

[IT-5. Analytical electron microscopy](#)

10 September, 16:45 - 18:45 / 11 September, 16:30 - 18:30

IT-5-P-1533

Characterization of EDS Systems with respect to the Geometrical Collection Efficiency

Presenting author: **Terborg R.**

Authors: Terborg R., Hodoroaba V. D., Falke M., Käppel A.

IT-5-P-1543

Optimizing spatial and energy resolution in the TEM at low dose - Lateral Resolved EELS of organic bulk heterojunctions

Presenting author: **Kast A. K.**

Authors: Kast A. K., Oster M., Pfannmöller M., Benner G., Kowalsky W., Schröder R. R.,

IT-5-P-1605

Comparisons on Energy and Wavelength Dispersive X-Ray Spectrometry Microanalytical Results: First Approach Based on Iron Ore Sinter Phases

Presenting author: **Magalhaes M. S.**

Authors: Magalhaes M. S., Figueiredo e Silva R. C., Balzuweit K., Moreira B. B., Garcia L. R., Persiano A. C.,

IT-5-P-1618

Magnified pseudo atomic column elemental maps realized by STEM moiré method

Presenting author: **Kondo Y.**

Authors: Okunishi E., Kondo Y.

IT-5-P-1630

How to Avoid Unexpected Artifacts from Multivariate Statistical Analysis on STEM Spectrum-Imaging Datasets

Presenting author: **Ishizuka K.**

Authors: Ishizuka K., Watanabe M.

IT-5-P-1706

Formation of oxidatively stable M@Fe₃O₄ and MPt@Fe₃O₄ (M = Fe, Co) core@shell nanoparticles using a simple and versatile synthetic procedure

Presenting author: **Knappett B. R.**

Authors: Knappett B. R., Gontard L. C., Ringe E., Tait E. W., Fernández A., Wheatley A. E.

IT-5-P-1713

Detection and quantification of phosphorus dopants in germanium by energy dispersive spectrometry using an annular detector with large solid angle

Presenting author: **Robin E.**

Authors: Robin E., Mollard N., Guillois K., Pauc N.

IT-5-P-1781

Effect of the asymmetry of dynamical electron diffraction on intensity of acquired EMCD signals

Presenting author: **Song D. S.**

Authors: Song D. S., Wang Z. Q., Zhu J.

IT-5-P-1792

Spatial and Temporal Coherences in Spin-Polarized Transmission Electron Microscopy

Presenting author: **Kuwahara M.**

Authors: Kuwahara M., Kusunoki S., Nambo Y., Saitoh K., Ujihara T., Asano H., Takeda Y., Tanaka N.

IT-5-P-1793

Measurement of liquid vibrational spectra using monochromated STEM-EELS

Presenting author: **Miyata T.**

Authors: Miyata T., Fukuyama M., Hibara A., Ikuhara Y., Okunishi E., Mukai M., Mizoguchi T.

IT-5-P-1811

Features and Applications of an Analysis System using Double Silicon Drift-type Detectors for Transmission Electron Microscopy

Presenting author: **Ohnishi I.**

Authors: Ohnishi I., Kawai S., Ishikawa T., Yagi K., Iwama T., Miyatake K., Iwasawa Y., Matsushita M., Kaneyama T., Kondo Y.

IT-5-P-1826

Oriental dependence of EMCD signals of hcp Co with strong magnetocrystalline anisotropy

Presenting author: **Kudo T.**

Authors: Kudo T., Tatsumi K., Leifer K., Rusz J., Muto S.

IT-5-P-1842

Advanced SEM/EDS analysis using an Annular Silicon Drift Detector (SDD): Applications in Nano, Life, Earth and Planetary Sciences below Micrometer Scale

Presenting author: **Salge T.**

Authors: Salge T., Terborg R., Ball A. D., Broad G. R., Kearsley A. T., Jones C. G., Smith C., Rades S., Hodoroaba V. D.

IT-5-P-1944

Planer defect structure analysis based on electron channeling phenomena

Presenting author: **Ichikawa T.**

Authors: Ichikawa T., Ohtsuka M., Muto S.

IT-5-P-1976

EELS of Si-nanocrystals by hyperspectral segmentation and multivariate factorization.

Presenting author: **Eljarrat A.**

Authors: Eljarrat A., López-Conesa L., López-Vidrier J., Hernández S., Estradé S., Magén C., Garrido B., Peiró F.

IT-5-P-1978

Plasmon and dielectric function mapping of multiple InGaN QW sample by HAADF-EELS.

Presenting author: **Eljarrat A.**

Authors: Eljarrat A., López-Conesa L., Magén C., García-Lepetit N., Gačević Ž., Calleja E., Estradé S., Peiró F.

