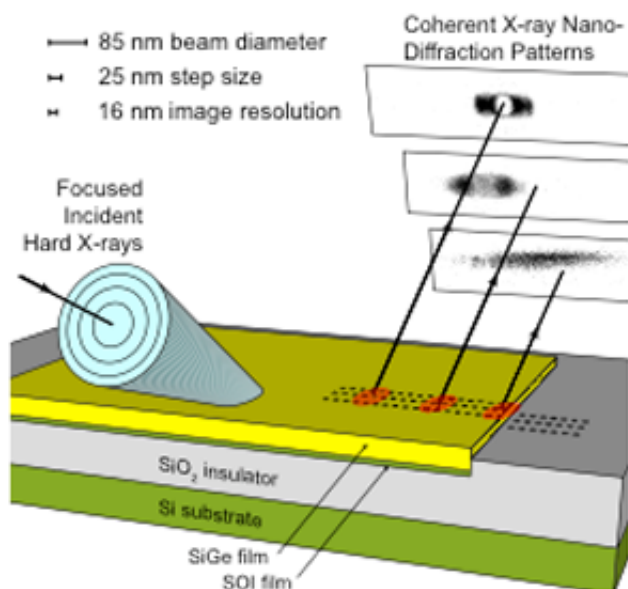
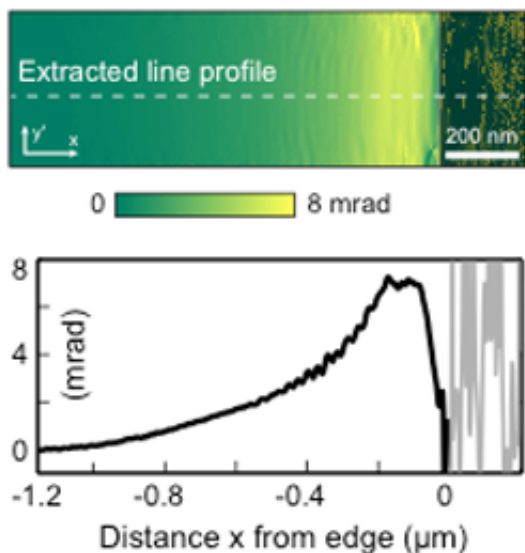


Nanoscale imaging of strain using X-ray Bragg projection ptychography

9 October 2012



SiGe lattice slope reconstruction



(Top) Focused beam coherent X-ray nanodiffraction patterns collected from a SiGe-on-SOI prototype device edge and (middle and bottom) projected strain field reconstructed by ptychographic methods.

framework of a new coherent diffraction strain imaging approach was developed in the Center for Nanoscale Materials' X-Ray Microscopy Group in collaboration with Argonne's Materials Science Division, together with users from IBM. Nanofocused X-ray Bragg projection ptychography creates a tool to efficiently image strain fields with unperturbed boundary conditions in technologically and scientifically relevant energy systems.

This new technique is capable of imaging lattice distortions in [thin films](#) nondestructively at spatial resolutions of

(Phys.org)—The theoretical and experimental

APA citation: Nanoscale imaging of strain using X-ray Bragg projection ptychography (2012, October 9) retrieved 14 April 2021 from <https://phys.org/news/2012-10-nanoscale-imaging-strain-x-ray-bragg.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.