



Hasselt Diamond Workshop 2026

SBDD XXX



March 4 - 6, 2026

cultuurcentrum Hasselt (Cultural Centre), Hasselt, Belgium

During three full days, SBDD XXX will address recent progress in a variety of topics ranging from fundamental material science to applications, focusing on CVD diamond.

Tuesday, March 3, 2026

18:00 – 22:00 Registration & Reception at *Café Café*.

Wednesday, March 4, 2026

08:20 – 09:10 Registration at the *cultuurcentrum Hasselt*.

09:10 – 09:20 Opening "*Hasselt Diamond Workshop 2026 – SBDD XXX*".

Session 1

Field Effect Devices

Chair: **Julien Pernot, CNRS/Université Grenoble Alpes-Institut Néel, France**

09:20

1.1 (Invited)

Engineering inversion-channel diamond MOSFETs: From Conventional to novel structures

T. Matsumoto^{1,2}, Y. Nakamura², K. Sato², K. Kobayashi¹, K. Ichikawa^{1,2}, K. Hayashi^{1,2}, M. Nagai³, T. Makino³, H. Kato³, M. Ogura³, S. Yamasaki¹, T. Inokuma^{1,2}, D. Takeuchi³, N. Tokuda^{1,2}

¹Advanced Research Center for Diamond Science and Technology, Kanazawa University, Kakuma-machi, Kanazawa, Ishikawa, Japan,

²Graduate School of Natural Science and Technology, Kanazawa University, Kakuma-machi, Kanazawa, Ishikawa, Japan, ³Advanced

Power Electronics Research Center, National Institute of Advanced Industrial Science and Technology, 1-1-1 Umezono, Tsukuba, Ibaraki, Japan

09:50

1.2

Highly conductive interface between single-crystalline α -MoO₃ and hydrogen-terminated diamond

Y. Takahide^{1,2}, K. Hino^{1,2}, Y. Sasama¹, M. Monish¹, J. Kikkawa¹, W. Amalia¹, T. Miyazaki¹

¹National Institute for Materials Science (NIMS), Tsukuba 305-0044, Japan, ²University of Tsukuba, Tsukuba 305-8571, Japan

10:10

1.3

Over 300 mA in a diamond JFET: interdigitated FET structure optimization

D. Michez^{1,2}, J. Letellier¹, R. Makhoul², J. Pernot^{3,4}, N. Rouger²

¹DIAMFAB, 38600 Fontaine, France, ²Université Toulouse, Toulouse INP, CNRS, Laplace, 31000, Toulouse, France, ³Univ. Grenoble Alpes, CNRS, Grenoble INP, Institut Néel, 38000 Grenoble, France, ⁴Institut Universitaire de France (IUF), 75231 Paris, France

10:30 Coffee Break (Grand Banquet Hall)

Session 2

Quantum Physics & Application I

Chair: **Miloš Nesládek, Hasselt University & imec, Belgium**

11:10

2.1 (Invited)

Controlling spin-mechanics interactions for spin control and coherence enhancement

B. Pingault¹

¹Argonne National Laboratory & University of Chicago, USA

11:40

2.2

Nuclear Spin detection in Levitating Diamonds

V. Julien¹, C. Louis¹, G. Hétet¹, P. Maxime¹

¹Laboratoire De Physique de l'Ecole Normale Supérieure, Ecole Normale Supérieure, PSL Research University, CNRS, Sorbonne Université, Université de Paris, 24 rue Lhomond, 75231 Paris Cedex 05, France.

12:00

2.3

Non-linear Diamond-Maser Oscillations

C. W. Zollitsch¹, C. W. M. Kay^{1,3}, J. Breeze²

¹Department of Chemistry, Saarland University, Saarbrücken, Germany, ²Department of Physics & Astronomy, University College London, London, UK, ³London Centre for Nanotechnology, University College London, London, UK

12:20 SBDD XXX group photo (Lecture Hall)

12:30 Lunch (Grand Banquet Hall)

Session 3

CVD Diamond

Chair: **Satoshi Koizumi, National Institute for Materials Science (NIMS), Japan**

14:10

3.1 (Invited)

Optimizing thick CVD diamond synthesis: Effect of growth parameters on growth rate, crystal quality, and point defect incorporation

U. F.S. D'Haenens-Johansson^{1,2}, D. C. Jones², A. Chan²

¹Gemological Institute of America (GIA), 50 W. 47th St., New York, NY 10036, USA, ²Gemological Institute of America (GIA), Secaucus, NJ 07094, USA

14:40

3.2

Generation of axial or shear stress in homo-epitaxial CVD diamond films

T. Tsuji¹, T. Teraji¹

¹National Institute for Materials Science, 1-1 Namiki, Tsukuba, Ibaraki, 305-0044, Japan

15:00

3.3

Phosphorus doping efficiency considerations for pulsed deposition techniques

F. A.M. Koeck¹, R. Nemanich¹

¹Department of Physics, Arizona State University, 550 E Tyler Drive, Tempe AZ, USA

15:20

3.4

Exciton absorption in electronic grade CVD diamond from photocurrent spectroscopy

R. Vandebosch¹, Z. Remes², E. Bourgeois^{1,3}, M. Nesládek^{1,3}

¹Institute for Materials research (IMO), Hasselt University, Wetenschapspark 1, Diepenbeek, Belgium, ²Institute of Physics of the Czech Academy of Sciences, Na Slovance 2, Prague, Czechia, ³Imomec division IMEC, Wetenschapspark 1, Diepenbeek, Belgium

15:40 Coffee Break (Grand Banquet Hall)

Session 4

Quantum Physics & Application II

Chair: **Christoph Becher, Universität des Saarlandes, Germany**

16:20

4.1 (Invited)

Low noise surfaces by hydrogen infusion for next generation NV diamonds

C. Findler¹, J. Lang¹, E. Raffalt¹, A. de Gleria Clark¹, H. Himani², D. Singh², D. Bucher², C. Osterkamp¹

¹Diatope GmbH, Wilhelm-Runge-Straße 10, 89081 Ulm, Germany, ²Chemistry Department, Technical University of Munich, Lichtenbergstraße 4, 85748 Garching b. München, Germany

16:50

4.2

Systematic investigation of optically-induced aging of NV centers for improved quantum sensing

K. Herb¹, L. A. Völker¹, L. Bechelli¹, J. M. Abendroth¹, C. L. Degen¹, P. Perrin¹

¹Department of Physics, ETH Zürich, Otto-Stern-Weg 1, 8093 Zürich, Switzerland

17:10

4.3

Photocatalytic control of shallow diamond color center charge states

M. Li¹, J. A. Zuber^{1,2}, M. Obramenko^{1,2}, P. Tognina¹, A. Corazza¹, M. Batzer¹, M. Grimau Puigibert¹, J. Happacher¹, P. Maletinsky^{1,2}

¹Department of physics, University of Basel, Klingelbergstrasse 82, CH-4056, Basel, Switzerland, ²Swiss Nanoscience Institute, University of Basel, Klingelbergstrasse 82, CH-4056, Basel, Switzerland

17:30

4.4

Optical Widefield Nuclear Magnetic Resonance Microscopy

J. C. Dräger¹, K. D. Briegel¹, X. Chen¹, N. R. von Grafenstein¹, P. Blümli², R. D. Allert¹, D. B. Bucher¹

¹Technical University of Munich, Munich, Germany, ²University of Mainz, Mainz, Germany

Session 5

Posters I & Reception sponsored by:



Chairs: **Simona Baluchová, Charles University, Czechia; Takayuki Iwasaki, Institute of Science Tokyo, Japan; Anke Krueger, Universität Stuttgart, Germany; Saman Majdi, Uppsala University, Sweden**

17:50 – 20:00 (Grand & Small Banquet Hall)

