

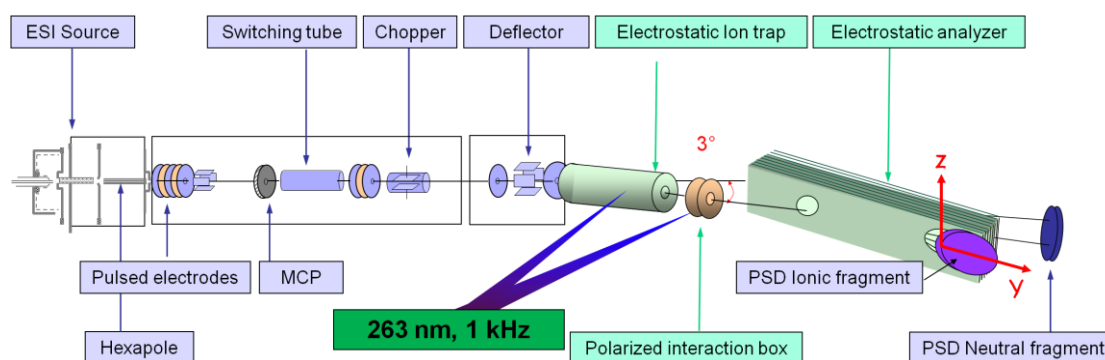
# Studying UV photodissociation dynamics of small protonated peptides with vector correlation of all photofragments

Location: ISMO Université Paris-Sud (Building 349)

Researchers in charge of the Trainees: Dr. Jacqueline A. Fayeton and Dr. Satchin Soorkia

Maximum number of Trainees: 3

## Experiment:



The Arc-en-Ciel experimental setup allows for UV photodissociation dynamics studies of small protonated peptides produced with an electrospray ion source in the gas phase.[1,2] The specificity of the instrument comes from the coincident detection of the ion and neutral fragment(s) issued from the same fragmentation event. Each fragmentation channel is identified by the mass-to-charge ratio ( $m/z$ ) of the ion fragment. The spatial and temporal correlations of the photofragments allows for the identification of the number and the mass of the neutral fragments associated with each ion fragment, the number of steps in a particular fragmentation scheme and the characteristic fragmentation time ( $20 \text{ ns} < \tau < 1 \text{ }\mu\text{s}$ ) of each step.

## Schedule expected:

The photodissociation dynamics of a model system containing a disulfide bond will be studied.[3] We will proceed with the analysis of data collected and work out the mechanisms of selected fragmentation channels.

## References:

- [1] Sunil S. Kumar, M. Pérot-Taillandier, B. Lucas, S. Soorkia, M. Barat and J. A. Fayeton - *J. Phys. Chem. A*. 115 38 **2010** 10383
- [2] S. Soorkia, C. Dehon, S. Sunil Kumar, M. Pérot-Taillandier, B. Lucas, C. Jouvet, M. Barat and J. A. Fayeton - *J. Phys. Chem. Letters* 6 **2015** 2070
- [3] S. Soorkia, C. Dehon, S. Kumar, M. Pedrazzani, E. Frantzen, B. Lucas, M. Barat, J. Fayeton and C. Jouvet - *J. Phys. Chem. Letters* 5 **2014** 1110