

# Star Detection and Removal in Night Airglow Images

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## Abstract

Image Processing is technique by which we can process any image to extract the real information i.e. useful information from the image. The study of the Earth's upper atmosphere by using all-sky imager technique the image processing is to be done on the captured images. Noise is an important factor that influences image quality which is mainly produced in the processes of image acquirement. The stars in images act as a noise, they can cause streaking when we scan images for analysis and when images are averaged for flat fielding. Stars in the sky are, first of all, a local increase in the amount of light over the ambient night sky intensity. Most star detection and removal methods are based on image analysis. However, some factors will affect the detection of stars due to the complexity of the interpretation, e.g. high intensity in the sky over horizon due to

city lights and other structures like Milky Way in sky as they are easily mistaken as stars. We have developed a simple effective algorithm for removing stars while leaving the remainder of the image data essentially untouched. The results are satisfactory and show that the developed star removal technique is better as compared to the other methods.

**Keywords:** All sky imager, Image Processing, Star Removal

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