IT-5-P-1986

Advantages of FEG-EPMA for Microphase Analysis in Nuclear Materials

Presenting author: **Brackx E.**

Authors: BRACKX E., NONNET H., HOMBOURGER C., ALLEGRI P., DUGNE O.

IT-5-P-1995

EDS Element Analysis with High Count Rates

Presenting author: **Eggert F.**

Authors: Eggert F.

IT-5-P-2062

Nanoscale Luminescence Mapping of InGaN/GaN Multiple Quantum Dot Doped Nanowire LEDs with Scanning Transmission Electron Microscopy

Presenting author: **Woo S. Y.**

Authors: Woo S. Y., Kociak M., Nguyen H. P., Mi Z., Botton G. A.

IT-5-P-2077

Application of Energy Filtering in STEM (EFSTEM) mode for Mapping of Elements and Chemical Bindings

Presenting author: **Muehle U.**

Authors: Muehle U., Gluch J., Zschech E.,

IT-5-P-2130

Plasmon Mapping in Au@Ag Nanocube and their assemblies

Presenting author: **Goris B.**

Authors: Goris B., Guzzinati G., Fernández-López C., Pérez-Juste J., Liz-Marzán L. M., Trügler A., Hohenester U., Verbeeck J., Bals S., Van Tendeloo G.

IT-5-P-2151

Non-stoichiometry and order-disorder in the $Sb_{x}V_{1-x}O_2$ ($0 < x < 0.5$) solid solution

Presenting author: **Landa-Cánovas A. R.**

Authors: Landa-Cánovas A. R., Vilanova-Martínez P., Agulló-Rueda F., Hernández-Velasco J.

IT-5-P-2159

Developments in FSTEM & EDS for the Characterisation of Dopant Distributions within Advanced Semiconductors

Presenting author: **Dijkstra H.**

Authors: Dijkstra H., Thompson K., Stephens C. J.

IT-5-P-2163

An ELNES study of anisotropic materials using variable beam energies

Presenting author: **Stöger-Pollach M.**

Authors: Stöger-Pollach M., Hetaba W., Rodemeier R.

IT-5-P-2169

QW emission shift along single InGaN/GaN core-shell LEDs evaluated by monochromatic cathodoluminescence image series

Presenting author: **Ledig J.**

Authors: Ledig J., Fahl A., Popp M., Scholz G., Steib F., Wang X., Hartmann J., Mandl M., Schimpke T., Strassburg M., Wehmann H. H., Waag A.

IT-5-P-2232

Distinguishing overlapping EMCD signals on oxidized metals in the TEM

Presenting author: **Thersleff T.**

Authors: Thersleff T., Rusz J., Rubino S., Hjörvarsson B., Ito Y., Zaluzec N. J., Leifer K.

IT-5-P-2235

The Use of Very Large Area Detectors for fast Light Element Mapping and Data Acquisition in STEM

Presenting author: **Rowlands N.**

Authors: Rowlands N., Phillips P., Bhadare S., Klie R., Nicholls A.

IT-5-P-2281

Spatially resolved EELS with an in-column Omega filter - characterization of energy filter aberrations and their correction by image processing

Presenting author: **Entrup M.**

Authors: Entrup M., Kohl H.

IT-5-P-2311

Characterising severe plastic deformation: a quantitative assessment of TEM imaging using transmission Kikuchi diffraction in the SEM

Presenting author: **Trimby P. W.**

Authors: Trimby P. W., Xia J. H., Sha G., Schmidt N. H., Sitzman S., Tort M., Xia K., Ringer S. P.

IT-5-P-2324

Band gap measurements of ultra thin buried films using conical darkfield EFTEM and low voltage EFTEM

Presenting author: **Stöger-Pollach M.**

Authors: Stöger-Pollach M., Biedermann K., Beyer V.

IT-5-P-2335

WDX-measurement of Ta-, W- and Re-concentration profiles in a Nickel/Superalloy diffusion couple using L β -X-ray-lines

Presenting author: **Nissen J.**

Authors: Nissen J., Berger D., Epishin A., Link T.

IT-5-P-2350

Momentum-resolved electron energy-loss spectroscopy of MoS₂ and graphene heterostructures

Presenting author: **Mohn M.**

Authors: Mohn M., Hambach R., Wachsmuth P., Benner G., Kaiser U.

IT-5-P-2395

Toward X-ray Quantitative Microanalysis Maps with an Annular Silicon Drift Detector

Presenting author: **Demers H.**

Authors: Demers H., Brodusch N., Woo P., Gauvin R.

