



JEM 編集委員会からのお願い

JEM 編集委員長 板東 義雄

Journal of Electron Microscopy (JEM) は、2011 年に創刊 60 年の節目を迎えます。JEM の国際的なステイタスをさらに向上させ、顕微鏡科学分野における日本のリーダーシップを国内外に強く印象づけていくために、本学会員の皆様のご協力が必要不可欠です。

IF 値の上昇へ向けて - JEM 論文の積極的な引用をお願いします！

2009 年に発表された JEM の Impact Factor (IF) 値は **1.047** (2007~2008 の集計値) でした。顕微鏡分野における上位 3 誌の IF 値は、以下の通りです。

1. Microscopy & Microanalysis : **3.035**
2. Histochemical cell biology : **3.021**
3. Ultramicroscopy : **2.067**

前回 2008 年での集計に引き続き、顕微鏡分野でのトップ IF 誌は米国顕微鏡学会が有する Microscopy & Microanalysis です。同誌の 2000 年における IF 値は (1.086) と、現在の JEM とほぼ同程度の水準でしたが、米国顕微鏡学会員の積極的な引用・投稿を図ることで、過去 10 年間に着実に IF 値を上げ続け現在の地位に至りました。

日本顕微鏡学会員の皆様におかれましては、JEM へ投稿する際にはもちろんのこと、他誌へ論文投稿される場合も JEM 論文を意識的・積極的に引用していただきたく思います。特に、今回の IF 値集計対象となる最近 2 年の論文 (2009~2010) を意識的に引用して頂くよう、お願い申し上げます。対象論文に関しては、以下の JEM ホームページにまとめてあります。

http://www.oxfordjournals.org/our_journals/jmicro/recent_papers.html

JEM への積極的な投稿をお願いします！

論文の価値判断基準として被引用数が大きなウエイトを占める現在、IF 値が少しでも高い雑誌へと論文投稿し、当該分野研究者の注目を引きつけたいと考えるのはごく自然な流れです。しかしながら、1~2 程度のわずかな IF 値の違いゆえに、日本人研究者による優れた論文が JEM ではなく、Microscopy & Microanalysis や Ultramicroscopy 等に投稿される機会が少くない状況を改善したいと切に願っております。

学会員の皆様には、是非 JEM への論文投稿を積極的に行っていただきたく、よろしく願い申し上げます。現在、JEM では毎号 1 編の割合で、優れた内容の論文を Editor's choice として選定し free-access*としております (*JEM 購読していない研究機関・研究者であっても自由にダウンロードすることができる)。

<http://jmicro.oxfordjournals.org/content/by/tag/choice>

free-access 論文は、既存 JEM 読者層を越えて注目を促すため、被引用機会の大幅な増加をもたらすでしょう。是非、自信作を JEM へ投稿下さい！



2009

Physical-Full Length

Morphology and chemical composition analysis of inorganic nanosheets by the field-emission scanning electron microscope system by LI, Q. et al. 2009 58(1):1-6

Beam damage suppression of low-kappa porous Si-O-C films by cryo-electron-energy loss spectroscopy (EELS) by Otsuka, Y. et al. 2009 58(2):29-34

An in situ heating TEM analysis method for an interface reaction by Tanigaki, T. et al. 2009 58(5):281-287

Nanostructural characterization and catalytic analysis of hybridized platinum/phthalocyanine nanocomposites by Kaneko, K. et al. 2009 58(5):289-294

Characterization of Mn-doped ZnO nanobelts by electron energy-loss spectroscopy by Zhang, J. et al. 2009 58(5):295-299

Development of an analytical environmental TEM system and its application by Kishita, K. et al. 2009 58(6):331-340

Correction of higher order geometrical aberration by triple 3-fold astigmatism field by Sawada, H. et al. 2009 58(6):341-348

HREM and EDS analysis of (La, M)TiO₃ (M = Zn, Mn) prepared by M/Li ion exchange by Tsurui, T. 2009 58(6):349-356

Physical-Letter

Development of a multifunctional TEM specimen holder equipped with a piezodriving probe and a laser irradiation port by Murakami, Y. et al. 2009 58(4):245-249

