IBS Center for Multidimensional Carbon Materials

Tuesday Colloquium

Prof. Simon MUN

Department of Physics and Photon Science,
School of Physics and Science
Gwangju Institute of Science and Technology
Ertl Center for Electrochemistry and Catalysis

bsmun@gist.ac.kr

Recent Development of Ambient Pressure XPS

Tuesday, Sep 20
2 PM

Bldg. 101
Seminar room on the 1st floor

X-ray photoelectron spectroscopy (XPS) is one of the major tools in the fields of surface science due to its excellent capabilities in studying surface chemical and electronic properties. However, due to the short inelastic attenuation lengths of photoelectrons, as well as the requirement of high vacuum in the electron spectrometer, only the model system or ex-situ studies have been applied, and thus creating so-called “pressure-gap”. In an effort to bridge this pressure-gap, the ambient pressure x-ray photoelectron spectroscopy (AP-XPS) has been developed in 2002 by using synchrotron radiation. Now, the emergence of AP-XPS has made a revolutionary impact on the community of XPS and put a new road map in the applications of XPS as a genuine practical surface analysis tool, especially in the field of catalyst, liquid/solid interface, and energy material researches. [1] In this presentation, the basic principles and the latest instrumental developments of AP-XPS will be presented. Also, the applications of AP-XPS to several practical systems will be given.

[1] Bongjin Simon Mun, Hiroshi Kondoh, Zhi Liu, Phil N. Ross Jr., Zahid Hussain, Current Trends of Surface Science and Catalysis, Springer, 2014, edited by Jeong Young Park

You are cordially invited to attend!