5.1

Real time observation of glass-like carbon formation from SU-8

S. Mandal¹, S. Astley², J. Stritt¹, J. A Cuenca¹, E. L H Thomas^{1,3}, D. Andrew Evans², O. A Williams¹

¹School of Physics and Astronomy, Cardiff University, Cardiff, UK, ²Department of Physics, Aberystwyth University, Aberystwyth, UK,

³Institute of Micro Production Technology, Leibniz University Hannover, Hannover, Germany

5.2

Machine Learning for Diamond Materials Research

T. G.I. van Wijk^{1,2}, E. Thomas^{1,2}, E. Aylin Melan^{1,2,3}, D. E.P. Vanpoucke^{1,2}

¹Institute for Materials Research (IMO), Quantum and Artificial Intelligence design Of Materials (QuATOMs), Hasselt University, Agoralaan Gebouw D, 3590 Diepenbeek, Belgium, ²IMOMEC, IMEC vzw, Wetenschapspark 1, 3590 Diepenbeek, Belgium, ³NISM, University of Namur, Namur, Belgium

5.3

The carbon vacancy in diamond: new insights into the electronic structure and charge state conversion

M. Tuan Luu¹, A. Tayefeh Younesi¹, Q. Khai Dao¹, G. Thiering², C. Linderälv³, A. Zaitsev⁴, R. Ulbricht¹

¹Max-Planck-Institut für Polymerforschung, Ackermannweg 10, 55128 Mainz, Germany, ²Wigner Research Centre for Physics, Hungarian Academy of Sciences, PO Box 49, Budapest 1525, Hungary, ³University of Oslo, Department of Physics, Centre for Material Science and Nanotechnology, P.O. Box 1048, Blindern, Oslo N-0316, Norway, ⁴College of Staten Island/CUNY, 2800 Victory Blvd., Staten Island, NY 10312, USA

5.4

Understanding of the Orange Phosphorescence in HPHT synthetic diamonds

J. Zarupski¹, M. Bouman¹

¹Research Department, HRD Antwerp, Hoveniersstraat 22, Antwerp, Belgium

5.5

Ultra-thin Diamond Detectors for On-Line Monitoring of Ion Microbeams

C. Léonhart¹, M.-L. Gallin-Martel¹, E. Gheeraert², P. Barberet³, F. Vianna-Legros⁴

¹Univ. Grenoble Alpes, CNRS/IN2P3 Laboratoire de Physique Subatomique et Cosmologie (LPSC), 53 Av. des Martyrs, 38000 Grenoble, France, ²Univ. Grenoble Alpes, CNRS, Grenoble INP, Institut Néel, 25 Av. des Martyrs, 38000 Grenoble, France, ³Univ. Bordeaux, CNRS, LP2I, UMR 5797, 33170 Gradignan, France, ⁴ASNR, Laboratoire de Microirradiation, Métrologie et Dosimétrie des Neutrons (LMDN), 13108 Saint-Paul -lez-Durance, France

5.6

Characterisation of a large-area single-crystal diamond microstrip detector for real-time synchrotron x-ray microbeam monitoring

T. Bettio^{1,2}, C. Milewski^{1,2}, M. Reynaud¹, J.-F. Muraz¹, C. Hall³, M.-L. Gallin-Martel¹, L. Gallin-Martel¹, F. di Franco¹, D. Dauvergne¹, M. Cameron³, J.-F. Adam², J. Livingstone¹

¹Université Grenoble-Alpes, CNRS, Grenoble INP, LPSC UMR5821, 53 avenue des Martyrs, Grenoble, France., ²Université Grenoble-Alpes, UGA/INSERM UA7 STROBE, 2280 rue de la Piscine, Saint Martin d'Hères, France., ³Australian Synchrotron, ANSTO, 800 Blackburn Rd, Clayton, Victoria, Australia.

5.7

Study of diamond detectors at cryogenic temperatures with an IBIC and IBIL synergy

G. Provatas¹, D. Cosic¹, K. Ivanković Nizić¹, M. Matijević¹, L. Basioli¹, M. Pomorski², M. Jakšić¹

¹Division of Experimental Physics, Ruđer Bošković Institute, 10000 Zagreb, Croatia, ²Université Paris-Saclay, CEA, LIST, F-9112, Palaiseau, France

5.8

Diamond–YAG:Ce Composite Scintillators as Frontend Screens for Synchrotron X-Ray Beams

V. Sedov¹, A. Martyanov¹, I. Tiazhelov¹, S. Kuznetsov¹, V. Konov¹

¹Prokhorov General Physics Institute of the Russian Academy of Sciences, 38 Vavilov str., Moscow, Russia

5.9

Impact of Space Radiation on Diamond Lattice Damage and Sensor Stability

Y. Beerden¹, A. Ermakova^{1,2}

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5.10

Ultrafast wear of boron-doped diamond electrodes induced by pulsed bipolar activation

S. Ben Khemis¹, C. Njel¹, M. Frégnaux², A. Etcheberry², E. Scorsoni¹

¹Université Paris-Saclay, CEA, LIST, F-9112, Palaiseau, France, ²Institut Lavoisier de Versailles, Université Paris-Saclay, UVSQ, CNRS, UMR 8180, 78035 Versailles Cedex, France

5.11

Investigation into Optimal Metallisation Schemes to Minimise Contact Resistance on Polycrystalline Boron Doped Diamond for Electrochemical Applications

G. Pryer-Freeman¹, J. Tully¹, D. Field², M. Newton³, J. Macpherson¹

¹Department of Chemistry, University of Warwick, ²Element six Ltd., ³Department of Physics, University of Warwick

5.12

Investigating the Destruction of Short-Chain PFAS via Electrochemical Oxidation with Boron Doped Diamond Electrodes

J. Tully¹, M. Amerio-Cox², F. Tang¹, A. Dettlaff³, J. V. Macpherson¹, T. Sidnell², S. C. Mathias², P. Sears², M. J. Bussemaker², T. Mollart⁴
¹Department of Chemistry, University of Warwick, Gibbet Hill Road, CV4 7AL, UK., ²School of Chemistry and Chemical Engineering, University of Surrey, ³Faculty of Chemistry, Gdańsk University of Technology, Gdańsk, Poland., ⁴Element Six (UK) Limited, Oxford, OX11 0QR, UK

5.13

Electrochemical Cortisol Immunosensor Signal Enhanced by Nanolayered Oxidized HPHT Nanodiamonds with Citrate Gold Nanoparticles

S. Ravishankar Maleyur¹, C. Esmaili¹, B. Rezek¹

¹Faculty of Electrical Engineering, Czech Technical University in Prague, Technická 2, 16627 Prague, Czechia

5.14

DFT Simulations of Boron-Doped Diamond-Metal Oxide Heterojunctions: Correlation with Electrochemical PFOS Degradation

B. Dec¹, I. Kaczmarzyk-Knitter¹, R. Bogdanowicz¹, M. Pierpaoli¹

¹Department of Optoelectronics, Gdańsk University of Technology, Narutowicza 11/12, 80-233 Gdańsk, Poland

5.15

Diamond Surfaces Against Bacteria: Chemistry and Topography

M. Hougen¹, I. Rios-Mondragon^{1,2}, M. Roxana Cimpan², P. Johan Hø³, J. Zalieckas¹

¹Institute of Physics and Technology, University of Bergen, Allégaten 55, Bergen, Norway, ²Department of Clinical Dentistry, University of Bergen, Årstadveien 19, Bergen, Norway, ³Department of Clinical Medicine, University of Bergen, Biomatlab, Laboratoriebygget, Bergen, Norway

5.16

Enhancing BDD electrochemical properties by surface patterning with femtosecond laser-induced periodic subwavelength surface structures