STEM imaging of 47-pm-separated atomic columns by a spherical aberration-corrected electron microscope with a 300-kV cold field emission gun by Sawada, H. 2009 58(6):357-362

Physical-Note

Contrast mechanism due to interface trapped charges for a buried SiO₂ microstructure in scanning electron microscopy by Zhang, HB. et al. 2009 58(1):15-19

Reduction of time-varying nanotesla magnetic fields from electric power lines by twisting by Abelmann, L. et al. 2009 58(4):251-252

Quantitative electron holographic tomography for a spherical object by Fujita, T and Chen, M. 2009 58(5):301-304

Special number: History/Review

Historical aspects of aberration correction by Rose, HH 2009 58(3):77-85

Atomic-resolution spectroscopic imaging: past, present and future by Pennycook, S. et al. 2009 58(3):87-97

Review of recent advances in spectrum imaging and its extension to reciprocal space by Maigne, A. et al. 2009 58(3):99-109

Special number: Instrumentation/Performance

Performance and image analysis of the aberration-corrected Hitachi HD-2700C STEM by Zhu, Y. et al. 2009 58(3):111-122

Control of parasitic aberrations in multipole optics by Batson, PE 2009 58(3):123-130

Local crystal structure analysis with 10-pm accuracy using scanning transmission electron microscopy by Kimoto, K. et al. 2009 58(3):131-136

Phase TEM for biological imaging utilizing a Boersch electrostatic phase plate: theory and practice by Chen, FR. et al. 2009 58(3):137-145

First application of C-c-corrected imaging for high-resolution and energy-filtered TEM by Kabius, B. et al. 2009 58(3):147-155

Special number: Methods

Aberration-corrected ADF-STEM depth sectioning and prospects for reliable 3D imaging in S/TEM



by Muller, D. et al. [2009](#)
[58\(3\):157-165](#)

Three-dimensional shapes and structures of lamellar-twinned fcc nanoparticles using ADF STEM by Dunin-Borkowski, R. et al. [2009](#)
[58\(3\):167-174](#)

Three-dimensional electron microscopy of individual nanoparticles by Jarausch, K. et al. [2009](#)
[58\(3\):175-183](#)

**Special number:
Applications**

Aberration-corrected Z-contrast imaging of SrTiO₃ dislocation cores by Klie, R. et al. [2009](#)
[58\(3\):185-191](#)

Aberration-corrected STEM investigation of the M₂ phase of MoVNbTeO selective oxidation catalyst by Blom, D. et al. [2009](#)
[58\(3\):193-198](#)

Evolution of gold structure during thermal treatment of Au/FeOx catalysts revealed by aberration-corrected electron microscopy by Allard, L. et al. [2009](#)
[58\(3\):199-212](#)

Electron beam coherence measurements using diffracted beam interferometry/holography by Herring, RA [2009](#)
[58\(3\):213-221](#)

Application of two-dimensional crystallography and image processing to atomic resolution Z-contrast images by Morgan, D. et al. [2009](#)
[58\(3\):223-244](#)

Biological-Full Length

Observations of a magnetic microstructure in a Co-CoO obliquely evaporated tape using electron holography by Murakami, Y. et al. [2009](#)
[58\(1\):7-13](#)

Scanning electron and light microscopy study of the cervical mucus in women with polycystic ovary syndrome by Vigil, P. et al. [2009](#)
[58\(1\):21-27](#)

High-contrast imaging of plastic-embedded tissues by phase contrast electron microscopy by Atsuzawa, K. et al. [2009](#)
[58\(2\):35-45](#)

Visualization of the ultrastructural interface of cells with the outer and inner-surface of coral skeletons by Baranes, D. et al. [2009](#)
[58\(2\):47-53](#)

Warfarin administration disrupts the assembly of mineralized nodules in the osteoid by Amizuka, N. et al. [2009](#)
[58\(2\):55-65](#)

Exposure of the gill epithelial cells of larval lampreys to an ion-deficient environment: a stereological study by Bartels, H. et al. [2009](#)
[58\(4\):253-260](#)

Smart specimen preparation for freeze substitution and serial ultrathin sectioning of yeast cells by Yamaguchi, M. et al. [2009](#)
[58\(4\):261-266](#)

