Announcement

JUM@P’13: Third Joint Users' Meeting @ PSI

The next users' meeting from the JUM@P series will be held at PSI on September 18-20, 2013. The first day of the meeting will consist of a plenary session with keynote and invited lectures as well as information about PSI and its user facilities. The second day is reserved for topical parallel workshops, poster sessions, and a tour through the PSI user facilities. The award of the second PSI thesis medal will conclude the meeting. [http://indico.psi.ch/event/jump13](http://indico.psi.ch/event/jump13).

2013 PSI Summer School on Condensed Matter Research - August 17-23 / Lyceum Alpinum, Zuoz, Switzerland

This year, the Condensed Matter Research summer school is dedicated to one of the main topics addressed at large-scale synchrotron, neutron and muon user facilities: materials structure and magnetism. Following the school, a practical training is offered at PSI (August 24-26). The number of participants is limited, but the training will provide hands-on experience with each of the state-of-the-art user facilities. [http://www.psi.ch/summerschool](http://www.psi.ch/summerschool).

Research highlights

Molecular magnets: Lord of the rings

*C. Rüegg, Nature Physics 8, 859 (2012)*

Magnets built of molecular rings of magnetic ions are fundamental model systems for studying the complex correlations and dynamics of quantum spins at the atomic scale. A new generation of neutron spectrometers can reveal complete four-dimensional maps of the spin correlations in spin rings. [http://www.psi.ch/num/2012](http://www.psi.ch/num/2012).

Three-dimensional electron realm in crystalline solids revealed with soft-X-rays


The wave nature of electrons enables them to propagate by atoms in a periodic crystal lattice without scattering onto them. Further, the cornerstone of the quantum theory of crystalline solids is the dependence of the energy, $E$, of electrons on their wave-vector, $\mathbf{k}$, adapted to a periodic media that forms their band structure, $E(\mathbf{k})$. In particular, it answers the question why some materials are metals and others are insulators. The main experimental method to investigate $E(\mathbf{k})$ is angle-resolved photoelectron spectroscopy (ARPES), and it is based on the photoelectric effect. Typical applications of this technique have so far been largely restricted to two-dimensional crystals such as high temperature superconductors. Now, scientists from the Swiss Light Source (SLS) at the PSI have extended the ARPES technique to three-dimensional crystalline systems by using soft-X-rays with photon energies around 1 keV. [http://www.psi.ch/sls/scientific-highlights](http://www.psi.ch/sls/scientific-highlights).