P. Jakóbczyk¹, M. Mastellone², V. Valentini², A. Bellucci², D. Trucchi², R. Bogdanowicz¹, M. Pierpaoli¹

¹Department of Optoelectronics, Gdańsk University of Technology, 11/12 Narutowicza St., Gdańsk, Poland, ²Istituto di Struttura della Materia (ISM-CNR), Consiglio Nazionale delle Ricerche, DiaTHEMA Lab, Via Salaria km 29,300, Monterotondo Stazione, Roma, Italy

5.17

Evaluation of Radiation Hardness of H-Terminated Diamond MOSFETs with Ion Implanted Buried p⁺ Electrodes

S. Uehara¹, Y. Seki^{1,2}, Y. Hoshino², H. Umezawa³, J. H. Kaneko¹

¹Graduate School of Engineering, Hokkaido University, ²Department of Physics, Faculty of Science, Kanagawa University, ³National Institute of Advanced Industrial Science and Technology

5.18

Investigation of Hole Transport Dynamics in Diamond using Monte Carlo Simulations

R. Yamazaki¹, J. Isberg¹, N. Suntornwipat¹, S. Majdi¹

¹Division of Electricity, Department of Electrical Engineering, Uppsala University, Box 65, 751 03 Uppsala, Sweden

5.19

Scaling current rating of diamond-based MOSFETs: Interdigitated lateral deep-depletion diamond field-effect transistor

D. Michez^{1,2}, J. Letellier¹, D. Sardois^{1,2}, M. Couret², J. Pernot^{3,4}, N. Rouger²

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5.20

Optimization of time-of-flight electron beam induced current technique: a tool to investigate diamond substrates

L. Laghezza¹, F. Donatini¹, J. Pernot^{1,2}

¹Univ. Grenoble Alpes, CNRS, Grenoble INP, Institut Néel, 38000 Grenoble, France, ²Institut Universitaire de France (IUF), 75231 Paris, France

5.21

Advanced Electro-Thermal Modelling of Field-Management Structures in Diamond Power Devices

M. Kah¹, N. Donato¹, R. Watkins², C. Henderson², J. Yang², R. Jackman², F. Udrea¹

¹Engineering Department, University of Cambridge, Trumpington Street, CB2 1PZ, Cambridge - UK, ²UCL (University College London), London Centre for Nanotechnology (LCN) & the Department of Electronic and Electrical Engineering, 17-19 Gordon Street, WC1H 0AH, London - UK

5.22

TCAD Modeling of Radiation Effects in Power Diamond Devices

A. Michez¹, C. Marques¹, D. Michez², J. Letellier²

¹DELPHIA, 34090, Montpellier, France, ²DIAMFAB, 38600 Fontaine

5.23

Bipolar Diamond Devices Enabled by High Purity Intrinsic and Doped Diamond

R. Nemanich¹, F. A. Koeck¹, S. Goodnick¹, T. Thornton¹

¹Arizona State University, Tempe, AZ, USA

5.24

Fully Covered Diamond Schottky Barrier Diode Based on Residual Al Mask

J. Yang¹, R. Watkins¹, C. Henderson¹, M. Kah², N. Donato², F. Udrea², R. Jackman¹

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5.25

Proton irradiation effects on diamond FET transistor biosensors with adsorbed cell serum proteins

B. Rezek¹, E. Ukraintsev¹, M. Krátká², A. Artemenko², M. Davidková³, A. Kromka²

¹Faculty of Electrical Engineering, Czech Technical University in Prague, Technická 2, 16627 Prague, Czechia, ²Institute of Physics, Czech Academy of Sciences, Cukrovarnická 10, 16200 Prague, Czechia, ³Nuclear Physics Institute, Czech Academy of Sciences, Řež 130, 25068 Řež, Czechia

5.26

Lateral diamond MOSFET simulation for a monolithic switching cell

T. NIAKAN¹, N. ROUGER¹

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5.27

(100) vertical PIN diamond diode with i- & n-type phosphorus doped layers

F. Sevely¹, R. Grosset-Darracq^{1,2}, K. Isoird¹, J. Tasselli¹, M. Bouras³, R. Gillet³, R. Issaoui⁴, K. Castillo Arivizu⁴, D. Planson⁵, L. Viêt Phung⁵, C. Sonnevile⁵, M.-A. Pinault-Thaury³

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5.28

Impact of extended defects on diamond Schottky pseudo-vertical diodes performances

B. Granet¹, M. Guerrero¹, C. Perrier¹, D. Z. Nusimovici¹, V. Maurya¹, J. Letellier¹, J. Bousquet¹, L. Valera¹

¹DIAMFAB, 36000 Fontaine, France

5.29

Impact of contacts and surface preparation on persistent photocurrent in MSM diamond photodetectors for sensing

N. Gehl^{1,2}, A. J. Biacchi¹, M. Kelley³, B. A. McCullian¹, E. G. Bittle¹

¹Nanoscale Device Characterization Division, National Institute of Standards and Technology, 100 Bureau Dr, Gaithersburg, MD, USA, ²Enrico Fermi Institute, University of Chicago, 933 East 56th Street, Chicago, IL, USA, ³Advanced Quantum Technologies Group, MIT Lincoln Laboratory, 244 Wood St, Lexington, MA, USA

5.30

Studying Mutual Effects of Two Mesa-Structured Diamond Transistors

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¹Institut Néel, Univ. Grenoble Alpes, CNRS, 38000 Grenoble, France

5.31

Electroluminescence investigation of high-power Mo/B-doped diamond pseudo-vertical Schottky diodes reaching 177 kW/cm²

G. Biasin^{1,4}, M. Fregolent^{1,4}, C. De Santi^{1,4}, J. Bassaler², V. Maurya², J. Letellier², G. Meneghesso^{1,4}, E. Zanoni^{1,4}, G. Verzellesi^{3,4}, A. Chini^{3,4}, M. Meneghini^{1,4}

¹University of Padova, Italy, ²DIAMFAB, Fontaine, France, ³University of Modena and Reggio Emilia, Italy, ⁴IU.NET, Italy

5.32

Diamond composite materials for high-performance flexible aqueous batteries

X. Dong^{1,2}, N. Yang¹, X. Jiang²

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5.33

Q-optimised nanoelectromechanical diamond resonators

E. Thomas^{1,2}, S. Mandal¹, W. Leigh¹, O. Williams¹

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5.34

Diamond cloth-supported NiMnOx electrodes for flexible supercapacitors

C. Li^{1,2}, X. Jiang¹, N. Yang^{2,3}

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5.35

Laser-Scripted Graphene-Boron Doped Diamond Nanowall Hybrids: Advanced Field Emitters for Next-Generation Microplasma Devices

M. Ficek¹, K. Jothiramalingam Sankaran², B. Dec¹, M. Pierpaoli¹, S. Deshmukh¹, M. Sawczak³, W. A. Goddard III⁴, R. Bogdanowicz^{1,4}

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5.36

Visible-Light-Responsive Diamond Photocathodes through Multi-Scale Structural Design

A. Bellucci¹, C. Maccato^{2,3}, D. Barreca³, G. Andrea Rizzi², E. Bolli¹, M. Mastellone¹, R. Salerno¹, V. Valentini¹, D. Maria Trucchi¹

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5.37

PCD Coating of Diced Si Field Emitters for Enhanced Field Emission Performance

A. M. Buchta¹, E. L.H. Thomas¹, F. Dencker¹, M. C. Wurz¹

¹Institute of Micro Production Technology, Leibniz University Hanover, An der Universität 2, Garbsen, Germany

5.38

Nanostructured Silicon–Diamond Cathodes for Photon-Enhanced Thermionic Emission

R. Salerno^{1,2}, A. Bellucci², E. Bolli², M. Mastellone^{2,3}, V. Valentini², R. Polini¹, D. M. Trucchi²

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5.39

Achieving a Large Net ‘Negative Electron Affinity’ on Diamond (100) via Molecular Oxygen and Lithium Functionalisation