Establishment of a standardized post-embedding method for immunoelectron microscopy by

applying heat-induced antigen retrieval by Yamashita, S. et al. [2009](#)
[58\(4\):267-279](#)

Three-dimensional structure of the cytoskeleton in *Trichomonas vaginalis* revealed new features by Lee, KE. et al. [2009](#)
[58\(5\):305-313](#)

Morphological and ultrastructural changes in the cell structure of enterohaemorrhagic *Escherichia coli* O157:H7 following treatment with *Quercus infectoria* nut galls by Suwalak, S. and Voravuthikunchai, SP. [2009](#)
[58\(5\):315-320](#)

Immunohistochemical localization of the STRO-1 antigen in developing rat teeth by light microscopy and electron microscopy by Kaneko, R. et al. [2009](#)
[58\(6\):363-374](#)

Ultrastructural megakaryocyte modifications after vanadium inhalation in spleen and bone marrow by Fortoul, T. et al. [2009](#)
[58\(6\): 375-380](#)

FGF23 is mainly synthesized by osteocytes in the regularly distributed osteocytic lacunar canalicular system established after physiological bone remodeling by Ubaidas, S. et al. [2009](#)
[58\(6\):381-392](#)

Electron microscopy of octacalcium phosphate in the dental calculus by Kakehi, M. et al. [2009](#)
[58\(6\):393-398](#)



Biological-Letter

A small lamellar corpuscle within a small nerve bundle outside the tendon of the rat soleus muscle
by Desaki, J. et al. [2009 58\(2\):67-72](#)

Spontaneous [Ca²⁺]_i oscillations in G1/S phase-synchronized cells
by Russa, AD. et al. [2009 58\(5\):321-329](#)

2010

Editor's Choice Articles are highlighted in grey.

Physical-Full Length

Generalization of the paraxial trajectory method for the analysis of non-paraxial rays: simulation program G-optk for electron gun characterization by Shin Fujita. et al. [2010 59\(1\): 3-15](#)

Microcalorimeter-type energy dispersive X-ray spectrometer for a transmission electron microscope by Toru Hara. et al. [2010 59\(1\): 17-26](#)

A specimen preparation technique for plane-view studies of surfaces using transmission electron microscopy by Steinar Foss. et al. [2010 59\(1\): 27-31](#)

Quantitativeness of phase measurement by transport of intensity equation by Masanori Mitome. et al. [2010 59\(1\): 33-41](#)

High-resolution spin-polarized scanning electron microscopy (spin SEM) by Teruo Kohashi. et al. [2010 59\(1\): 43-52](#)

Fibre width measurement and quantification of filler size distribution in paper-based materials by SEM and image analysis by Hamid Bennis. et al. [2010 59\(2\):91-102](#)

High-resolution low-dose scanning transmission electron microscopy by James P. Buban. et al. [2010 59\(2\):103-112](#)

Morphological study of acoustic liposomes using transmission electron microscopy by Tetsuya Kodama. et al. [2010 59\(3\):187-196](#)

Third-order spherical aberration correction using multistage self-aligned quadrupole correction-lens systems by Keiji Tamura. et al. [2010 59\(3\):197-206](#)

In situ Lorentz microscopy in an alternating magnetic field by Zentaro Akase. et al. [2010 59\(3\):207-213](#)

Development of wavelength-dispersive soft X-ray emission spectrometers for transmission electron microscopes—an introduction of valence electron spectroscopy for transmission electron microscopy by Masami Terauchi. et al. [2010 59\(4\): 251-261](#)

Cs-corrected HAADF-STEM imaging of silicate minerals by Toshihiro Kogure. et al. [2010 59\(4\): 263-271](#)

Structure analysis of inorganic

crystals by energy-filtered precession electron diffraction by Jin-Gyu Kim. et al. [2010 59\(4\): 273-283](#)

Coherent electron interference from amorphous TEM specimens by Rodney A. Herring. et al. [2010 59\(5\): 321-329](#)

Quantitative evaluation of magnetic flux density in a magnetic recording head and pseudo soft underlayer by electron holography by Weixing Xia. et al. [2010 59\(5\): 331-337](#)

