

Magnetism Investigations by XMCD & XRMS at ALBA BL29: Recent Highlights and On-Going Developments

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This talk will provide an overview of the Beamline for X-ray Resonant Absorption and Scattering at ALBA, BOREAS BL29, highlighting some experiments using spectroscopic or scattering approaches. At BOREAS, experiments use either the beamline XMCD vector-cryomagnet or a multipurpose UHV reflectometer in combination with x-ray photons of energy on the range of 100 eV to 4000 eV (VLS-grating monochromator) and full-polarization control (Apple II EPU). Example of studies range from in-situ investigation of the magnetism of isolated atoms or single molecules, to the properties of oxide materials in thin-film or bulk crystal form, topological insulators, or 2D materials such as Graphene. A brief account on main experiment topics, statistics and productivity will be provided. The second part of the talk will have an emphasis on scattering, and will present details on the instrument developed, remarking challenges addressed or remaining. Present limitations and directions for on-going or future development will be briefly discussed.

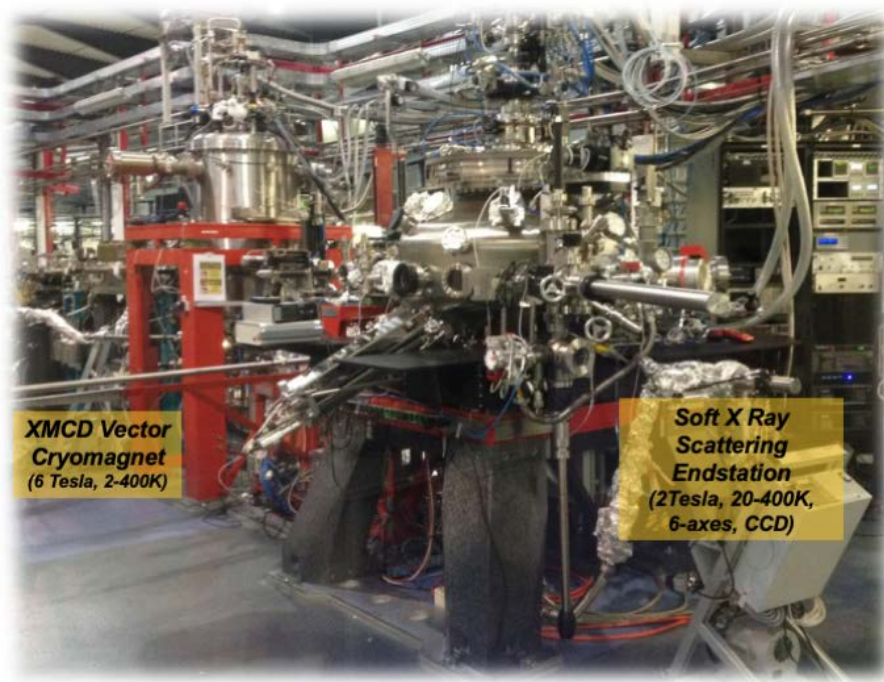


Figure 1: The XMCD and XRS endstations at ALBA BL29

References

[1] - Barla, A. et al. Design and performance of BOREAS, the beamline for resonant X-ray absorption and scattering experiments at the ALBA synchrotron light source. *J. Synchrotron Rad.* 23, 1507–1517 (2016).