R. Zulkharnay¹, W. Greenwood², A. Wood², J. Laverock¹, N. Fox^{1,2}

¹School of Chemistry, University of Bristol, Cantock's Close, Bristol, BS8 1TS, UK, ²School of Physics, H.H. Wills Physics Laboratory, University of Bristol, Tyndall Avenue, Bristol, BS8 1TL, UK

5.40

Towards Reliable Quantum Photonics: Controlling Hard Mask Stability and Plasma Etching in Diamond Nanofabrication

L. Valerius^{1,2}, M. E. Stucki^{1,2}, T. Pregnotato^{1,2}, T. Schröder^{1,2}

¹Ferdinand-Braun-Institut (FBH), Gustav-Kirchhoff-Str. 4, 12489 Berlin, Germany, ²Institut für Physik, Humboldt-Universität zu Berlin, Newtonstr. 15, 12489 Berlin, Germany

5.41

Comparative study of Atomic Layer Etching processes for diamond materials

M. Régnier^{1,2,3}, J. Kasprzak^{1,3}, A. Traoré⁴, M. Bonvalot^{3,5}, E. Gheereart^{1,2,3}

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5.42

High-Resolution Electron Beam Lithography for the Fabrication of Vertical Diamond Power Transistors

P. Argenton¹, M. Schott², T. Crozes², B. Fernandez², M. Jacquemin³, J. Letellier³, N. Rouger⁴, J. Pernot^{1,5}

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5.43

Laser-Induced Graphitization Interior to Bulk Diamond Forming Monolithic Electronic Structures

T. C. Wade^{1,2}, G. T. Hess¹, D. Kerns¹, J. L. Davidson¹, J. Fraley¹, B. Canfield³, T. Moeller³, S. May⁴, M. Viste⁴

¹International Femtoscience Inc, PO Box 50980, Nashville, TN USA, ²Evolve Diamonds, PO Box 10, Harvard, MA USA, ³University of Tennessee Space Institute, 411 BH Goethert Parkway, Tullahoma, TN USA, ⁴Medtronic, 710 Medtronic Pkwy NE, Minneapolis, MN USA

5.44

Planarization Strategies for Tilt Compensation in Diamond Plates for Scalable Quantum Magnetometers.

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Scalable fabrication of microlenses in diamond membranes using grayscale photolithography

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Fabrication methods for quantum photonic nanostructures in diamond

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Engineering Nanostructured Surfaces for Contact-Mediated Bacterial Inactivation

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Plasma-based polishing of polycrystalline diamond

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Fabrication of Diamond Membranes with Temperature Sensitive Color Centers

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Towards Scalable Platform for Next-Generation Quantum and Photonic Diamond Devices

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Polycrystalline diamond smoothing using grazing incidence reactive plasma etching

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Nanopatterning of diamond by focused ion beam induced graphitization

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Surface Activation of Fluorescent Nanodiamonds Trough Lattice Amination

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Toward Fully Fluorinated Fluorescent Nanodiamonds

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Kinetics of Anionic Ring-Opening Polymerization of Glycidol on Plasma-Oxygenated vs. Acid-Carboxylated Nanodiamond Surfaces

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Beta-glucan coated fluorescent nanodiamonds for uptake improvement in yeast cells

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Fabrication of Diamond Particles with Ge-V Centers from Nanocrystalline CVD Films

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Low-field all-optical detection of superconductivity using NV nanodiamonds

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Roughness suppression in thick polycrystalline diamond films during MPCVD growth

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2.45 GHz Microwave Plasma CVD System: Highly Uniform Large Area Diamond Growth

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Delta-Doped Diamond via in-situ Plasma-Distance Control

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Toward large area conductive single crystal diamond: linear antenna MW PECVD of boron doped diamond on heteroepitaxy diamond substrates

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High-rate growth of heavily B-doped diamond from a liquid precursor of boron in a custom-built chemical vapour deposition system

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Understanding threading dislocation reduction through a multiscale study of tungsten incorporation in W-doped diamond layers

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Deep defect study in phosphorous-doped (100) diamond SPND

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Gas-Plasma Coupling for Uniform diamond growth over 4-in and beyond

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Impact of surface treatments on stress in nitrogen doped homoepitaxial CVD diamond: Role of surface morphology and roughness

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Homoepitaxial Heavily Boron-Doped Diamond with High Crystalline Quality Grown by MPCVD

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Optical plasma emission gauges for gas monitoring in CVD diamond reactors

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Fabrication of large-area single-crystal diamond wafers via mosaic growth strategy

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Magnetized RF Plasma for the Growth of Nanodiamond Particles and Polycrystalline Diamond at Low-Temperature

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Quantification and optimization of single crystal CVD diamond growth via Ni-assisted etch pit evolution kinetics

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Low-temperature CVD growth of nanocrystalline diamond on β -Ga₂O₃ substrates

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High-density negatively charged silicon-vacancy centers in monocrystalline diamond via controlled PE-CVD growth

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Effect of in situ tungsten doping on diamond epitaxial growth modes and threading dislocation density

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Studying Nanodiamond Deposition on Silicon Substrates with Trenches

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Numerical simulation of etch pit closure during CVD diamond growth

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Development and testing of 3D surface wave plasma chemical vapor deposition reactor

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Gentle Growth of high-quality (111) Diamond in a Laser-Assisted NIRIM CVD Reactor

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Study on initial process of (001) heteroepitaxy diamond growth on (11-20) sapphire substrate with misorientation

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Modelling of a 3D surface wave plasma chemical vapor deposition reactor

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Control of PCD formation on SCD during high-pressure MPCVD

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Lattice location of implanted 6He in diamond

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Diamond layer transfer: impact of hydrogen implantation

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P ion implantation for diamonds over a graphitization limit by hot ion implantation technique

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Theoretical investigation of helium related defects in diamond

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High-Efficiency Detection of Low-Energy Nitrogen Ions in Diamond

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SRIM calculations of ion implantation in diamond for membrane fabrication

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GeV Centers in Boron and Phosphorus Doped Diamond: Structural Formation Versus Optical Activation

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From Strain to Zero-Phonon Line Shifts: The Case of the Germanium-Vacancy

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AC magnetometry in the strong drive regime with NV centers in diamond

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Optimal Control for Quantum Sensing with NV Centers in Diamond

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Quantum simulation of Time Crystal phase with nuclear spin layers in diamond

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Experimental Comparison of Filter Integration Strategies for NV Center Photoluminescence Detection in ODMR Measurements

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Ab-initio theory of orbitally coupled spin Hamiltonians for Jahn-Teller active quantum defects in diamond

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Solid-state NVC nuclear spin gyroscope

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Analyzing the Impact of Chemical Environments on Spin Defects in Diamond through automatized Screening

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Maximizing the Fluorescence Collection of fiber-based NV Sensors

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FRET between NV centers in diamond and chlorophyll molecules: a novel resource for multimodal sensing and imaging in plant cells

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In-situ Detection of Free Radicals using Nitrogen Vacancy (NV) Center-based T1 Relaxometry

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Ex.py: Ab initio fine structure parameters for trigonal defect qubits within the E⊗e Jahn-Teller case

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NV candle: Quantitative CW microwave magnetometry via Rabi resonance in diamond quantum sensors

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5.105

Statistical k-space Photoluminescence Analysis of NV Centers in Diamond Nanopillars with Varying Diameters

A. Penkała¹, P. Podemski¹, M. Mendoza Delgado², C. Popov²

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5.106

High fidelity single-qubit quantum state tomography of electron-14N nuclear hybrid spin register in diamond using Rabi oscillations

A. Shukla¹, B. Carmans¹, M. Petrov¹, M. Nesladek¹

¹Q-Lab, IMO-IMOMEK, Wetenschapspark 1, Diepenbeek, België

5.107

Room temperature bolometric detection of NV centers

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5.108

Saturable absorption and Kerr anisotropy in NV-doped diamond probed by femtosecond Z-scan

