

A machine learning approach to restoration of globular cluster images

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Abstract

Real-time images of stars are corrupted by various noises including atmospheric seeing, incorrect orientation of mirrors in the image sensor device, and PSF anisotropy, which is largely due to winds. When capturing a time series, the rarity of events precludes retaking the images, and each image becomes essential. Thus, restoring corrupted images is an important task. We investigate the efficacy of employing machine learning approaches to this problem to restore the circular images of stars in globular clusters.

Keywords: machine learning; deep learning; neural networks; image restoration