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Measuring night sky brightness: methods and challenges

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Abstract

Measuring the brightness of the night sky has become an increasingly important topic in recent years, as artificial lights and their scattering by the Earth's atmosphere continue spreading around the globe. Several instruments and techniques have been developed for this task. We give an overview of these, and discuss their strengths and limitations. The different quantities that can and should be derived when measuring the night sky brightness are discussed, as well as the procedures that have been and still need to be defined in this context. We conclude that in many situations, calibrated consumer digital cameras with fisheye lenses provide the best relation between ease-of-use and wealth of obtainable information on the night sky. While they do not obtain full spectral

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