W. Talik^{1,2}, M. Mrózek¹, A. Wojciechowski¹, K. Dzierżęga¹

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5.109

Orientation Enhancement of NV Centers in Diamond by Microwave Annealing

M. Haruyama¹, S. Fujii^{1,2}, H. Abe³, S. Onoda³, T. Ohshima³, H. Kato¹, Y. Miyamoto¹, M. Ogura¹, T. Makino¹

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5.110

Charge state manipulation of NV color centers in phosphorus-doped diamond Schottky diodes

F. Sledz¹, A. M. Flatae¹, S. Lagomarsino², S. S. Nicley^{3,4}, R. Rouzbahani³, P. Pobedinskas³, K. Haenen³, T. Guo⁵, X. Jiang⁵, P. Kienitz⁶, P. Haring Bolivar⁶, M. Agio^{1,7}

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5.111

Imaging of microwave magnetic field orientation using continuous-wave experiments on nitrogen-vacancy centers in diamond

A. Rana¹, P. Lamba Dhairya², A. Ghosh³, S. Dhomkar³, R. K. Kaminen⁴

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5.112

Generating and processing ensembles of nitrogen-vacancy centers in diamond for improved quantum sensing

A. J. Biacchi¹, B. A. McCullian¹, E. G. Bittle¹, M. Kelley¹, F. B. Bateman²

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5.113

Multi-NV Diamond Quantum Chip for Scalable Room-Temperature Quantum Technologies

D. Majidi¹, F. Engel¹, J. Foglszinger¹, S. Santonocito¹, P. Reinke¹, D. Sostina¹, J.-Y. Juo¹, S. Corujeira Gallo¹, J. Sonsky¹, W. Benz¹, L. Bougas¹, M. Doherty²

¹Quantum Brilliance GmbH, Industriestraße 4, 70565 Stuttgart, Germany,, ²Quantum Brilliance Pty Ltd, Level 1/477 Pitt Street, Haymarket, NSW, 2000

5.114

A compact architecture of a radiofrequency spectrum analyser based on an ensemble of nitrogen-vacancy centers in diamond

S. Magaletti¹, L. Mayer¹, X. Phuc Le¹, R. Labbe¹, T. Debuisschert¹

¹Thales Research and Technology

5.115

Optical, electrical, and spin metrology for diamond PDMR sensors

M. Kelley^{1,2}, A. Biacchi¹, F. Bateman³, E. Bittle¹, B. McCullian¹

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5.116

Building spin-based quantum register on coupled NV-centres in diamond: 3-qubit control

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5.117

Deterministic laser fabrication of NV-centres in delta doped diamond

E. Picheo¹, M. Davydova², P. Schätzle², P. Stranak², P. Knittel², P. Salter³, J. Smith¹

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5.118

Frequency resolved UV photoluminescence of NV rich single crystal diamond

Z. Remes^{1,2}, J. Soucek^{2,3}, M. Nesladek^{3,4}

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5.119

Element-specific determination of new PbV colour centre in diamond using radiotracer photoluminescence spectroscopy

K. Danilov¹, B. Biesmans¹, A. Lamelas², U. Wahl³, J. G. Correia³, A. Seliverstov¹, A. R.G. Costa¹, S. M. Tunhuma¹, G. Santos³, K. Johnston⁴, V. Amaral², A. Vantomme¹, L. M.C. Pereira¹

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5.120

Quantum Sensing of Intracellular Free Radicals: Towards Cancer Diagnostics

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¹Biomaterials & Biomedical Technology, University of Groningen, University Medical Center Groningen, A. Deusinglaan 1, Groningen 9713 AV, The Netherlands

5.121

Local nanoscale probing of electron spins using NV centers in diamond

S. Trofimov¹, C. Thessalonikios¹, V. Deinhart^{2,3}, A. Spyrantis², L. Tsunaki¹, K. Volkova¹, K. Höflich², B. Naydenov¹

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5.122

Diamond-Based Platforms for Biochemical Measurements of Clock Cell Signalling

R. Ghasemtabesh¹, D. Merker¹, J. W. Bröckel², D. Bais³, D. Bertinetti², S. Neupert³, F. W. Herberg², C. Popov¹

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5.123

Functionalized Diamond thin Films for Quantum Technology Components

A. de Gleria Clark¹, S. Schmitt¹, J. Lang¹, C. Findler¹, C. Osterkamp¹, P. Späth¹

¹Diatope GmbH, Wilhelm-Runge-Straße 10, Ulm, Germany

5.124

Diamond Based Quantum Thermal Biosensing of Magnetotactic Bacteria for Magnetic Hyperthermia

P. Arostegui Barrio^{1,2}, M. Espinosa Edo^{2,3}, C. Mahi², M. Luisa Fdez-Gubieda⁴, A. Abad Diaz de Cerio⁵, X. Vidal²

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5.125

A New Cryo-DAC Platform for magnetic studies at High-Pressure and Low-Temperature

G. Le Caruyer¹, K. On Ho¹, C. Schäfermeier⁴, K. Karrai⁴, B. Vindollet¹, L. Toraille^{2,3}, F. Occelli^{2,3}, M. Schmidt¹, M.-P. Adam¹, P. Loubeyre^{2,3}, J.-F. Roch¹

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5.126

Vibrational sum-frequency generation spectroscopy for probing diamond surfaces

Q. Khai Dao¹, R. Ulbricht¹

¹Molecular Spectroscopy Department, Max Planck Institute for Polymer Research, Ackermannweg 10, 55128

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Widefield Quantum Magnetic Imaging of Magnetic Microstructures with Biomedical Applications

M. Espinosa Edo^{1,2}, C. Mahi¹, C. Redondo², D. Domenech³, P. Arostegui^{1,4}, M. Dolores Boyano⁵, R. Morales^{2,3,6}, X. Vidal¹

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5.128

Resonant Grating Waveguide for Quantum Magnetometry Industrial Applications

M. Lafontaine^{1,2}, D. Lepage^{1,2}, Y.-C. Nonguierma^{1,2}, D. Drouin^{1,2}

¹Université de Sherbrooke, 2500, Boul. De l'Université, Sherbrooke, Qc J1K0A5, Canada, ²Laboratoire Nanotechnologies Nanosystemes (LN2) - CNRS IRL - 3463, Institut Interdisciplinaire d'innovation Technologique, Université de Sherbrooke, 3000, Boul. De l'Université, Sherbrooke, Qc J1K0A5, Canada

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High-sensitivity diamond nanostructures for compact and low-power NV magnetometers

Y. Christian Nonguierma^{1,2,3}, A. Guilbault^{1,2,3}, D. Lepage^{1,2,3}, D. Drouin^{1,2,3}

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5.130

Vehicle test of battery monitoring using diamond quantum sensors

Y. Hatano¹, A. Nakazono¹, J. Tanigawa², K. Kajiyama¹, M. Haruyama³, H. Kato³, M. Ogura³, T. Makino³, H. Noguchi⁴, T. Sekiguchi¹, H. Abe⁵, S. Onoda⁵, T. Ohshima⁵, N. Sekiguchi¹, T. Iwasaki¹, M. Hatano¹

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5.131

Broadband AC magnetic field sensing based on a CW scheme under strong perpendicular magnetic fields

R. Okaniwa^{1,2}, Y. Matsuzaki³, R. Suzuki^{1,2}, N. Tokuda⁴, J. Ishi-Hayase^{1,2}

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5.132

Vector Biomagnetic Field Sensing Using Ion-Implanted NV Centers in Diamond

C. Mahi¹, M. Espinosa^{1,2}, P. Arostegui^{1,3}, A. Goirigolzarri^{1,4}, M. Quintana¹, X. Vidal¹

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5.133

Nitrogen-vacancy-center-based characterization of ferromagnetic resonance in magnetoelastic thin films

