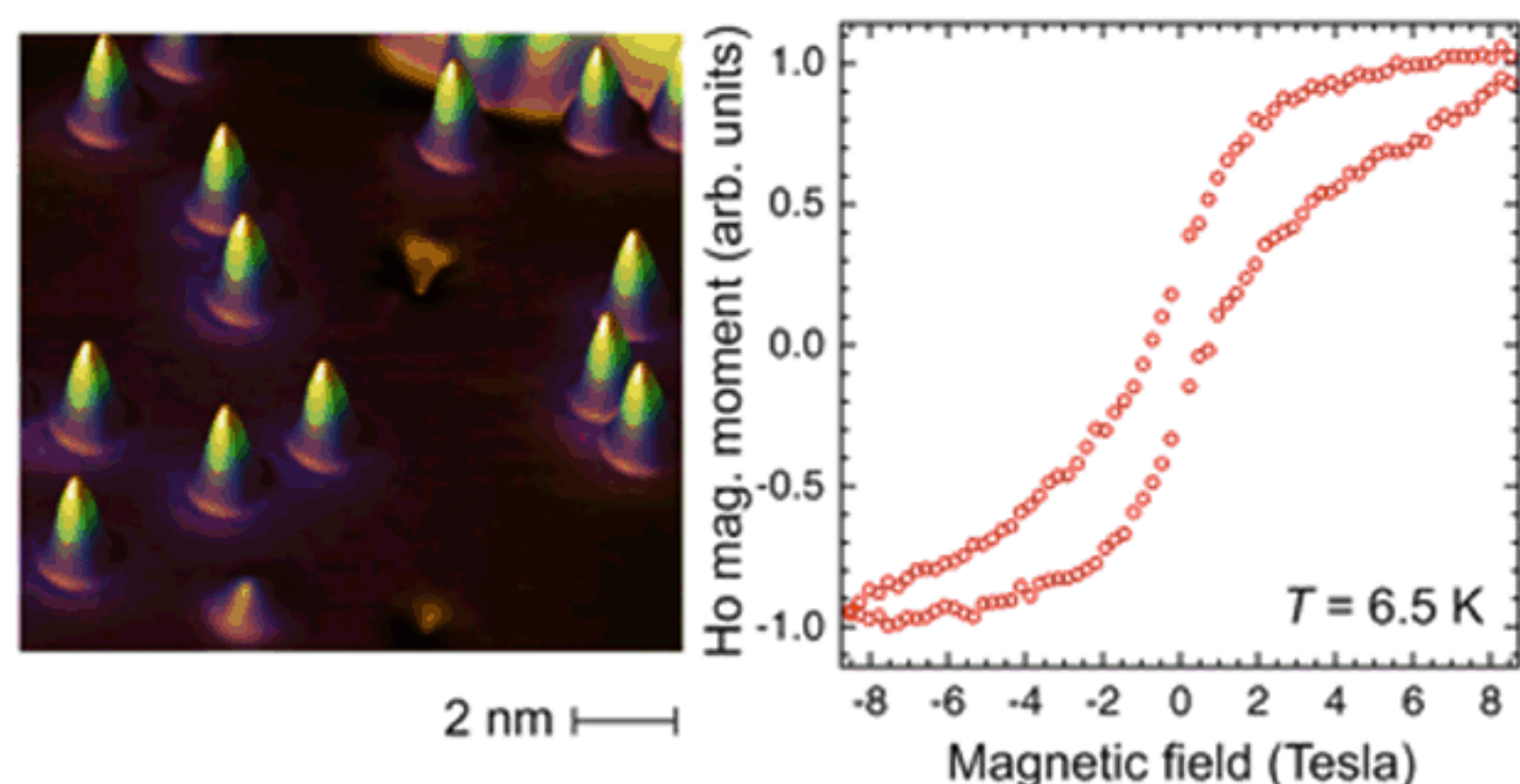


Swiss Light Source Research Highlights

The Smallest Magnet

F. Donati, S. Rusponi, S. Stepanow, C. Wäckerlin, A. Singha, L. Persichetti, R. Baltic, K. Diller, F. Patthey, E. Fernandes, J. Dreiser, Z. Sljivancanin, K. Kummer, C. Nistor, P. Gambardella, H. Brune, *Science* 352, 318 (2016) / DOI: [10.1126/science.aad9898](https://doi.org/10.1126/science.aad9898)

