

CaPeRS and LOX: Photoemission Electron Spectromicroscopy at the Canadian Light Source

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This presentation will discuss recent research results and future prospects for the Canadian Photoelectron Research Spectromicroscope (CaPeRS) facility. This photoelectron emission microscope (PEEM) was purchased from Elmitec GmbH and was used on multiple beamlines at the Synchrotron Radiation Center (SRC, Stoughton, WI) since April 2002. At the SRC, the CaPeRS microscope was used for surface and micro-scale chemistry of a wide range of heterogeneous materials, including the absorption of proteins on patterned polymer surfaces, chemical characterization of grain boundary precipitates in metal alloys and of carbonaceous matter in geochemical materials.

A corresponding data acquisition software package, LOX, has been developed to integrate the microscope with beamline, shutter and microscope control and for acquiring complementary signals.

The microscope was recently moved to the Canadian Light Source (CLS, Saskatoon, SK), where it is now being recommissioned for use on a several beamlines, including a specialized branch of the spectromicroscopy beamline (Apple II EPU source, entrance slit-less PGM monochromator, 250 – 2000 eV energy range) where the increased photon flux and greater experimental flexibility will be harnessed later in 2005.

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