
ChromaXRM-500
High contrast 3D X-ray microscope

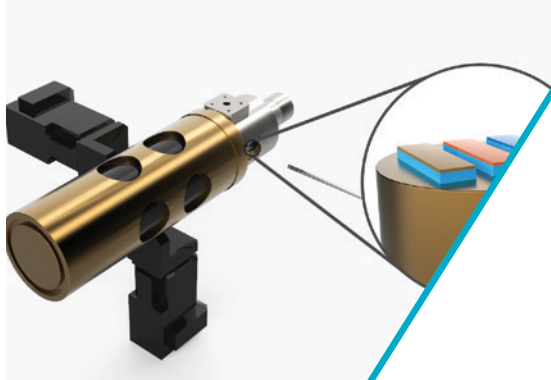


SIGRAY
ChromaXRM-500

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High contrast 3D X-ray microscope

ChromaXRM is features a patented multi-target (multi-color) x-ray source design. Software selection of an x-ray target can increase absorption contrast by orders of magnitude.



...highest contrast **for your most difficult samples** with a patented color x-ray source

ChromaXRM Advantages at a Glance

- » Leading spatial resolution of 0.5 μm with breakthrough contrast
- » Patented microstructured x-ray source that provides up to five x-ray illumination spectra for optimizing imaging performance at the push of a button
- » Superior image contrast for a wide range of materials, especially for challenging samples comprising low to middle atomic number elements

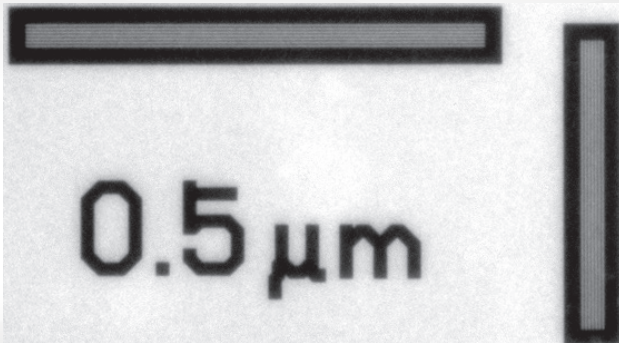
ChromaXRM-500

High contrast 3D X-ray microscope

ChromaXRM breaks through the visibility limits of existing x-ray microscopes with industry leading spatial resolution and novel approaches to contrast.

Industry Leading Resolution for 3D XRM/MicroCT

3D x-ray microscopy at ultrahigh 0.5 μm spatial resolution. Submicron resolution maintained at large working distances.



Highest Contrast for Challenging Samples

Sigray's patented x-ray source provides a breakthrough in absorption contrast for samples considered the most challenging for XRM, such as unstained biological tissue

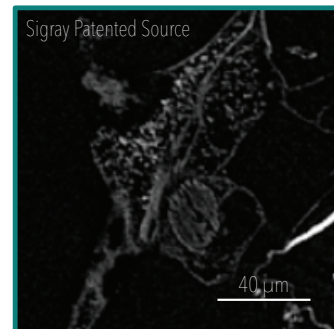
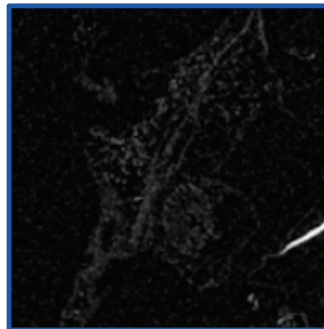
A Revolutionary MicroXRM Design

Breakthrough X-ray Microscope Design Innovation for Submicron Imaging

Sigray's ChromaXRM™ is a breakthrough 3D x-ray microscope that combines the **submicron high resolution** performance comparable to the leading x-ray microscopes with its unprecedented **multi-energy "color" capabilities**. ChromaXRM incorporates Sigray's patented x-ray source technology for producing quasi-monochromatic x-ray illumination.

What is the advantage of "color" imaging?

Nearly all leading-edge 3D x-ray microscopy is performed using tungsten (W) target based x-ray sources. These sources produce a broad spectrum of x-ray energies that can be useful when only one x-ray target is available. Sigray has patented a new multi-target x-ray source to provide multiple user-selectable spectra within the same system. This not only enables superior contrast and visibility, but provides the ability to obtain quantitative information on composition and density through spectral XRM methods.



Color Imaging: By tuning the x-ray energy, the Sigray ChromaXRM can provide orders of magnitude improvement in contrast and visibility for challenging samples. Shown above are the same sample imaged under different conditions: one mimicking the best achievable contrast on the next-best XRM system available and one with the Sigray patented x-ray source.

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ChromaXRM™ Specifications

Parameter	Specification
Spatial Resolution^[a]	Submicron (0.5 μm) in Absorption Mode
X-ray Source	Patented Sigray Microstructured Multi-Target X-ray Source
Target	Patented target with microstructured metals on diamond Select up to 5 target materials from Cr, Co, Cu, Mo, W, Ag, Au, and Rh
Voltage	20 - 60 kV
X-ray Detectors	Multiple detector system. Enables rapid changing of FOV and resolution modes
Scintillator-coupled objectives	2X, 4X, 10X, 20X, and 40X ^[b] 2k x 2k CCD detector
Large FOV detector	2304 x 2904 pixels 50 μm pixel size Custom sizes upon request
Stage	100 x 100 x 100 mm XYZ High precision air bearing rotary stage with up to 25 kg load
Optional Hardware	Robotic sample exchanger
Software	Sigray3D Intuitive Software GigaRecon Advanced Reconstruction for maximizing quality at a given speed of acquisition Optional ORS Dragonfly and/or Avizo Data Analysis

[a] Spatial resolution for absorption mode measured with 2D resolution target, normal field mode, optional 40X objective

[b] 4X and 20X objectives are standard. Other objectives are optional



Sigray ChromaXRM™ was developed by Dr. Wenbing Yun, a pioneer in XRM and an OSA fellow for his work on x-ray microscopy.

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