M. Jaafar Sharafeddine¹, V. Mille², N. Ezzahni¹, A. Talbi¹, O. Bou Matar¹, M. Boutghatin¹, J. Achard², O. Brinza², A. Mazzamurro¹, N. Tiercelin¹, O. Marbough¹, A. Tallaire³, Y. Dusch¹

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Transimpedance Amplifier for PDMMR-Based NV Magnetometer

P. Hengel¹, M. Kern¹, D. Djekic¹, E. Bourgeois^{2,3}, J. Anders^{1,4,5}, M. Nesladek^{2,3,6}, R. Tavakoli Dinani^{2,3}

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5.135

Towards Adaptive Characterization of Nuclear Spin Ensembles in Silicon Carbide via Signal-to-Image AI Model

B. Varona-Uriarte^{1,2,3}, V. Vorobyov⁴, J. Wrachtrup^{4,5}, E. Garrote¹, J. Casanova^{2,3}

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5.136

Straining Group-IV Vacancy Color Centers in Diamond: A DFT study of the ZPL position and shift

T. G.I. van Wijk^{1,3}, E. Aylin Melan^{1,3,4}, R. May Joj^{2,3}, E. Y. Guillaume^{1,3}, P. Pobedinskas^{2,3}, K. Haenen^{2,3}, D. E.P. Vanpoucke^{1,3}

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Group-IV color centers in diamond: interaction with static electric fields

A. Lamelas¹, G. Thiering², U. Wahl³, V. S. Amaral¹, Á. Gali^{2,4,5}

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5.138

Influence of Surface Chemistry on the Optical Properties of IV Group Color Centers in Diamond

E. Missale¹, E. Scattolo¹, A. Cian¹, E. Nieto Hernández¹, A. Pegoretti¹, G. Speranza¹, D. Giubertoni¹, R. Dell'Anna¹

¹Fondazione Bruno Kessler, via Sommarive 18, 38123 Trento, Italy

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Broadband Pump Probe Spectroscopy of SiV Centres Reveals Unique Spectroscopic Features

T. Khan¹, I. Bydžovská¹, O. Babčenko¹, Š. Potocký¹, A. Kromka¹, L. Ondič¹

¹*Institute of Physics of the Czech Academy of Sciences, Cukrovarnická 10/112, 162 00 Prague, Czech Republic*

5.140

Mechanistic insight into the formation of SiV ensembles within polycrystalline diamond

L. Ondič¹, I. Hlaváč Bydžovská^{1,2}, O. Babčenko¹, A. Kromka¹

¹*Institute of Physics, Czech Academy of Sciences, Cukrovarnická 10, 16200, Prague 6, Czech Republic*, ²*Faculty of Nuclear Sciences and Physical Engineering, Czech Technical University in Prague, Břehová 7, 11519 Prague, Czech Republic*

5.141

Optical coherent control over orbitally split states in negatively charged silicon vacancy in diamond

V. Kondratyev¹, R. Ulbricht¹

¹*Max-Planck-Institut für Polymerforschung, Ackermannweg 10, 55128 Mainz, Germany*

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Integration of Diamond Nanobeams with SnVs on Al₂O₃ waveguides for Scalable Quantum Computer Application

Y. Yang¹, T. Miyatake¹, M. Hida¹, N. Fushimi¹, K. Kaminaka¹, R. Kitagawa¹, T. Iwai¹, I. Takagi¹, H. Matsukiyo², S. Ishida², S. Iwamoto², T. Miyazawa¹, K. Kawaguchi¹, R. Ishihara³, S. Sato¹

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5.143

Towards scalable nanophotonic interfaces for single tin-vacancy centers in diamond

J. Fait¹, K. Mark¹, G. A. Hunter-Smith¹, N. Klingner², A. Sadzak³, A. Krueger³, G. Astakhov², C. Becher¹

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20:00 Closing Day 1 “Hasselt Diamond Workshop 2026 – SBDD XXX”.

Thursday, March 5, 2026

Session 6

Quantum Growth & Application

Chair: **Ulrika F.S. D’Haenens-Johansson, Gemological Institute of America (GIA), USA**

09:00

6.1 (Invited)

Heavy group-IV vacancy centers in diamond for quantum network

T. Iwasaki¹

¹*Department of Electrical and Electronic Engineering, School of Engineering, Institute of Science Tokyo*

09:30

6.2

Time-Resolved Material Science using a Tin-Vacancy Center in Diamond as a Quantum Electrometer

C. Gurr¹, C. Güney Torun¹, G. Pieplow¹, T. Schröder^{1,2}

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09:50

6.3

Low-Nitrogen Quantum Diamond: Material Engineering and Optimisation for use in Pulsed Magnetometry

J. Tang^{1,2}, C. A. Roncaioli³, A. M. Edmonds⁴, A. Davidsson⁵, C. A. Hart¹, M. Markham⁴, R. L. Walsworth^{1,2,6}

¹Quantum Technology Center, University of Maryland, College Park, MD, United States, ²Department of Physics, University of Maryland, College Park, MD, United States, ³DEVCOM Army Research Laboratory, Adelphi, MD, United States, ⁴Element Six Global Innovation Centre, Didcot, Oxfordshire, United Kingdom, ⁵Department of Chemistry and Biochemistry, University of Maryland, College Park, MD, United States, ⁶Department of Electrical Engineering and Computer Science, University of Maryland, College Park, MD, United States

10:10

6.4

Coherence time of 12C enriched freestanding single crystal CVD diamond

T. Teraji¹, J. Chen¹, C. Shinei^{1,2}, H. Abe³, Y. Masuyama³

¹National Institute for Materials Science, 1-1 Namiki, Tsukuba, Ibaraki 305-0044, Japan, ²University of Tsukuba, T 1-1-1 Tennodai, Tsukuba, Ibaraki 305-8577, Japan, ³National Institutes for Quantum Science and Technology, Takasaki, Gunma 370-1292, Japan

10:30 Coffee Break (Grand Banquet Hall)

Session 7

Diamond Electronic Devices

Chair: Hitoshi Umezawa, National Institute of Advanced Industrial Science and Technology (AIST), Japan

11:10

7.1 (Invited)

Channel mobility of hexagonal boron nitride/hydrogen-terminated diamond heterojunction field-effect transistor

Y. Sasama¹, Y. Takahide^{1,2}

¹National Institute for Materials Science, ²University of Tsukuba

11:40

7.2

Over 400V Field-Plate Enhanced Vertical Diamond Schottky Diodes with Near-Ideal Behavior and 3000A/cm² Current Density

V. Maurya¹, M. Guerrero¹, R. Issaoui², J. Bassaler¹, J. Letellier¹

¹DIAMFAB, 5 impasse de Charvet, 38600 Fontaine, FRANCE, ²HiQuTe Diamond, 20 B RUE DANJOU 92100 Boulogne Billancourt, France

12:00

7.3

Avalanche Ionization and Radiation Damage Recovery in Vertical Single-Crystal Diamond Schottky Diodes

M. Pomorski¹, D. Fras¹, R. Gourad¹, M. Jaksic², M. Matijevic², C. Masante³, G. Provas², H. Soares-Antunes³, L. Le Van-Jodin³

¹Université Paris-Saclay, CEA-List, F-9112, Palaiseau, France, ²Laboratory for Ion Beam Interactions, Ruder Bošković Institute, Bijenička cesta 54, 10000, Zagreb, Croatia, ³Université Grenoble Alpes, CEA-Leti, F-38000 Grenoble, France

12:20

7.4

Investigating the Stability and Control of Valley-Polarized Transport in Diamond

S. Majdi¹, J. Isberg¹, R. Yamazaki¹, N. Suntornwipat¹

¹Diamond Electronics group, Department of Electrical Engineering, Ångström laboratory, Uppsala University, Box 65, SE-751 03, Sweden

12:40 Lunch (Grand Banquet Hall) + Joint Committees Meeting (Fluistertuin)

