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The Global Oscillation Network Group (GONG) comprises a network of six telescopes positioned around the globe. Collectively, these telescopes achieve an average duty cycle of 93%, with a cadence of 30 seconds. Despite the overall high quality of the images, a small fraction exhibit corruption due to various degrees and types of noise. Although this fraction is minimal, their unforeseen presence, and the fact that they may occur in consecutive batches, can significantly disrupt research and operational efforts. This issue is especially critical for automated tasks processing a continuous stream of image data captured by GONG, where even minor anomalies can lead to substantial inaccuracies. Currently, to the best of our knowledge, the community lacks a known algorithm that can reliably identify and exclude these anomalous observations. In this study, we empirically identify anomalies in H-Alpha observations of the Sun and design a statistical algorithm to detect images exhibiting these anomalies. While our primary emphasis is on the interpretability and efficiency of the anomaly detection algorithm, we assess its performance relative to more resource-demanding approaches, specifically auto-encoders. Recently, auto-encoders have demonstrated considerable success in general-purpose anomaly detection tasks. So, our comparison aims to balance the algorithm's lightness (in terms of the number of parameters) and interpretability (in terms of justifying the detections). We show that taking advantage of the low variance in macroscopic scale and high-variance in microscopic scale of the observations, an optimized region-based statistical model can reliably identify regional anomalies.

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