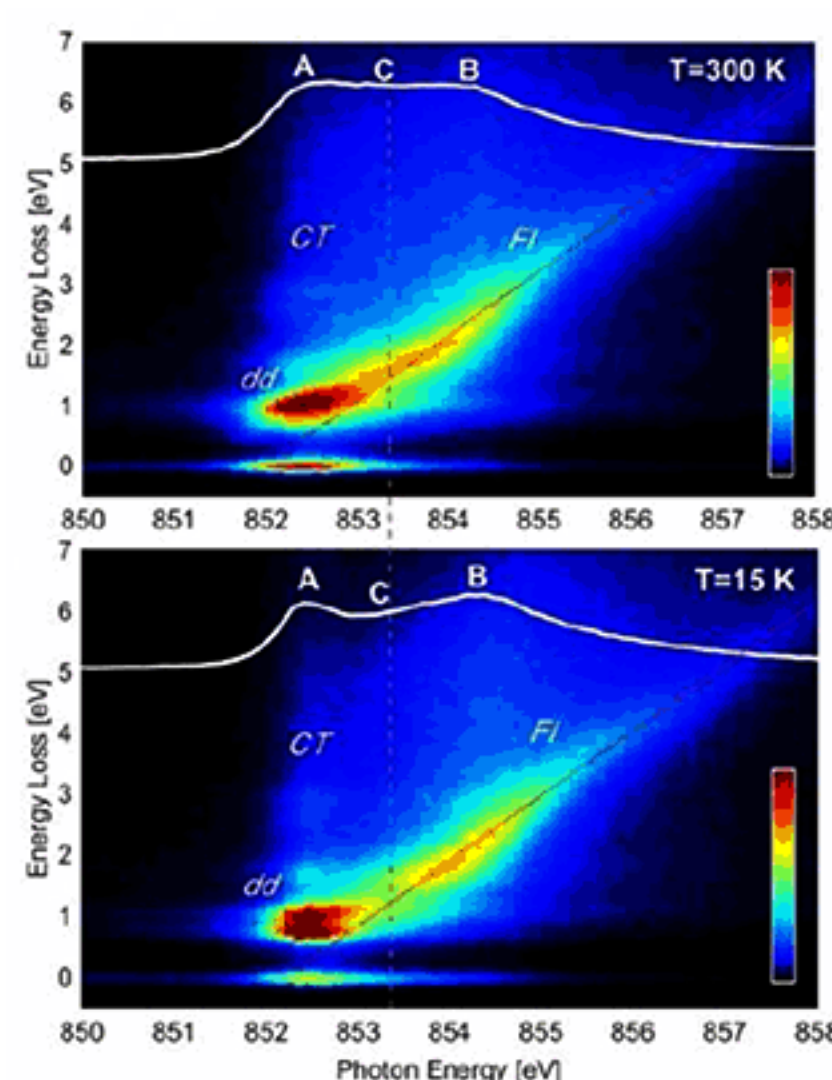


Single holmium atoms adsorbed on few monolayers of magnesium oxide are extraordinarily stable magnets. They retain a significant fraction of their magnetization when the external magnetic field is switched off. This has been shown recently in a study combining x-ray magnetic circular dichroism performed at the Swiss Light Source (SLS) and at the European Synchrotron Radiation Facility (ESRF) as well as scanning tunneling microscopy. The results open perspectives of storing and processing

information at ultrahigh density. Read more: <https://www.psi.ch/sls/scientific-highlights-and-news>

Selectively conductive or insulating

V. Bisogni, S. Catalano, R. Green, M. Gibert, R. Scherwitzl, Y. Huang, V. Strocov, P. Zubko, S. Balandeh, J.-M. Triscone, G. Sawatzky, T. Schmitt, *Nature Communications* 11 October 2016 / DOI: [10.1038/NCOMMS13017](https://doi.org/10.1038/NCOMMS13017)



The material neodymium nickel oxide is either a metal or an insulator, depending on its temperature. The possibility to control this transition electrically makes the material a potential candidate for transistors in modern electronic devices. By means of a sophisticated development of X-ray scattering, researchers at the Paul Scherrer Institute PSI have now been able to track down the cause of this transition: electrons around the oxygen atoms are rearranging. Read more: <https://www.psi.ch/media/selectively-conductive-or-insulating>

SwissFEL inauguration ceremony



On the 5th of December 2016, the Paul Scherrer Institute PSI held an inauguration ceremony for its new large-scale research facility SwissFEL, with Johann N. Schneider-Ammann, President of the Swiss Confederation, in attendance. Scientific breakthroughs the Swiss free-electron X-ray laser is expected to generate will drive important developments in the areas of energy and environment, information technology, and health. Read more: <https://www.psi.ch/media/swissfel-inauguration>