Session XXX

Chairs: The SBDD Organisers

14:10

Special

Session 8

Diamond Processing & Devices

Chair: **Ken Haenen, Hasselt University & imec, Belgium**

14:40

8.1

Diamond SAW devices for 5G Transceivers

J. Cuenca¹, S. Mandal¹, O. Williams¹

¹*School of Physics and Astronomy, Cardiff University, Cardiff, CF24 3AA, United Kingdom*

15:00

8.2

Direct laser writing of diamond-based nanochannels and their integration into nanofluidic devices

S. Janssens¹, M. Ayu Ardini¹, D. Vázquez-Cortés¹, C. Cassidy², E. Fried¹

¹*Mechanics and Materials Unit, Okinawa Institute of Science and Technology Graduate University, 1919-1 Tancha, Onna-son, Kunigami-gun, Okinawa, Japan*, ²*Science and Technology Group, Okinawa Institute of Science and Technology Graduate University, 1919-1 Tancha, Onna-son, Kunigami-gun, Okinawa, Japan*

15:20

8.3

Nanodiamond-Berberine Nanohybrids: A Physics-Driven Approach to Biocompatible Melanoma Therapy

X.-Y. You¹, Y.-C. Yeh¹, Z.-Y. Peng¹, P. Manik Badgular¹, C.-L. Cheng¹

¹*Department of Physics, National Dong Hwa University, Taiwan*

Session 9

Posters II & Coffee Break

Chairs: **Simona Baluchová, Charles University, Czechia; Takayuki Iwasaki, Institute of Science Tokyo, Japan; Anke Krueger, Universität Stuttgart, Germany; Saman Majdi, Uppsala University, Sweden**

15:40 – 17:10 (Grand & Small Banquet Hall)

For a detailed list of posters, see [Session 5](#).

Session 10

Quantum Sensing

Chair: **Chia-Liang Cheng, National Dong Hwa University, Taiwan**

17:10

10.1

Microscale mapping heat diffusion using widefield NV thermometry

L. Evanno¹, M. Techer¹, P.-J. Wu^{1,4}, M.-P. Adam¹, M. Schmidt¹, M. Arousseau², L. Toraille³, Y. Yung Hui⁴, H.-C. Chang⁴, D. Rochais², J.-F. Roch¹

¹*LUMIN, Université Paris-Saclay, CNRS, ENS Paris-Saclay, CentraleSupélec, 91190 Gif-sur-Yvette, France*, ²*CEA, DAM, DIF, 91297 Arpajon, France*, ³*CEA, DAM, Le Ripault, 37260, Monts, France*, ⁴*Institute of Atomic and Molecular Sciences, Academia Sinica, Taipei City 106319, Taiwan*

17:30

10.2

Intracellular Temperature Sensing Using NV Centers in Nanodiamonds

A. Shmakova¹, S. Zaghbouni², M. Petrov¹, R. Vandebosch¹, K. Kvakova³, V. Chadimova³, J. Neburkova³, P. Cigler³, B. Brone², M. Nesladek¹

¹*IMO-IMOMEC, Hasselt University, Wetenschapspark 1, 3590 Diepenbeek, Belgium*, ²*BIOMED, Hasselt University, Agoralaan gebouw C, 3590 Diepenbeek, Belgium*, ³*Institute of Organic Chemistry and Biochemistry of the CAS, Flemingovo nam. 2, 160 00 Prague, Czechia*

17:50

10.3

The influence of surface functionalization on the properties of NV centres in nanodiamond and its relevance for biomedical quantum sensing

A. Sadzak¹, E. Mayerhoefer¹, I. Perez², M. Guimaraes³, L. Spantzel², F. Jelezko³, M. Börsch², A. Krueger¹

¹*Institute of Organic Chemistry, University of Stuttgart, Pfaffenwaldring 55, Stuttgart, Germany,* ²*Single Molecule Microscopy Group, Jena University Hospital, Nonnenplan 2-4, 07743 Jena, Germany,* ³*Institute for Quantum Optics, University of Ulm, Albert-Einstein-Allee 11, 89081 Ulm, Germany*

18:10 **Closing Day 2 “Hasselt Diamond Workshop 2026 – SBDD XXX”.**

20:00 **Conference Dinner at the *Ravel & De Boulevard* of the *Holiday Inn*.**

Friday, March 6, 2026

Session 11

Doped Diamond Devices

Chair: David Eon, CNRS/Université Grenoble Alpes-Institut Néel, France

09:30

11.1 (Invited)

Single-crystal boron-doped diamond electrochemistry governed by crystal orientation and surface engineering

S. Baluchová¹, A. Taylor², K. Schwarzová-Pecková¹, A. Lytvynenko^{1,2}, V. Mortet²

¹*Department of Analytical Chemistry, Faculty of Science, Charles University, Albertov 6, Prague 2, Czechia,* ²*FZU – Institute of Physics of the Czech Academy of Sciences, Na Slovance 1999/2, Prague 8, Czechia*

10:00

11.2

Positively charged filters for virus filtration

S. Mandal¹, O. A Williams¹

¹*School of Physics and Astronomy, Cardiff University, Cardiff, UK, CF24 3AA*

10:20

11.3

Black-Diamond-based High-Temperature Solar Cells

D.M. Trucchi¹, A. Bellucci¹, E. Bolli¹, M. Girolami¹, M. Mastellone¹, A. Mezzi², S. Orlando¹, R. Polini³, R. Salerno^{1,3}, A. Santagata¹, V. Serpente¹, V. Valentini¹

¹*Istituto di Struttura della Materia, National Research Council of Italy, Italy,* ²*Istituto per lo Studio dei Materiali Nanostrutturati, National Research Council of Italy, Italy,* ³*Dipartimento di Scienze e Tecnologie Chimiche, TorVergata University, Italy*

10:40

11.4

Enhancing CO₂ reduction with large-surface-area BDD electrodes

M. Mao¹, G. Iwai², Y. Einaga², P. W. May¹

¹*School of Chemistry, University of Bristol, Bristol, BS8 1TS, United Kingdom,* ²*Department of Chemistry, Keio University, 3-14-1 Hiyoshi, Yokohama 223-8522, Japan*

11:00 **Coffee Break (Grand Banquet Hall)**

Session 12

Quantum Physics & Application III

Chair: **Tokuyuki Teraji, National Institute for Materials Science (NIMS), Japan**

11:30

12.1 (Invited)

Graphene-diamond: Next-generation all carbon hybrid materials

S. Majdi¹, N. Suntornwipat¹, R. Yamazaki¹, A. Aitkulova¹, J. Isberg¹

¹*Division of Electricity, Department of Electrical Engineering, Uppsala University, Box 65, 751 03, Uppsala, Sweden*

12:00

12.2

Electrical detection of NV-based DEER for nanoscale spin bath spectroscopy

O. Rubinas^{1,2}, J. Prooth^{1,2}, M. Petrov¹, D. Chvátíl³, E. Bourgeois^{1,2}, M. Nesladek^{1,2}

¹*Institute for Material Research (IMO), Hasselt University, Wetenschapspark 1, Diepenbeek, Belgium*, ²*IMOMECE, IMEC, Kapeldreef 75, Heverlee, Belgium*, ³*Department of Accelerators Nuclear Physics Institute of the CAS, Rez Husinec 25068, Czech Republic*

12:20

12.3

Homogeneous Free-Standing Nanostructures from Bulk Diamond over Millimeter Scales for Quantum Technologies

A. Corazza¹, S. Ruffieux¹, Y. Zhu², C. A. Jamarillo Concha², Y. Fontana¹, M. Obramenko¹, C. Galland², R. J. Warburton¹, P. Maletinsky¹

¹*Department of Physics, University of Basel, CH-4056 Basel, Switzerland*, ²*Institute of Physics and Center for Quantum Science and Engineering, Ecole Polytechnique Fédérale de Lausanne (EPFL), 1015 Lausanne, Switzerland*