Morphological studies of DBSA-doped polyaniline/PVC blends by Asma Binat Afzal. et al. [2010 59\(5\): 339-344](#)

In situ SEM micro-indentation of single wood pulp fibres in transverse direction by Ramesh-Babu Adusumalli. et al. [2010 59\(5\): 345-349](#)

Characterization of curved cathode guns by the generalized trajectory method: upgrade of G-optk programme for applications to non-planar objects by Shin Fujita. et al. [2010 59\(5\): 351-358](#)

Characterization of self-healing glassy composites by high-temperature environmental scanning electron microscopy (HT-ESEM) by Daniel Coillot. et al. [2010 59\(5\): 359-366](#)

Automated characterization of bending and expansion of a lattice of a Si substrate near a



SiGe/Si interface by using split HOLZ line patterns by Koh Saitoh. et al. [2010 59\(5\): 367-378](#)

Quantitative backscattered electron imaging of field emission scanning electron microscopy for discrimination of nano-scale elements with nm-order spatial resolution by Hyonchol Kim. et al. [2010 59\(5\): 379-385](#)

Physical-Letter

Higher-order harmonic resonances and mechanical properties of individual cadmium sulphide nanowires measured by in situ transmission electron microscopy by Peng Gao. et al. [2010 59\(4\): 285-289](#)

Atom-column distinction by Kikuchi pattern observed by an aberration-corrected convergent electron probe by Koh Saitoh. et al. [2010 59\(5\): 387-394](#)

Direct imaging of lithium atoms in LiV₂O₄ by spherical aberration-corrected electron microscopy by Yoshifumi Oshima et al. [2010 59\(6\): 457-461](#)

New area detector for atomic-resolution scanning transmission electron microscopy by Naoya Shibata et al. [2010 59\(6\): 473-479](#)

Physical-Note

Fabrication of a TEM sample of ion-irradiated material using focused ion beam microprocessing and low-energy

Ar ion milling by Hyung-Ha Jin et al. [2010 59\(6\): 463-468](#)

The development of a new windowless XEDS detector by Shigeto Isakozawa et al. [2010 59\(6\): 469-472](#)

Biological-Full Length

Evaluation of imaging plates as recording medium for images of negatively stained single particles and electron diffraction patterns of two-dimensional crystals by Zongli L. et al. [2010 59\(1\): 53-63](#)

Old age is associated with ultrastructural changes in isolated rat liver sinusoidal endothelial cells by Jennifer N. O'Reilly. et al. [2010 59\(1\): 65-69](#)

Morphological changes in the tongue as a consequence of manganese inhalation in a murine experimental model: Light and scanning electron microscopic analysis by Teresa Imelda Fortoul. et al. [2010 59\(1\): 71-77](#)

Examination of electron stains as a substitute for uranyl acetate for the ultrathin sections of bacterial cells by Kaoru Yamaguchi. et al. [2010 59\(2\):113-118](#)

Atomic force microscopy observation of the enamel roughness and depth profile after phosphoric acid etching by Juan Pablo Loyola-Rodriguez. et al. [2010 59\(2\):119-125](#)

Dimethylthiourea pretreatment

inhibits endotoxin-induced compound exocytosis in goblet cells and plasma leakage of rat small intestine by Shang-Pin Liu. et al. [2010 59\(2\):127-139](#)

Ultrastructural disorder of the secretory pathway in temperature-sensitive actin mutants of *Saccharomyces* by Masashi Yamaguchi. et al. [2010 59\(2\):141-152](#)

Morphological changes in murine skeletal muscle in response to exercise and mesterolone by Karina Fontana. et al. [2010 59\(2\):153-164](#)

The spindle pole body of the pathogenic yeast *Cryptococcus neoformans*: variation in morphology and positional relationship with the nucleolus and the bud in interphase cells by Masashi Yamaguchi. et al. [2010 59\(2\):165-172](#)

Structural analysis of hydroxyapatite coating on magnetite nanoparticles using energy filter imaging and electron tomography by Mitsuhiro Okuda. et al. [2010 59\(2\):173-179](#)

Three-dimensional structure of the 1- β complex in the skeletal muscle dihydropyridine receptor by single-particle electron microscopy by Kazuyoshi Murata. et al. [2010 59\(3\):215-226](#)

