

SPECTROSCOPY

Since the commissioning of beamlines and experimental stations dedicated for spectroscopy of condensed matter at SPring-8, many significant advances and discoveries in the field have been achieved. One of the most active fields is the study of magnetism and magnetic materials, including permanent magnets, 'colossal' magnetoresistive materials, valence-fluctuating systems and Kondo insulators. Core-level absorption magnetic circular dichroism in the soft and hard X-ray regions and high-resolution soft X-ray photoemission spectroscopy have been especially powerful tools for analysis of these materials. The high-resolution photoemission soft X-ray beamline is a very unique resource at SPring-8 and has been used to produce experimental data that could not have been obtained before in any other synchrotron radiation facility.

Another very active field is X-ray elemental analysis, which truly takes advantage of the high-intensity X-rays produced at SPring-8. This technique has been applied to a wide variety of fields including environmental science, medical science, semiconductor technology, mineralogy, archeology, and criminal investigations.

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