

Abstract Submitted
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Combined surface plasmon resonance and X-ray absorption spectroscopy¹ MIGUEL ANGEL GARCIA, Institute for Ceramic and Glass CSIC & IMDEA Nanociencia, AIDA SERRANO, Institute for Ceramic and Glass CSIC, Madrid, Spain, OSCAR RODRIGUEZ DE LA FUENTE, Dpt. Material Physics, Univ. Complutense at Madrid, Spain, GERMAN R. CASTRO, Spline Spanish CRG beamline at ESRF, Grenoble, France & ICMM CSIC — We present a system for the excitation and measurement of surface plasmons in metallic films based on the Kretschmann-Raether configuration that can be installed in a synchrotron beamline. The device was mounted and tested in a hard X-ray Absorption beamline, BM25 Spline at ESRF. With this device it is possible to carry on experiments combining surface plasmon and X-ray absorption spectroscopies. The surface plasmons can be used to monitor in situ changes induced by the X-rays in the metallic films or the dielectric overlayer. Similarly, the changes in the electronic configuration of the material when surface plasmons are excited can be measured by X-ray absorption spectroscopy. The resolution of the system allows to observe changes in the signals of the order of 10^{-3} to 10^{-5} depending on the particular experiment and used configuration. The system is available for experiments at the beamline.

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