FGFR3 down-regulates PTH/PTHrP receptor gene expression by mediating JAK/STAT signaling in



chondrocytic cell line by Minqi Li. et al. [2010 59\(3\):227-236](#)

The glycocalyx of human, bovine and murine microvascular endothelial cells cultured in vitro by Pawel Janczyk. et al. [2010 59\(4\): 291-298](#)

Automated specimen search in cryo-TEM observation with DIFF-defocus imaging by Natsuko Nakamura. et al. [2010 59\(4\): 299-310](#)

An electron microscopy study of the diversity of Streptococcus sanguinis cells induced by lysozyme in vitro by Yuqing Hao. et al. [2010 59\(4\): 311-320](#)

Segmentation and thickness measurement of glomerular basement membranes from electron microscopy images by Hai-Shan Wu. et al. [2010 59\(5\): 409-418](#)

Comparison of the envelope architecture of E. coli using two methods: CEMOVIS and cryo-electron tomography by Aiko Kishimoto-Okada. et al. [2010 59\(5\): 419-426](#)

Ultrastructural observation on cells meeting the histological criteria for preosteoblasts – a study in the mouse tibial metaphysis by Kaya Narimatsu. et al. [2010 59\(5\): 427-436](#)

A new protocol to detect light elements in estuarine sediments by X-ray microanalysis (SEM/EDS) by Flavio Costa

Miguens. et al. [2010 59\(5\): 437-446](#)

Response of IMCD3 cells to hypertonic challenges as analyzed by electron microscopy by Kaarina Pihakaski-Maunsbach et al. [2010 59\(6\): 481-494](#)

Heavy ion irradiation induces autophagy in irradiated C2C12 myoblasts and their bystander cells by Mizuki Hino et al. [2010 59\(6\): 495-501](#)

Dengue virus-induced autophagosomes and changes in endomembrane ultrastructure imaged by electron tomography and whole-mount grid-cell culture techniques by Shobha Gangodkar et al. [2010 59\(6\): 503-511](#)

Three-dimensional reconstruction of living mouse liver tissues using cryotechniques with confocal laser scanning microscopy by Yurika Saitoh et al. [2010 59\(6\): 513-525](#)

Biological-Letter

A further observation of muscle spindles in the extensor digitorum longus muscle of the aged rat by Junzo Desaki. et al. [2010 59\(1\): 79-86](#)

Cyanoacrylate glue as an alternative mounting medium for resin-embedded semithin sections by Pei-Yun Liu. et al. [2010 59\(1\): 87-90](#)

Autophagy in transition from hypertrophic cardiomyopathy to

heart failure by Anna Fidzianska. et al. [2010 59\(2\):181-183](#)

Cryo-electron tomography of Chlamydia trachomatis gives a clue to the mechanism of outer membrane changes by Zengwei Huang. et al. [2010 59\(3\):237-241](#)

Fine structural study of the innervation of muscle spindles in the internal oblique muscle of the abdominal wall in the adult mouse by Junzo Desaki. et al. [2010 59\(3\):243-250](#)

Transmission electron microscopic observation of cells cultured on multiwalled carbon nanotube-coated sponges by Eri Hirata. et al. [2010 59\(5\): 447-450](#)

Structural markers in prostate cancer serum imaged ex vivo using cryogenic transmission electron microscopy by Nazneen Aziz. et al. [2010 59\(5\): 451-456](#)

Biological-Technical Report

A novel method for large-scale immuno-SEM using protein G coupled polystyrene beads by In-Hwan Song et al. [2010 59\(6\): 527-530](#)



**JEM Supplement: FEMMS
2009**

Physical-Full Length

**Performance of low-voltage
STEM/TEM with delta corrector
and cold field emission gun** by
Takeo Sasaki. et al. [2010 59\(S1\):
S7-S13](#)

**Flexible formation of coherent
probes on an
aberration-corrected STEM with
three condensers** by Feng Yi. et al.
[2010 59\(S1\): S15-S21](#)

**STEM image simulation by
Bloch-wave method with
layer-by-layer representation** by
Takao Morimura. [2010 59\(S1\):
S23-S28](#)

