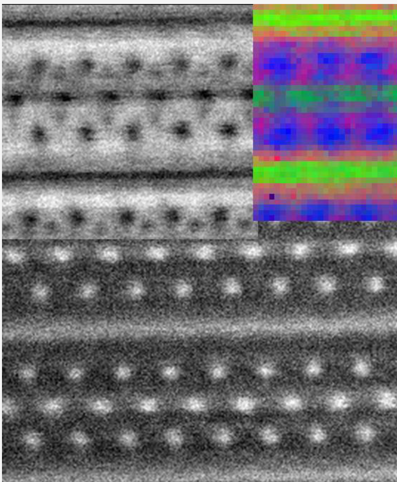
JEOL USA SEM & TEM News April 2011

Extreme Image



Atomic resolution annular bright field (ABF), high angle annular dark field (HAADF) and EELS spectrum image of $Ca_3Co_4O_9$(110). Specimen courtesy of Dr. Robert Klie, University of Illinois at Chicago. From ARM200F Atomic Resolution TEM.

Impact Notice of the March 11, 2011 Earthquake in Northeastern Japan

The JEOL Group expresses its deepest condolences to the victims of the March 11, 2011earthquake and extends its profound sympathy and heartfelt concern to the many individuals and families suffering from the effects of the disaster.

Immediately following the earthquake, the JEOL Group established the company's Emergency Headquarters for Disaster Control, headed by President Gon-Emon Kurihara, to coordinate information and our response to matters of employee safety and the status of our operations.
Specific information regarding the impact of the disaster on the JEOL Group and our current operational status is provided at this link>>>>

JEOL USA has selected the American Red Cross as our charitable organization to assist with medical care and relief efforts in Japan. The company will also be matching employee contributions. We thank all of our customers and suppliers who have contacted us to express their concern, and also to those who have made contributions to the relief fund via the American Red Cross.

In Print and Online

Energy-Filtered Transmission Electron Microscopy (EFTEM) of Semiconductor Devices

Getting the Edge on Graphene, Atom by Atom

Cancer Research Using the ClairScope(TM) Atmospheric SEM

Demand for fast QA/QC solutions for pharma driving demand for benchtop SEM

Characterizing Nanometer-Scale Materials Using a Low-Angle Backscattered Electron Detector

Nanotechnology on Ice

How Solar Power Could Become Cheaper than Coal

UTSA Physics Researcher Miguel Yacaman Receives Honorary Doctorate from Mexican University

An Eye on the Small

Automated Specimen Search in Cryo-TEM Observation

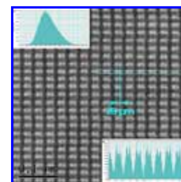
TEM of Stainless Steel for Stents

Advanced EMs at Emory Showcase New Phase Plate Technology

Phase Contrast Enhancement with Phase Plates in Biological Electron Microscopy

Efficient Nanocoax-based Solar Cells

Cold FEG with Unmatched Emission Stability - Flash & Go!



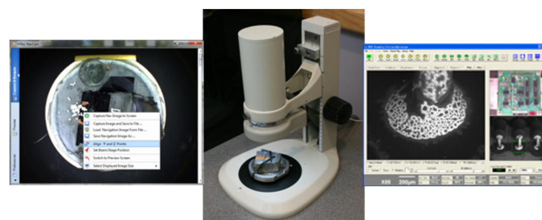
The ARM200F with Cold Field Emission Gun features dramatic improvements in cold FEG electron source design. The higher brightness and narrower energy spread are optimized by ultra stable emission, greatly enhancing atom-by-atom imaging and chemical analysis. With Cold FEG, the ARM200F achieves an ultrahigh imaging resolution of 78 picometers and an energy resolution of 0.3eV.

The ARM200F with Cold FEG is the only TEM to "Flash & Go (TM)" - or resume observation and analysis almost immediately after flashing. Instead of interrupting work for 30 minutes or more while waiting for the emission to stabilize, the ARM200F takes just seconds to continue operation after a flash. A newly developed vacuum system evacuates the area around the Cold FEG source to less than 1 x 10-9 Pa, resulting in unprecedented emission stability. Video>>>>

For further reading, see "Development of Cold Field Emission Gun for a 200kV Atomic Resolution Electron Microscope."

Navigation System for SEM and EPMA

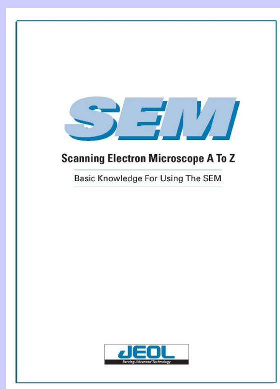
JEOL offers a new point-and-shoot sample navigation system that makes finding precise areas of interest on a sample both fast and easy for SEM and EPMA users. The Stage Navigation System combines Stage Navigation Software with an external digital camera that eliminates the need for a dedicated port and can serve as a hub for multiple instruments. The user simply records an image of the sample then navigates to the precise stage location.



