



Soutenance de thèse

ALSHORMAN Mohammad

Institut des Sciences Moléculaires d'Orsay (ISMO), Orsay

“Studies on K-shell photoionization of nitrogen ions and on valence photoionization of atomic and small molecular ions”

Studies of photoionization processes on ionic species are a unique tool for the understanding of electrons interaction processes in multi-electrons systems. They provide also accurate laboratory data on the interaction between photons and ionic targets needed for the modelization and characterization of high temperature plasma environments found in many astrophysical and laboratory systems.

I will present the results obtained on the K-shell photoionization of multiply-charged ions of the nitrogen iso-nuclear series, from N^+ to N^{4+} , as well as on the valence photoionization of small molecular ions (CO_2^+ and N_2^+) using both the merged beam and ion trap techniques at the SOLEIL synchrotron radiation facility. Comparison of the experimental cross sections with existing theoretical results obtained using different methods (MCDF, R-matrix and SCUNC) has allowed the improvement of the methods used for the description of astrophysical ionized plasmas and of high temperature laboratory plasmas.

Mardi 25 février 2014 à 14h30

Bât 351 – 2^{ème} étage (Bibliothèque)

Université Paris-Sud, 91405 Orsay Cedex

La soutenance sera suivie d'un pot auquel vous êtes chaleureusement conviés.