IT-5-P-2428

Obtaining an accurate quantification of light elements by EDX: K-factors vs. Zeta-factors

Presenting author: **Lopez-Haro M.**

Authors: Lopez-Haro M., Bayle-Guillemaud P., Mollard N., Saint-Antonin F., van Vilsteren C., Freitag B., Robin E.

IT-5-P-2431

Experimental detection of the Čerenkov limit in Si, GaAs and GaP

Presenting author: **Horák M.**

Authors: Horák M., Stöger-Pollach M.

IT-5-P-2448

A simple EDX performance test for transmission electron microscopy

Presenting author: **Van Cappellen E.**

Authors: Van Cappellen E., Porcu M., Delille D., Sudfeld D.

IT-5-P-2506

Dynamic, Analytical EDX studies of B/Ni composite nanowires with MEMS heating holder

Presenting author: **Sudfeld D.**

Authors: Sudfeld D., Lourie O., Mele L., Dona P., Konings S., Delille D., Van Cappellen E., Barton B., Jinschek J. R., Freitag B.

IT-5-P-2551

Quantitative X-Ray Microanalysis in the Scanning and Transmission Electron Microscopes with the Generalized f-Ratio Method

Presenting author: **Demers H.**

Authors: Demers H., Brodusch N., Trudeau M., Gauvin R.

IT-5-P-2570

Orbital ordering of A-site ordered SmBaMn₂O₆ studied by inelastic scattering accompanied by Mn-L shell excitation

Presenting author: **Saitoh K.**

Authors: Saitoh K., Toake Y., Tanaka N., Takenaka K.

IT-5-P-2665

Electron energy-loss mapping of a perovskite-based solar cell

Presenting author: **Divitini G.**

Authors: Divitini G., Peng X., de la Peña F., Saliba M., Snaith H. J., Ducati C.

IT-5-P-2705

Simultaneous panchromatic and color live cathodoluminescence imaging

Presenting author: **Kološová J.**

Authors: Kološová J., Jiruše J.

IT-5-P-2719

Development of an Analytical TEM with a Transition-Edge Sensor type Microcalorimeter EDS detector

Presenting author: **Hara T.**

Authors: Hara T., Tanaka K., Maehata K., Mitsuda K., Yamasaki Y. Y., Yamanaka Y.

IT-5-P-2735

Quantitative Position-Averaged Core-Loss Scattering in STEM

Presenting author: **Zhu Y.**

Authors: Zhu Y., Dwyer C.

IT-5-P-2785

Implementation of the Zeta-factor method for quantitative EDS

Presenting author: **Falke M.**

Authors: Falke M., Kaepfel A., Nemeth I., Terborg R.

IT-5-P-2909

Advantages of Combining EDS and Energy Filtered STEM Diffraction at Atomic Level

Presenting author: **Longo P.**

Authors: Longo P., Aitouchen A., Rice P., Topuria T., Twesten R. D.

IT-5-P-2927

Evaluation of valence state in manganese oxide by transition edge x-ray sensor.

Presenting author: **Tanaka K.**

Authors: Tanaka K., Ohgaki M., Miyayama M., Matsumura S.

IT-5-P-2960

Advanced EELS Spectrum Imaging of RRAM Devices: Chemical State and Three-Dimensional Element Mapping

Presenting author: **Chang M. T.**

Authors: Chang M. T., Lo S. C., Hsieh C. Y.

IT-5-P-2963

TEM-EELS/SXES studies on electronic structures of p-type CaB₆

Presenting author: **Terauchi M.**

Authors: Terauchi M., Saito T., Sato Y., Inayoshi K., Takeda M.

IT-5-P-2969

Valence Electron States of Carbon Materials studied by TEM-SXES

Presenting author: **Terauchi M.**

Authors: Terauchi M.

IT-5-P-2998

STEM EELS Analysis of 2D Layered Inorganic Materials at Atomic Resolution

Presenting author: **Nerl H. C.**

Authors: Nerl H. C., McGuire E. K., Backes C., Seral-Ascaso A., Ramasse Q., Houben L., Nicolosi V.

IT-5-P-3086

On the usability of electron vortices as probes for atomic resolution EMCD experiments

Presenting author: **Pohl D.**

Authors: Pohl D., Schneider S., Rusz J., Schultz L., Rellinghaus B.

IT-5-P-3124

Core/shell structure in magnetic nanoparticles from HRTEM and EELS

Presenting author: **Bertoni G.**

Authors: Bertoni G., López-Ortega A., Lottini E., Sangregorio C., Turner S., de Julián Fernández C., Salviati G.

