Title of the course: Spectroscopic application of photoionization

Credits: 2

Coordinator: Szepes, László

Department: Department of Inorganic Chemistry

Pre-requisites: General entrance requirements of Chemistry MSc program, basic knowledge in Theoretical chemistry and Spectroscopy. (In the case of completed ELTE BSc course prerequisite is Theoretical chemistry (kv1n1lm1), or equivalent in any other case.)

Topics covered by the course:
The course covers the main principles of photoionization; the basic concepts and applications of UV photoelectron spectroscopy (UPS, XPS) and related techniques, like photoelectronphotoion coincidence experiment (PEPICO), zero kinetic energy spectroscopy (ZEKE), and special features of photoionization mass spectrometry (PIMS).

Literature

Compulsory: -

Suggested:

In Hungarian:
Borossay J., Szepes L., Fotoelektron-spektroszkópia. Molekulaspektroszkópia, Szerk.: Kovács I., Szőke J., Akadémiai Kiadó, Budapest, 1987, 719-761.

In English:
Eland, J.H.D., Photoelectron Spectroscopy, Butterworth, London, 1974
Briggs, D. (Ed.), Handbook of X-ray and Ultraviolet Photoelectron Spectroscopy, Heyden, London, 1977
Müller-Detlefs, K., High Resolution with Photoelectrons: ZEKE Spectroscopy of Molecular Systems, in *High Resolution Laser Photoionization and Photoelectron Studies*, (Powis, I., Baer, T., Ng, C-Y., Editors), Wiley, 1995, pp. 21-70.
Baer, T., Booze, J., and Weitzel, K.-M., Photoelectron-Photoion Coincidence Studies of Ion Dissociation Dynamics, in Vacuum Ultraviolet Photoionization and Photodissociation of Molecules and Clusters, (Ng, C-Y., Ed.) World Scientific, Singapore, 1991, pp. 259-296.