

MATERIALS SCIENCE

In our synchrotron facility, many research programs in natural science and technology are being carried out by using diffraction, scattering and spectroscopic techniques. In materials science, the disciplines range from the fundamental research in physics to the application to industry. Many users in various fields of materials science have produced a number of high-quality scientific outputs in the X-ray beamlines of the SPRING-8. Examples of such experiments are compiled in this volume.

The above experiments can be now performed at sixteen public and the other beamlines, having full of activity in X-ray single-crystal or powder diffraction on time-dependent crystallography and electron-density distribution (BL02B1, BL02B2), X-ray diffraction at high temperature and pressure or low temperature (BL04B1, BL10XU), local atomic structure of amorphous solid, liquids and melts (BL04B2), Compton and inelastic scattering (BL08W, BL35XU), nuclear resonant scattering (BL09XU), Mössbauer spectroscopy (BL11XU), surface and interface structure (BL13XU, BL14B1), X-ray imaging (BL20B2), white X-ray topography (BL28B2), magnetic scattering (BL39XU) and R & D study (BL46XU, BL47XU). Each of the beamlines provides the requisite number of photons, sufficient energy and spatial resolutions and polarization for the experiments being performed.

