

Announcement

The PSI facilities SLS (photons) and SINQ (neutrons) are launching again a joint proposal round for powder diffraction experiments

The aim of this initiative is to promote and facilitate the complementary use of photons and neutrons.

The proposal submission deadline is: February 15, 2012 (midnight)

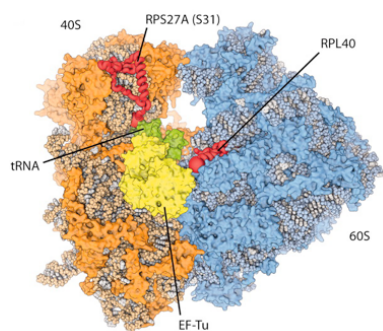
The joint photons + neutrons proposal round concerns proposals for powder diffraction experiments in the fields of condensed matter, crystallography, chemistry, magnetism etc., for which the use of both synchrotron X-ray **AND** neutron diffraction is required and adequately justified.

Applications should be submitted solely through the PSI Digital User

Office: <https://duo.psi.ch>

For further questions please visit: <http://www.psi.ch/useroffice/x-plus-n>

or contact us directly: useroffice@psi.ch



Research highlights

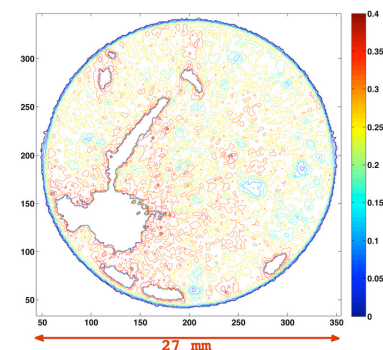
New insights into the cell's protein factory

S. Klinge et al, Science Vol. 334 (6058), 2011

Eukaryotic ribosomes are among the most complex cellular machineries of the cell. These large macromolecular assemblies are responsible for the production of all proteins and are thus of pivotal importance to all forms of life. Two independent research groups at the ETH Zürich and the Institute of Genetics and Molecular and Cellular Biology in Strasbourg have obtained new insights into the atomic

structure of the eukaryotic ribosome. The results have been published in the journal Science. All diffraction data were measured with synchrotron light at the Swiss Light Source macromolecular crystallography beamline X06SA at the Paul Scherrer Institute.

<http://www.psi.ch/sls/scientific-highlights>.



Three-dimensional visualization and quantification of water content in the rhizosphere

A.B. Moradi et al, New Phytologist 192, 653 (2011)

An international research team has demonstrated by experiments at SINQ that the soil in the vicinity of roots contains more water – contrary to the earlier belief that there must be less water in this region, as the plant takes up water from the soil. Apparently, however, plants create a small water reserve that helps to tide them over through short

periods of drought. These findings could help, in the long term, in the breeding of plants to cope better during periods of drought or in support of the development of efficient irrigation systems. These results were obtained from experiments carried out with the benefit of neutron tomography at the Paul Scherrer Institute, using a method that makes it possible to exactly show the distribution of water to a fraction of a millimetre, without having to remove a plant from the soil. <http://www.psi.ch/num/2011#moradi>.