12:40

12.5

Chipscale diamond quantum systems for sensing and timekeeping

T. Chen¹, C. W. Zollitsch², S. Nur¹

¹*Department of Quantum Computer Engineering, Faculty of Electrical Engineering Mathematics and Computer Science, Delft University of Technology, Delft, The Netherlands*, ²*Department of Chemistry, Saarland University, Saarbrücken, Germany*

13:00 Lunch (Grand Banquet Hall)

Session 13

Quantum Magnetometry

Chair: **Jean François Roch, École normale supérieure Paris-Saclay, France**

14:10

13.1

Microwave-free ¹³C hyperpolarization in randomly oriented diamond particles enhanced by kHz spinning

R. Blinder¹, G. Muzabirova², V. N. Agafonov³, R. Witter¹, J. Matysik², F. Jelezko^{1,4}

¹*Institute for Quantum Optics, Albert-Einstein Allee 11, Ulm University, 89081 Ulm, Germany*, ²*Department of Analytical Chemistry, Leipzig University, Linnéstrasse 3, 04103 Leipzig, Germany*, ³*GREMAN UMR 7347, University F. Rabelais, 37200 Tours, France*, ⁴*Centre for Integrated Quantum Science and Technology (IQST), Ulm 89081, Germany*

14:30

13.2

Laser-Enhanced Quantum Sensing with NV Ensembles in Diamond

F. Schall¹, L. Lindner¹, Y. Rottstaedt¹, J. J. Schindler¹, T. Probst¹, M. Rattunde¹, F. Reiter¹, R. Quay¹, R. Bek², A. M. Zaitsev³, T. Ohshima⁴, A. D. Greentree⁵, J. Jeske¹

¹*Fraunhofer Institute for Applied Solid State Physics IAF, Tullastraße 72, 79108 Freiburg, Germany*, ²*Twenty-One Semiconductors GmbH, Kiefernweg 4, 72654 Neckartenzlingen, Germany*, ³*College of Staten Island (CUNY), 2800 Victory Blvd., Staten Island, NY 10312, USA*, ⁴*Nat. Inst. for Quantum Science and Technology (QST), 1233 Watanuki, Takasaki, Gunma 370-1292, Japan*, ⁵*ARC Centre of Excellence for Nanoscale BioPhotonics, RMIT University, Melbourne VIC 3001, Australia*
OPTIMAS, RPTU University Kaiserslautern-Landau, Erwin-Schrödinger-Str., Kaiserslautern, Germany

14:50

13.3

Quantum Diamond Magnetometry : High-Pressure Sensing for High-Tc Superconductivity

C. Roussy¹, C. Dailedouze¹, I. Belgacem¹, K. On Ho¹, A. Hilberer^{2,3}, L. Toraille^{2,3}, B. Yavkin¹, M.-P. Adam¹, M. Schmidt¹, P. Loubeyre^{2,3}, J. François Roch¹

¹Université Paris-Saclay, CNRS, ENS Paris-Saclay, CentralSupélec, LuMIn, F-91190 Gif-sur-Yvette, France, ²CEA DAM, DIF, F-91297 Arpajon, France, ³Université Paris-Saclay, CEA, Laboratoire Matière en Conditions Extrêmes, 91680 Bruyères-le-Châtel, France

15:10

13.4

Endoscopic magnetic-field sensor based on nitrogen-vacancy centers in diamond

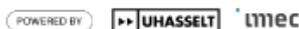
S. Johansson¹, D. Lönard¹, I. Cardoso Barbosa¹, A. Erlenbach¹, A. Bukschat¹, A. Thomas¹, J. Gutsche¹, A. Widera¹

¹Department of Physics and Research Center OPTIMAS, RPTU University Kaiserslautern-Landau, Erwin-Schrödinger-Str., Kaiserslautern, Germany

15:30 Closing “Hasselt Diamond Workshop 2026 – SBDD XXX”.



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HASSELT DIAMOND WORKSHOP 2026 – SBDD XXX

Tuesday, March 3 , 2026

18:00 – 22:00 Registration & Reception *Café Café*.

Wednesday, March 4, 2026

08:30 – 09:10 Registration at the *cultuurcentrum Hasselt*.

09:10 – 09:20 Opening “Hasselt Diamond Workshop 2026 – SBDD XXX”.

09:20 – 10:30 **Session 1**
Field Effect Devices
Chair: **Julien Pernot, CNRS/Université Grenoble Alpes-Institut Néel, France**

10:30 – 11:10 Coffee Break (Grand Banquet Hall)

11:10 – 12:20 **Session 2**
Quantum Physics & Application I
Chair: **Miloš Nesládek, Hasselt University & imec, Belgium**

12:20 SBDD XXX group photo (Lecture Hall)

12:30 – 14:10 Lunch (Grand Banquet Hall)

14:10 – 15:40 **Session 3**
CVD Diamond
Chair: **Satoshi Koizumi, National Institute for Materials Science (NIMS), Japan**

15:40 – 16:20 Coffee Break (Grand Banquet Hall)

16:20 – 17:50 **Session 4**
Quantum Physics & Application II
Chair: **Christoph Becher, Universität des Saarlandes, Germany**

17:50 – 20:00 **Session 5**
Posters I & Reception sponsored by:



Chairs: **Simona Baluchová, Charles University, Czechia; Takayuki Iwasaki, Institute of Science Tokyo, Japan; Anke Krueger, Universität Stuttgart, Germany; Saman Majdi, Uppsala University, Sweden**

20:00 Closing Day 1 “Hasselt Diamond Workshop 2026 – SBDD XXX”.

Thursday, March 5, 2026

09:00 – 10:30 **Session 6**
Quantum Growth & Application
Chair: **Ulrika F. S. D’Haenens-Johansson, Gemological Institute of America (GIA), USA**

10:30 – 11:10 Coffee Break (Grand Banquet Hall)

11:10 – 12:40 **Session 7**
Diamond Electronic Devices
Chair: **Hitoshi Umezawa, National Institute of Advanced Industrial Science and Technology (AIST), Japan**

- 12:40 – 14:10 Lunch (Grand Banquet Hall)
- 14:10 – 14:40 **Session XXX**
Chair: **The SBDD Organisers**
- 14:40 – 15:40 **Session 8**
Diamond Processing & Devices
Chair: **Ken Haenen, Hasselt University & imec, Belgium**
- 15:40 – 17:10 **Session 9**
Posters II
Chairs: **Simona Baluchová, Charles University, Czechia; Takayuki Iwasaki, Institute of Science Tokyo, Japan; Anke Krueger, Universität Stuttgart, Germany; Saman Majdi, Uppsala University, Sweden**
- 17:10– 18:10 **Session 10**
Quantum Sensing
Chair: **Chia-Liang Cheng, National Dong Hwa University, Taiwan**
- 18:10 Closing Day 2 **“Hasselt Diamond Workshop 2026 – SBDD XXX”**.
- 20:00 Conference dinner at the *Ravel & De Boulevard* of the *Holiday Inn*.

Friday, March 6, 2026

- 09:30 – 11:00 **Session 11**
Doped Diamond Devices
Chair: **David Eon, CNRS/Université Grenoble Alpes-Institut Néel, France**
- 11:00 – 11:30 Coffee Break (Grand Banquet Hall)
- 11:30 – 13:00 **Session 12**
Quantum Physics & Application III
Chair: **Tokuyuki Teraji, National Institute for Materials Science (NIMS), Japan**
- 13:00 – 14:10 Lunch (Grand Banquet Hall)
- 14:10 – 15:30 **Session 13**
Quantum Magnetometry
Chair: **Jean François Roch, École normale supérieure Paris-Saclay, France**
- 15:30 Closing **“Hasselt Diamond Workshop 2026 – SBDD XXX”**.

