

## NANOTOMOGRAPHY AT THE ARGONNE HARD X-RAY NANOPROBE BEAMLINE

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The Hard X-ray Nanoprobe Beamline is one of the featured instruments of the new Center for Nanoscale Materials at Argonne National Laboratory [1]. Located at sector 26 of the Advanced Photon Source, the Nanoprobe will explore nanoscale objects with an initial spatial resolution of 30 nanometers, using x-ray fluorescence spectroscopy, transmission imaging, diffraction, and scattering. X-ray fluorescence measurements will provide element-specific imaging of individual nanoparticles inside of samples. Transmission imaging and precisely controlled sample positioning will display detailed three dimensional mappings of thick specimens and devices. X-ray diffraction and scattering capabilities will examine strain states and ordering in nanoscale systems. We are developing a nanotomography program to characterize samples using the unique capabilities of the Nanoprobe.

[1] J. Maser, G. B. Stephenson, R. P. Winarski, C. Benson, D. Shu, B. Lai, S. Vogt, and M. Holt, *Development of a Hard X-ray Nanoprobe Beamline at the Advanced Photon Source*, *Microscopy and Microanalysis* 11(2) (2005) 680-681.

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[3] For more information: [www.cnm.anl.gov/research/nanoprobe.html](http://www.cnm.anl.gov/research/nanoprobe.html).

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