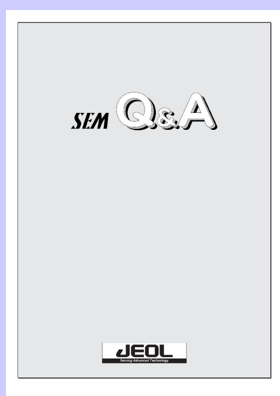
Microanalysis Specialist Provides Support in Brazil

As a consequence of the expansion of business in Brazil, Dr. Breno Leite has recently joined the JEOL team to support those involved with microanalysis. Dr. Leite, a proud Purdue University alumnus, is bringing to table more than a decade of experience in the area. His prior background as a researcher at Universities and Research Institutes in Brazil and US adds an extra layer to his unique industry/academic expertise profile.

Dr. Breno, science aficionado, is an old JEOL friend; a friendship developed while he was working for Thermo Scientific and had several collaborative assignments with JEOL. He was first introduced to electron microscopy and X Ray Microanalysis by the renowned Professor Elliot W. Kitajima, director of the Microscopy Center (NAP/MEPA) - University of Sao Paulo, where later he assumed responsibilities as an Assistant Director. Dr. Leite returned to the US after graduating from Purdue University, as an invited scholar by a University of Florida group highly interested in his research findings. Currently, he is the process of being naturalized as a US citizen. Dr. Leite is expected not only to serve as a bridge between Brazil and US, but also extend his support to other countries in South America.



SEM A-Z



SEM Q & A

Events

Spring ACS

March 28-30
Booth #815 - Anaheim, CA
InTouchScope demos

Advances in FIB-SEM and TEM for Materials Science

Seminar April 12 - Youngstown State University, Youngstown, OH

SPIE Scanning Microscopies

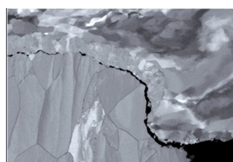
April 26-28
Booth #3706 and demos of the InTouchScope and NeoScope in booth #3707 - Orlando, FL

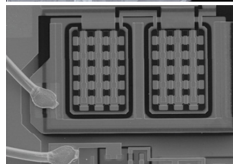
MRS Spring

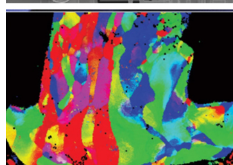
April 26-28 - San Francisco, CA

New England Society for

Fast Answers for Failure Analysis







The SEM and TEM are powerful tools used to determine the causes of failure in semiconductor devices and a wide variety of materials.

JEOL SEMs have a large depth of field, high spatial resolution, and analytical capabilities. The large specimen chamber, low vacuum SEM allows analysis and imaging to be performed without destroying large samples (300mm x 90mm).

JEOL TEMs are often used to characterize device features, providing a clear view of defects and enabling elemental mapping.

Sample preparation for SEM and TEM can be done with precision using JEOL's Cross Section Polisher for SEM, Ion Slicer for TEM, and the MultiBeam SEM/FIB both prepares and images the sample.

Let the applications specialists at JEOL USA answer your questions about using our instrumentation for EBIC, elemental analysis, voltage contrast, electrostatic discharge, EELs, routine analysis, and more.

Suggested reading:

Energy-Filtered Transmission Electron Microscopy (EFTEM) of Semiconductor Devices

Electron Microscopy: An Integral Tool in Mechanical Testing
Failure Analysis: The Old and the New

JEOL USA Service Does it Again!

For the 11th consecutive year, JEOL USA customers have expressed their satisfaction with our service and support. As a result, we have once again been awarded the Omega NorthFace Scoreboard Award for customer satisfaction.

Since 2000, Omega Management Group has conducted JEOL customer surveys four times a year. Based solely on survey responses from our own customers, we have achieved a score of 4.0 or higher out of a possible 5.0 for all ratings. For the past two years, this score has exceeded a 4.5 satisfaction rate. Categories include technical support, field service, customer service and account management. Due to its unique 'customer-only vote' criteria, the NorthFace ScoreBoard Award has been viewed from its inception in 2000 as the only objective benchmark for excellence in customer service.

"The NorthFace ScoreBoard Award recognizes organizations who not only offer exemplary customer service, but who also center their existence on a deep commitment to exceeding customer expectations," said John Alexander Maraganis, president & CEO of Omega.

"We believe that our commitment to our customers is apparent in all we do, from the initial site survey and continuing throughout the life of the instrument," said Pat McGinley, VP and GM of the Service Division. "Even with an expanding organization, the average length of experience among our field service engineers is 12 years, and many have twice that amount of time working with JEOL customers."

Microscopy
April 29-30
Woods Hole, MA

JEOL Seminar: "Topics on SEM and TEM"
May 4 - McCrone - Westmont, IL

Minnesota Microscopy Society Spring Symposium
May 6 - St. Paul, MN

Southeastern Microscopy Society Meeting
May 28-20 - Decatuer, GA

JEOL Seminar: "A View from the Nanoworld"
May 18
Medtronic - Minneapolis, MN

EIPBN
May 31-June 3 - Las Vegas, NV

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