan mengukur nilai kecerahan langit malam menggunakan *Sky Quality Meter (SQM)*. Penelitian dilakukan dengan menggunakan metode observasi *monitoring* kecerahan langit pada arah zenit selama bulan Juli-September 2018 di Laboratorium Terpadu UIN Sunan Gunung Djati Bandung. Hasilnya, setiap fase Bulan kecerahan langit malamnya berbeda. Ketika fase Bulan purnama, kecerahan langit malam lebih terang dibandingkan ketika fase Bulan tidak purnama. Kemudian, nilai kecerahan langit malam diklasifikasikan berdasarkan Skala Bortle dan dikonversi ke dalam nilai *Naked Eye Limiting Magnitude (NELM)*. Hasilnya, langit malam di wilayah Bandung Timur termasuk ke dalam kelas 6, yaitu *Brigh Suburban Sky* dengan nilai 19,38 mpdbp atau dalam NELM bernilai magnitudo 5,05.

**Kata Kunci: Kecerahan Langit Malam, Polusi Cahaya, SQM, Skala Bortle**