

Towards fs time-resolved photoelectron spectroscopy of biomolecules in aqueous solutions

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The combination a liquid microjet with fs time-resolved photoelectron spectroscopy (TRPES) allows for the direct observation of transient electronic structure of molecules in solution. Photophysical processes in solvated chromophores are initiated by ultra-violet fs laser pulses and probed by time-delayed photoionization of valence electrons. We will present first TRPES studies of adenine and adenosine, which were excited by a 100 fs, 200 nm (6.20 eV) pulse and ionized by a 100 fs, 265 nm (4.65 eV) pulse. As an example, we show in Figure 1 the time-dependent photoelectron spectrum of a 2 mM aqueous solution of adenine. A detailed analysis of our data will be given and results will be discussed.

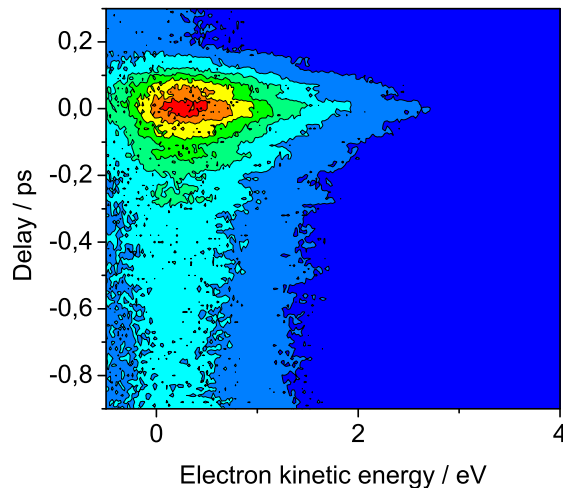


Figure 1: Time-resolved photoelectron spectrum of a 2mM aqueous solution of adenine.