**Prospects for 3D imaging of
dopant atoms in ceramic
interfaces** by Scott D. Findlay. et al.
[2010 59\(S1\): S29-S38](#)

**Annular dark-field scanning
transmission electron
microscopy (ADF-STEM)
tomography of polymer systems**
by Kangbo Lu. et al. [2010 59\(S1\):
S39-S44](#)

**Dependence of beam broadening
on detection angle in scanning
transmission electron
microtomography** by Sohei Motoki.
et al. [2010 59\(S1\): S45-S53](#)

**3-D structures of crack-tip
dislocations and their shielding
effect revealed by electron
tomography** by Masaki Tanaka. et
al. [2010 59\(S1\): S55-S60](#)

**Crack propagation of single
crystal β -Sn during in situ TEM
straining** by P. J. Shang. et al. [2010
59\(S1\): S61-S66](#)

**Quantifying transient states in
materials with the dynamic
transmission electron
microscope** by Geoffrey H.
Campbell. et al. [2010 59\(S1\):
S67-S74](#)

**In-situ TEM studies of the
sintering behavior of copper
nanoparticles covered by
biopolymer nanoskin** by Kiyonobu
Iida. et al. [2010 59\(S1\): S75-S80](#)

**Phase-shifting electron
holography for atomic image
reconstruction** by Kazuo
Yamamoto. et al. [2010 59\(S1\):
S81-S88](#)

**Measurement of electric field
distribution using a conventional
transmission electron
microscope** by Katsuhiro Sasaki. et
al. [2010 59\(S1\): S89-S94](#)

**Relationship between magnetic
domain configuration and
crystallographic orientation in a
colossal magnetoresistive
material** by Xiuzhen Yu. et al. [2010
59\(S1\): S95-S100](#)

**Transmission electron
microscopy study of a
Y_{1-x}Sm_xBa₂Cu₃O_y-coated
conductor containing BaZrO₃
particles** by Takeharu Kato. et al.
[2010 59\(S1\): S101-S105](#)

Microstructures and electrical

**properties of TiO₂-doped Al₂O₃
ceramics** by Hiroto Unno. et al.
[2010 59\(S1\): S107-S115](#)

**Dislocation structures and strain
fields in [111] low-angle tilt grain
boundaries in zirconia bicrystals**
by Yuki Nohara. et al. [2010 59\(S1\):
S117-S121](#)

**Characterization of oxide scales
thermally formed on
single-crystal silicon carbide** by B.
Chayasombat. et al. [2010 59\(S1\):
S123-S127](#)

**Germanium network connecting
precipitates in an Mg-rich
Al-Mg-Ge alloy** by Ruben Bjørge, .
et al. [2010 59\(S1\): S129-S133](#)

**Discontinuous coarsening
behavior of Ni₂MnAl intermetallic
compound during isothermal
aging treatment of Fe-Mn-Ni-Al
alloys** by Yoon-Uk Heo. et al. [2010
59\(S1\): S135-S140](#)

**In-situ analysis of optoelectronic
properties of twin boundaries in
AlGaAs by polarized
cathodoluminescence
spectroscopy in a TEM** by Yutaka
Ohno. [2010 59\(S1\): S141-S147](#)

**Morphology and optical
properties of single- and
multi-layer InAs quantum dots** by
Chiung-Chih Hsu. et al. [2010
59\(S1\): S149-S154](#)

**Elastic strain tensor
measurement using electron
backscatter diffraction in the SEM**
by David J. Dingley. et al. [2010](#)



59(S1): S155-S163

Variations in contrast of scanning electron microscope images for microstructure analysis of Si-based semiconductor materials by Masaru Itakura. et al.

2010 59(S1): S165-S173

Scanning electron microscope observation of dislocations in semiconductor and metal materials by Noriyuki Kuwano. et al.

2010 59(S1): S175-S181

Energy-filtered imaging in a scanning electron microscope for dopant contrast in InP by Daisuke

Tsurumi. et al. 2010 59(S1):

S183-S187

Modelling and observations of electron beam charging of an insulator/metal bilayer and its impact on secondary electron images in defect inspection equipment by Kaoru Ohya. et al.

2010 59(S1): S189-S193