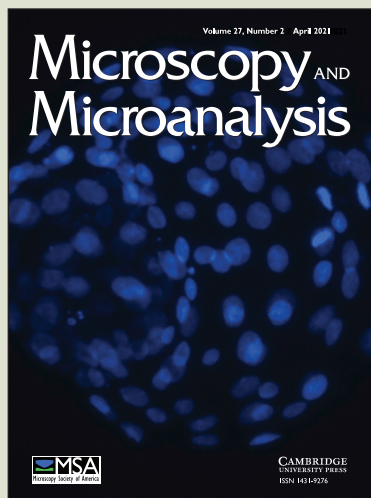


preview of some upcoming articles



Materials Science Applications

Crystallographic Orientation Analysis of Nanocrystalline Tungsten Thin Film using TEM Precession Electron Diffraction and SEM Transmission Kikuchi Diffraction

Oh, Sang Ho et al.

In-situ TEM characterization of microstructure evolution and mechanical behavior of the 3D printed Inconel 718 exposed to high temperature

Kushima, Akihiro et al.

Identification of star defects in gallium nitride with HREBSD and ECCI

Ruggles, Tim et al.

Software and Instrumentation

$\phi(\rho z)$ Distributions in Bulk and Thin Film Samples for EPMA. Part 1: A Modified $\phi(\rho z)$ Distribution for Bulk Materials, Including Characteristic and Bremsstrahlung Fluorescence

Moy, Aurélien & Fournelle, John

$\phi(\rho z)$ Distributions in Bulk and Thin Film Samples for EPMA. Part 2: BadgerFilm: A New Thin Film Analysis Program

Moy, Aurélien & Fournelle, John

Alpha Shape Analysis (ASA) Framework for Post Clustering Property Determination in Atom Probe Tomographic Data

Still, Evan et al.

Analysis of electron channeling contrast of stacking faults in FCC materials

Gutierrez-Urrutia, I.

Band excitation piezoresponse force microscopy adapted for weak ferroelectrics:

On-the-fly tuning of the central band frequency

Chouprik, Anastasia et al.

A simple approach for thickness measurements using electron probe microanalysis

Essani, Mouad et al.

Biological Applications

EB1 is essential for spindle formation and chromosome alignment during oocyte meiotic maturation in mice

Cui, Xiang-Shun et al.

Evaluating Young's modulus of single yeast cells based on compression using an atomic force microscope with a flat tip

Chang, Di et al.

Loss of ARF guanine nucleotide exchange factor GBF1 activity disturbs organelle dynamics in mouse oocytes

Sun, Shao-Chen et al.

Histone Demethylase KDM4D could Improve the Developmental Competence of Buffalo (*Bubalus bubalis*) Somatic Cell Nuclear Transfer (SCNT) Embryos

Feng, Yun et al.

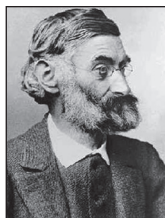
Zn²⁺-depletion Enhances Lysosome Fission in Cultured Rat Embryonic Cortical Neurons Revealed by Modified Epifluorescence Microscopy

Pan, Chien-Yuan et al.

Micrographia

Pre-emptive stem cells ameliorate neuropathic pain in rats: A central component of pre-emptive analgesia

Abd-ellatif, Rasha et al.



Dear Abbe

Dear Abbe,

My colleagues and I have been wondering if we missed an advancement in physics that improved SEM magnification. In the last few years, SEM manufacturers have magically found a way to increase magnification capabilities and are now claiming up to 1,000,000 \times without any improvement in tungsten filament resolution beyond 3 nm. They previously all claimed 300,000 \times maximum. One colleague says they are applying the XEM technique otherwise known as Xerox Enlargement Microscopy (Annals of Improbable Research, Vol. 1, No. 2). Is he correct?

Incredulous in Beaverton

Dear Incredulous,

Mein schmerzender Kopf! How many times have I heard this claim? I would stake money on your colleagues' observation. There are so many new instruments out there with incredulous marketing. I was very intrigued by XEM technology since encountering it in 1994 through some dubious fellows at Penn State while sharing beverages at their Rathskeller. They seemed rational enough until they started delving into imaging technology. Unfortunately for them, digital imaging showed up, and the ability to iteratively enlarge became so much easier, much like all those ads I get on my SpaceBook pages. Suddenly their ideas were obsolete, like so many technological advances I've created.

What good is all that science education if you can't mix it with some good, old-fashioned voodoo? Let Herr Abbe enlarge your repertoire of irrefutable, anecdotal information at johnshields59@gmail.com.

MT

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