

## A&M DATASETS FOR LTP TREATMENT OF PLANTS

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**Abstract.** Latest scientific papers related to food industry and technology indicate the potential usage of plasma in the treatment of plants without pesticides or other toxic agents, and even degradation of undesirable chemical compounds, such as allergens, toxins, and pesticide residues, often encountered on foods and food-processing equipment. Our research involves theoretical calculations of processes of LTP interest which include electrons, ions, small molecules and various excited species, and publishing datasets (Vujcic et al. 2023) both on the SerVO (Jevremovic et al. 2012) website and through VAMDC infrastructure (Dubernet et al. 2016). We cover the processes involving working LTP gases such as helium and ionization/excitation/recombination of hydrogen and alkali plasmas for conditions of interest of laboratory/technology LTPs.

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### References

- Dubernet, M. L., Antony, B. K., Ba, Y. A., Babikov, Y. L., Bartschat, K., Boudon, V., ... & Zwolf, C. M. (2016). *J. Phys B*, **49**(7), 074003.
- Jevremović, D., et al.. (2012). Proceedings of the 13th ICCST (pp. 399-406).
- Ohta, T. (2016). Plasma in agriculture. *Cold plasma in food and agriculture*, 205-221.
- Puač, N., Gherardi, M., & Shiratani, M. (2018). *Plasma Process Polym*, **15**(2), 17001
- Priatama, R. A., et al. (2022).. *International Journal of Molecular Sciences*, **23**(9), 4609
- Vujčić, V., Marinković, B. P., Srećković, V. A., Tošić, S., Jevremović, D., ... & Mason, N. J. (2023). *Physical Chemistry Chemical Physics*, **25**(40), 26972-26985