

# XPS Lite

January 22-23, 2013 (1.5-day course)

Birck Nanotechnology Center

Room 2001 • 9:00 am

## Introduction to CasaXPS

### Course Objectives:

- Learn main physics principles of X-ray Photoelectron Spectroscopy (XPS);
- Learn what analysis/treatment should be applied to raw XPS data;
- Learn CasaXPS software;
- Learn approaches for qualitative and quantitative analysis of XPS data using CasaXPS;
- Case studies based on participant's XPS data

### Course Description:

XPS is widely used to determine the chemical composition of a surface (element concentrations, chemical states, lateral and depth distributions, etc.). Nowadays XPS has become a standard technique for the characterization of solid surface. However, XPS data require thorough analysis, and dedicated software is used for data analysis. Purdue University has a site license for CasaXPS allowing complete analysis XPS data. The course aims to teach (1) what analysis should be applied to raw XPS data and (2) how this can be done using CasaXPS. Qualitative and quantitative analysis of XPS data using CasaXPS will be discussed in detail as well. Participants are encouraged to bring their own laptops to follow data analysis using CasaXPS.

### Instructor:

Dmitry Zemlyanov, Surface Science Application Scientist, Birck Nanotechnology Center, Purdue University.

### Total 1.5-Day Cost:

\$300

### Day 1:

*Introduction:* main physics principles of XPS, basic analysis of raw XPS data.

*Basic of CasaXPS:* Loading and displaying data, selecting and zooming data, etc.

*Processing Spectra:* Charge correction and energy calibration.

*Quantification of Spectra:* Creating background and regions, Quantification of survey and high-resolution spectra using regions, creating peak models, creating reports.

*Result Transfer to other media:* export txt data, graphics files, etc.

### Day 2:

*Case studies:* Analysis of participant XPS data.

Participants are encouraged to bring their laptop with CasaXPS installed. The instruction how to install CasaXPS on Purdue computer is at <http://www.purdue.edu/dp/Nanotechnology/facilities/XPS.php>

Registration at: <http://bit.ly/UjkcGr>



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