

*Analyzing the Potential Effects of Satellite Constellations on Telescopic Observations and Long Exposure Images Over the Next Five Decades*

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The proliferation of satellite constellations, exemplified by initiatives like SpaceX's Starlink, poses a growing threat to astronomical observations in the visible and near-infrared spectra. While recent studies have quantified the immediate impacts, this project endeavors to extend the analysis by integrating the simplified model with projections of satellite



constellations over the next 10, 25, and 50 years. The objective is to develop a predictive model that estimates the progressive degradation of astronomical images over time, considering the increasing number of satellites in Earth's orbit.