

# Addressing Laboratory Challenges in the VUV for Exoplanet Atmospheres: Photodissociation and Photoionization

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VUV photons are important drivers of chemical processes in exoplanet atmospheres. In order to accurately simulate the photo-driven chemistry within, it is important to accurately characterize and constrain photodissociation and photoionization cross sections of molecules.

Obtaining cross sections experimentally is significantly challenging, but more challenges arise in terms of translating laboratory data into quantities used in photochemical models as there are multitudes of photoprocesses unaccounted for, either due to the lack of laboratory/theoretical data or due to accidental ignorance of what photo-processes are potentially important, such as photodissociation branching ratios, electronically excited photoproducts, fluorescence, and more.

The objective of this talk will be to give an overview of the current state of knowledge of quantified photo-driven processes that are being exploited, and the potential blind spots that could be sources of important photochemistry unaccounted for in modern exoplanetary atmospheric models.