



Contribution ID: 86

Type: Oral

NOTOS at ALBA: Versatile XAS and XRD for operando experiments

Thursday, 8 September 2022 16:15 (25 minutes)

NOTOS at the ALBA synchrotron light source is a beamline devoted to XAS, XRD, and metrology applications in the energy range 4.5 –30 keV. In addition to the capability to perform XAS and XRD investigations, the beamline will allow combination of XAS and XRD experiments in the same beamtime. NOTOS has been designed to study the electronic structure, short and long range order by XAS and XRD for wide range of scientific disciplines: chemistry, catalysis, energy science, nanomaterials and condensed matter, environmental science. In addition to typical applications mentioned above, it will be focused on in situ and *operando* measurements on heterogeneous catalysis and electrochemistry.

The X-ray source is a bending magnet and the optics consist of a cylindrical mirror, Double Crystal Monochromator and double channel toroidal mirror, which delivers the beam to the experimental stations. The photon flux at the experimental stations is in the order of 10^{11} (ph/s/0.1%BW) in the whole energy range with high order harmonic rejection better than 10^4 .

Two different stations will be available in the EH. The first one consists of a 2.0 x 0.8 m table open to perform metrology measurements and suitable to XAS investigation in transmission and fluorescence mode and it is open to future developments in function of needed identified with users community. The second station is equipped with a two circle diffractometer where 10-channel Ge(111) analyser detector and Mythen detector have been mounted. Three ion chambers and 13-elements SDD detector will allow the combination of XAS measurements in transmission and fluorescence configuration. For both the stations a setup to handle reactive gas fully integrated in the beamline control system will be available.

The beamline started the operation with the users at the end of April and some example of experiment performed in the first user operation will be reported.

This project is co-funded by the European Regional Development Fund (ERDF) within the pluri-regional operational program of Spain (POPE), 2014-2020.

Would you like to participate in the Poster Prize competition?

No

Primary authors: ESCUDERO, Carlos (ALBA-CELLS); AGOSTINI, Giovanni (ALBA Synchrotron); HEINIS, Dominique (ALBA Synchrotron); PRAT ALBERT, Jordi (ALBA Synchrotron); NICOLÁS ROMAN, Josep (ALBA Synchrotron); GARCÍA MOLINERO, José Ramón (ALBA Synchrotron); SERRA PEINADO, Nil (ALBA Synchrotron); VALLCORBA VALLS, Oriol (ALBA Synchrotron); HOMS PURON, Roberto Javier (ALBA Synchrotron); BAUCCELLS COSTA, Álvaro (ALBA Synchrotron)

Presenter: AGOSTINI, Giovanni (ALBA Synchrotron)

Session Classification: ALBA B - 08/09/22 II