

## NEW DATASET FOR MOLECULAR IONS OF ASTROPHYSICAL IMPORTANCE

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Atomic and molecular (A&M) datasets, databases and data ecosystems are gaining increasing importance for diagnostics, creation of models and simulations of complex physical processes, and interpretation of data provided by measurements (Marinkovic et al., 2017). A&M data can be used to model and comprehend stellar processes, including nucleosynthesis, radiation, and the formation of complex molecules in space, and also in the interstellar medium (Snow, T. P. & McCall, B. J. (2006)). Precision spectroscopy of molecular ions has applications in astrochemistry, quantum state controlled chemical reactions, and measurements of fundamental constants (Vazquez-Carson et al., 2022; Brown et al., 2016). Such accurate spectroscopy measurements open the path for search for astrophysical presence of small molecules like SiH<sup>+</sup>, CaH<sup>+</sup>, etc. We investigated optical (photodissociative) processes involving calcium monohydride ions, and collected

cross section dataset for the range of parameters which cover modeling of abovementioned environments.

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### **References**

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