

The ALBA Synchrotron Light Source: A Tool for Nanoscience

E. Pellegrin, G. García

CELLS-ALBA Synchrotron Light Source, E-08290 Cerdanyola del Vallès (Barcelona), Spain

ALBA is the Spanish third generation synchrotron light source, located in Cerdanyola del Vallès, near Barcelona, in operation since 2012. The accelerator complex, consisting of a 100 MeV LINAC, a full-energy booster and the 3 GeV storage ring, provide photon beams in a wide spectral range, fed to beamlines devoted to different experimental techniques. ALBA has at the moment seven operational beamlines, whereas two more are starting the construction process. The total capacity amounts to ca. 30 beamlines, which should gradually be built along the next years. Synchrotron light is an extremely powerful tool, suitable for investigation of micro- and nanoscopic features of materials, which can then be related to relevant macroscopic behaviors. Among the very wide range of application areas, some of the techniques available at ALBA are particularly suited for the characterization of nanomaterials. This work provides a summary description of the ALBA facility, with particular emphasis on those techniques and beamlines applicable to Nanoscience and some illustrative examples of experiments run therein.