Volume 18 Number 3 June 2012

Microscopy_{and} Microanalysis

table of contents preview

Biological Applications

Sleep Deprivation Impairs Ca2+ Expression in the Hippocampus: Ionic Imaging Analysis for Cognitive Deficiency with TOF-SIMS

- Hung-Ming Chang, Wen-Chieh Liao, Ji-Nan Sheu, Chun-Chao Chang, Chyn-Tair Lan, and Fu-Der Mai
- Age-Dependent Acoustic and Micro-Elastic Properties of Red Blood Cells Determined by Vector Contrast Acoustic Microscopy
- Esam T. Ahmed Mohamed, Albert E. Kamanyi, Mieczysław Pluta, and Wolfgang Grill Acute Lung Injury Induced by Staphylococcal enterotoxin B: Disruption of Terminal Vessels as a Mechanism of Induction of Vascular Leak
- Ali Imran Saeed, Sadiye Amcaoglu Rieder, Robert L. Price, James Barker, Prakash Nagarkatti and Mitzi Nagarkatti
- Alterations in Cardiac Structure and Function in a Murine Model of Chronic Alcohol Consumption
- Brittany A. Law, Scott P. Levick, and Wayne E. Carver Delta- and Gamma-Tocotrienols Induce Classical Ultrastructural Apoptotic Changes in Human T Lymphoblastic Leukemic Cells
- Rebecca S.Y. Wong, Ammu K. Radhakrishnan, Tengku Azmi Tengku Ibrahim, and Soon-Keng Cheong
- Gray Level Co-Occurrence Matrix Texture Analysis of Germinal Center Light Zone Lymphocyte Nuclei: Physiology Viewpoint with Focus on Apoptosis Igor Pantic, Senka Pantic, and Gordana Basta-Jovanovic
- Defective Histone H3K27 Trimethylation Modification in Embryos Derived from Heated Mouse Sperm
- Shi-Bin Chao, Lei Chen, Jian-Chun Li, Xiang-Hong Ou, Xiao-Jin Huang, Shu Wen,
- Qing-Yuan Sun, and Guo-Lan Gao Reliability of Hoechst 33342 Staining under Wide-Field Microscopy for Evaluation of the Nuclear Status of Living Dog Oocytes
- Martine Chebrout, Pierre-Gaël Adenot, Karine Reynaud, and Sylvie Chastant-Maillard Heat-Induced Antigen Retrieval Applied in Zebrafish: Whole Mount In Situ Immunofluorescence Microscopy
- Chuang-yu Lin, Wen-ta Su, and Li-tzu Li
- Differential Resin-Dentin Bonds Created after Caries Removal with Polymer Burs Manuel Toledano, Inmaculada Cabello, Monica Yamauti, and Raquel Osorio
- Linking Microstructure and Nanochemistry in Human Dental Tissues Vesna Srot, Birgit Bussmann, Ute Salzberger, Christoph T. Koch, and Peter A. van Aken

Materials Applications

- Data-Constrained Microstructure Characterization with Multi-Spectrum X-Ray Micro-CT S.C.Mayo, A.M. Tulloh, A. Trinchi, and Y.S. Yang
- Influence of Pb(II) Concentration and pH of Acetate Buffer on the Potential Window of a Lead Film Electrode: An Atomic Force Microscopy Study
- Katarzyna Tyszczuk-Rotko
- In Situ Analytical Electron Microscopy Studies of Redox Reactions at a YSZ/Pt Interface In Situ Microscopy Studies of Redox Reactions
- Amir Hossein Tavabi, Shigeo Arai, and Takayoshi Tanji
- KrF Pulsed Laser Ablation of Thin Films Made from Fluorinated Heterocyclic Poly(Naphthyl-Imide)s
- Mariana-Dana Damaceanu, Radu-Dan Rusu, Mihaela Adriana Olaru, Daniel Timpu, and Maria Bruma
- Identifying Hexagonal Boron Nitride Monolayers by Transmission Electron Microscopy Michael L. Odlyzko and K. Andre Mkhoyan
- Microstructural and Chemical Characterization of Nanostructured TiAlSiN Coatings with Nanoscale Resolution
 - V. Godinho, T.C. Rojas, S. Trasobares, F.J. Ferrer, M.P. Delplancke-Ogletree, and A. Fernández
- The Probe Profile and Lateral Resolution of Scanning Transmission Electron Microscopy of Thick Specimens
- Hendrix Demers, Ranjan Ramachandra, Dominique Drouin, and Niels de Jonge

Techniques Development

Nanoprobe Fourier-Transform Photoabsorption Spectroscopy Using a Supercontinuum Light Source

- Kiyoshiro Ishibe, Satoru Nakada, Yutaka Mera, and Koji Maeda Electron Microscopic Measurement of the Size of the Optical Focus in Laser Scanning Microscopy
- Alison McDonald, William B. Amos, and Gail McConnell
- Improvement of Depth Resolution of ADF-SCEM by Deconvolution: Effects of Electron Energy Loss and Chromatic Aberration on Depth Resolution
- Siaobin Zhang, Masaki Takeguchi, Ayako Hashimoto, Kazutaka Mitsuishi, Meguru Tezuka, and Masayuki Shimojo
- An Improved Visual Tracking Method in Scanning Electron Microscope
- Changhai Ru, Yong Zhang, Haibo Huang, and Tao Chen
- Atomic-Scale Imaging and Spectroscopy for In Situ Liquid Scanning Transmission Electron Microscopy Katherine L. Jungjohann, James E. Evans, Jeffery A. Aguiar, Ilke Arslan, and
- Nigel D. Browning
- Spatial Resolution Optimization of Backscattered Electron Images Using Monte Carlo Simulation
- Camille Probst, Hendrix Demers, and Raynald Gauvin High-Resolution Electron Diffraction: Accounting for Radially and Angularly Invariant
- Distortions
- Daniel Carvalho and Francisco M. Morales



Dear Abbe

Dear Abbe.

As with most instructors, I have a problem with microscopy students. Quite often when viewing an EDS X-ray spectrum there will be a small peak at 2 times the energy of the main peak. My students will say, "What peak is that?" I will say, "It's a sum peak." "We know it's some peak, but which one?" "A sum peak," I say. Frustrated, they respond, "We know it's some peak . . . and stop talking like Lawrence Welk!" Can you help me? Sum Guy, Somewhere

Dear Sum,

I'm afraid there is nothing I can do about you sounding like Lawrence Welk, apart from surgery and voice lessons. However the interaction with your students reminds me of a comedy routine Max Plank and I performed at various parlors in and around Leipzig. It went something like this:

- Abbe: What's that peak?
- Planck: The Watt peak.
- A: That peak!
- P: It's a sum peak.
- A: I know it's some peak but which peak?
- P: Not a witch peak, it's a sum peak.
- A: What peak?
- P: Exactly.
- A: Godt in himmel what are you talking about?
- P: The Watt peak.
- A: That's what I'm askin' you. What peak?
- P: I just told you, it's sum peak.
- A: I'm gonna kick you in the jewels!!
- P: Not Joules, Watt.
- A: What?
- P: Now you've got it. Good for you.
- A: I've gotten nothing!

Oh my, we could go on for hours, working in references to hartrees (Eh), BTUs, and calories. We once made Janne Rydberg laugh so hard he squirted Schnapps out his schnauzen!



Max Planck (in jersey) and Herr Abbe (with Lab-Bat) performing their famous "What some peak?" routine. They were later copied by Abbott and Costello.

If you need relief from persistent questioners, drop a line to Herr Abbe's faithful assistant at jpshield@uga.edu.