

Accepted Manuscript

A simplified model of all-sky artificial sky glow derived from VIIRS
Day/Night band data

Dan M. Duriscoe , Sharolyn J. Anderson , Christian B. Luginbuhl ,
Kimberly E. Baugh

PII: S0022-4073(17)30874-9
DOI: [10.1016/j.jqsrt.2018.04.028](https://doi.org/10.1016/j.jqsrt.2018.04.028)
Reference: JQSRT 6074



To appear in: *Journal of Quantitative Spectroscopy & Radiative Transfer*

Received date: 15 November 2017
Revised date: 25 April 2018
Accepted date: 25 April 2018

Please cite this article as: Dan M. Duriscoe , Sharolyn J. Anderson , Christian B. Luginbuhl ,
Kimberly E. Baugh , A simplified model of all-sky artificial sky glow derived from VIIRS
Day/Night band data, *Journal of Quantitative Spectroscopy & Radiative Transfer* (2018), doi:
[10.1016/j.jqsrt.2018.04.028](https://doi.org/10.1016/j.jqsrt.2018.04.028)

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Highlights

- A simplified spatial model provides a high confidence estimate of an all-sky light pollution ratio (ALR) metric for large regions
- The model uses VIIRS day/night band cloud-free composites as input and is verified with ground-based all-sky V-band photometric artificial sky brightness measurements
- The simplified algorithm is based upon an all-sky brightness/distance relationship between the location of the observer and the source of upward radiance
- We provide limitations of the model including the effect of sources of varying spectral power distribution and the appearance of artificial sky glow to the human eye

Download English Version:

<https://daneshyari.com/en/article/7845943>

Download Persian Version:

<https://daneshyari.com/article/7845943>

[Daneshyari.com](https://daneshyari.com)