# The Importance of UV-Optical Spectra of Giant Exoplanets

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UV observations probe unique characteristics of exoplanet atmospheres. The mid- to near-UV (MUV 200-300 nm and NUV 300-400 nm) can provide constraints on the presence of strong UV absorbers/scatterers [e.g., Gao et al. 2017; Sing et al. 2019], atmospheric escape [e.g., Bourrier et al. 2018; dos Santos et al. 2023], and enhanced scattering due to aerosol (cloud and/or haze) opacities [e.g., Parmentier et al. 2016; Ohno & Kawashima 2020]. With the advent of JWST, these UV measurements are even more vital providing quantifiable information content to atmospheric interpretation inaccessible at longer wavelengths [e.g., Fairman, Wakeford, & MacDonald 2024]. Aerosols are a core driver for changes seen in UV spectra of transiting exoplanets, yet we still have limited understanding of their particle size and composition, distribution, and dynamics. On an individual basis, this is hard to discern with low-resolution spectra, but as a collective we can look for trends across the population and determine the main drivers of UV opacity. I will highlight how Hubble is leading the way in UV-optical studies through multiple large programs to assess atmospheric escape and low-resolution spectroscopy programs. I will also look to the future and discuss the current instruments and the need for new UV-optical spectroscopy missions and instrumentation beyond 2035.