IT-5-P-3210

Mapping SPR of Au metallic nano-objects with complex morphologies and environments

Presenting author: **Florea I.**

Authors: Florea I., Arenal R., Tréguer-Delapierre M., Ihiawakrim D., Hirlimann C., Ersen O.

IT-5-P-3251

Parallel acquisition Auger electron spectroscopy

Presenting author: **El-Gomati M. M.**

Authors: Walker C. G., Zha X., El-Gomati M. M.

IT-5-P-3289

Ultra-Fast, High-Resolution Silicon Drift Detectors for Accurate EDS Microanalysis in Electron Microscopes

Presenting author: **Niculae A.**

Authors: Niculae A., Bornschlegl M., Eckhardt R., Herrmann J., Jeschke S., Krenz G., Liebel A., Lutz G., Soltan H., Strüder L.

IT-5-P-3319

Improvement of EFTEM acquisition and data processing using prior knowledge of camera DQE

Presenting author: **Lucas G.**

Authors: Lucas G., Hébert C.

IT-5-P-3376

Comparison of the silicon/phosphorus ratio in natural and synthetic nagelschmidite for possible use as standard for microanalysis based on X-ray lines of Si and P

Presenting author: **Walther T.**

Authors: Walther T.

IT-5-P-3430

The “equivalent sphere” approach to fitting surface plasmon energy loss spectra

Presenting author: **Ostasevicius T.**

Authors: Ostasevicius T., de la Peña F., Collins S. M., Ducati C., Midgley P. A.

IT-5-P-3513

Fabrication of High Energy Resolution Silicon Drift Detector for Energy Dispersive X-ray Spectrometer

Presenting author: **Hsu C. C.**

Authors: Hsu C. C., Tseng F. G., Chen F. R., Lee C. H., Chuang Y. J.

IT-5-P-5719

Major update of the EELS database: eelsdb.eu

Presenting author: **Lajaunie L.**

Authors: Lajaunie L., Ewels P., Sikora T., Serin V.

IT-5-P-5813

Spectrum-based phase mapping of apatite and zoned monazite grains using principal component analysis

Presenting author: **Seddio S. M.**

Authors: Seddio S. M.

IT-5-P-5816

Overcoming Quantitative Challenges Presented By X-Ray Line Interferences in EDS and WDS.

Presenting author: **Seddio S. M.**

Authors: Seddio S. M.

IT-5-P-5821

Quantitative measurement of site-specific spin and orbital magnetic moments by electron energy-loss chiral magnetic dichroism

Presenting author: **Zhong X.**

Authors: Zhong X., Wang Z., Zhu J., Yu R., Cheng Z.

IT-5-P-5868

Trends in X-ray Nano-Analysis by TEM/STEM

Presenting author: **Von Harrach H. S.**

Authors: von Harrach H. S.

IT-5-P-5871

Single atom Electron Energy Loss Spectroscopy at Low Primary Electron Energy in the Electron Microscope

Presenting author: **G Tizei L. H.**

Authors: G Tizei L. H., Iizumi Y., Okazaki T., Nakanishi R., Kitaura R., Shinohara H., Suenaga K.

IT-5-P-5918

Identifying suboxide grains at the metal-oxide interface of a corroded Zr-1.0Nb alloy using (S)TEM, transmission-EBSD and EELS

Presenting author: **Hu J.**

Authors: Hu J., Garner A., Ni N., Gholinia A., Nicholls R., Lozano-Perez S., Frankel P., Preuss M., Grovenor C.

IT-5-P-5962

Quantitative electron probe microanalysis of Ga-doped BiFeO₃ and (Ca,Zr)-doped BaTiO₃ thin films

Presenting author: **Longuet J. L.**

Authors: LONGUET J. L., JABER N., DAUMONT C., WOLFMANN J., NEGULESCU B., RUYTER A., FEUILLARD G., BAVENCOFFE M., FORTINEAU J., SAUVAGE T., COURTOIS B., BOUYANIFIF H., AUTRET-LAMBERT C., GERVAIS F.

IT-5-P-5964

On application of the Multivariate Statistical Analysis in spectrum-imaging

Presenting author: **Potapov P.**

Authors: Potapov P.

IT-5-P-5988

Distributions of cations and inversion parameter in nonstoichiometric magnesium aluminate spinel characterized by electron energy-loss spectroscopy

Presenting author: **Kohn A.**

Authors: Halabi M., Ezersky V., Kohn A., Hayun S.

IT-5-P-6028

Addressing challenges in Electron Energy Loss Spectroscopy on individual atoms

Presenting author: **March K.**

Authors: March K., Brun N., Gloter A., Tencé M., Mory C., Stéphan O., Colliex C.