Collisional and radiative processes involving some small molecules: A&M data

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Collecting necessary information on the different environments within our universe has become available with progress in observational astrophysics, experimental physics and computer modeling. Especially nowadays, atomic and molecular data and databases have become essential for developing models and simulations of complex physical/chemical processes and for the interpretation of (big)data provided by observations and measurements, e.g., laboratory plasma, planetary atmospheres, ionosphere, etc (Dubernet et al. 2016). It is necessary to constantly improve models by including as many processes as possible and using the most accurate data. This topic is very important because of existence of uncertainties on the rate coefficients for radiative and collisional processes and the need for accurate ones in order to be properly included in modern codes. Our aim is to determine high quality data. The main objective is to obtain, cross-sections and rate coefficients for some collisional and radiative processes, for conditions that exist in laboratory plasmas, planetary atmospheres, ionosphere, etc. (Albert et al. 2020).

References

Albert, D-, et al., 2020, Atoms 8.4, 76.
Dubernet, M. L., Antony, B. K., Ba, Y. A., et al.,. 2016, J. Phys. B, 49, 074003