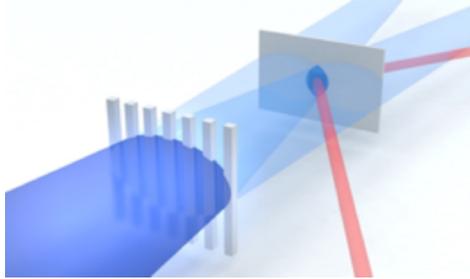
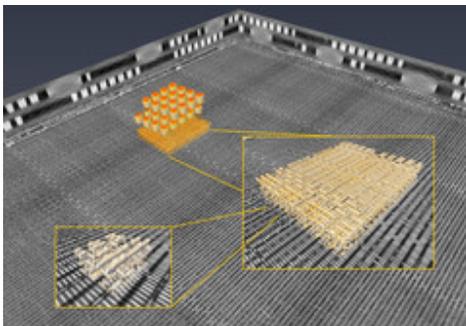


First x-ray transient grating spectroscopy experiment



At SwissFEL, the very first transient grating spectroscopy experiment in the x-ray regime has been performed. This powerful nonlinear-optics technique is based on interfering two pulses to create a standing-wave excitation on a sample, which in turn modulates the index of refraction. The excitation dynamics is subsequently probed with a third pulse that diffracts from the transient grating. The technique has been used successfully with optical and XUV pulses, but extension to x-rays proved extremely challenging. By exploiting the [Talbot effect for convergent FEL beams](#), a SwissFEL team collaborating with colleagues from EPFL, FERMI and MIT has now achieved x-ray transient gratings, which they probe with laser light. The experiments demonstrate bulk sensitivity and access to electronic resonances — paving the way for nonlinear optics experiments in the x-ray regime. Read more: <https://www.dora.lib4ri.ch/psi/islandora/object/psi:24737>

3D imaging for planar samples with zooming



Researchers of the Paul Scherrer Institut have previously generated 3-D images of a commercially available computer chip. This was achieved using a high-resolution tomography method. Now they extended their imaging approach to a so-called laminography geometry to remove the requirement of preparing isolated samples, also enabling imaging at various magnification. For ptychographic X-ray laminography (PyXL) a new instrument was developed and built, and new data reconstruction algorithms were implemented to align the projections and reconstruct a 3D dataset. The new capabilities were demonstrated by imaging a 16 nm FinFET integrated circuit at 18.9 nm 3D resolution at the Swiss Light Source. The results are reported in the latest edition of the journal Nature Electronics. The imaging technique is not limited to integrated circuits but can be used for high-resolution 3D imaging of flat extended samples. Thus, the researchers start now to exploit other areas of science ranging from biology to magnetism. Read more: <https://www.psi.ch/de/sls/scientific-highlights-and-news>

CALIPSOplus - I3 Access Program for SMEs



Call for proposals open
from September 3rd, 2019 to
December 19th, 2019

[CALIPSOplus](#), a European Horizon2020 funded research and innovation program, provides access support for SMEs to light sources. The access is based on a specific review system for SMEs in parallel to the established academic access route but following the same principles. The proposal confidentiality is kept during the whole process. If the proposal is accepted, the SME will have access to the requested light sources and the experiments will be financially supported through CALIPSOplus, [more information](#).

For industry use, SLS and SwissFEL offer direct access through the proprietary route, as well. [Read more](#)