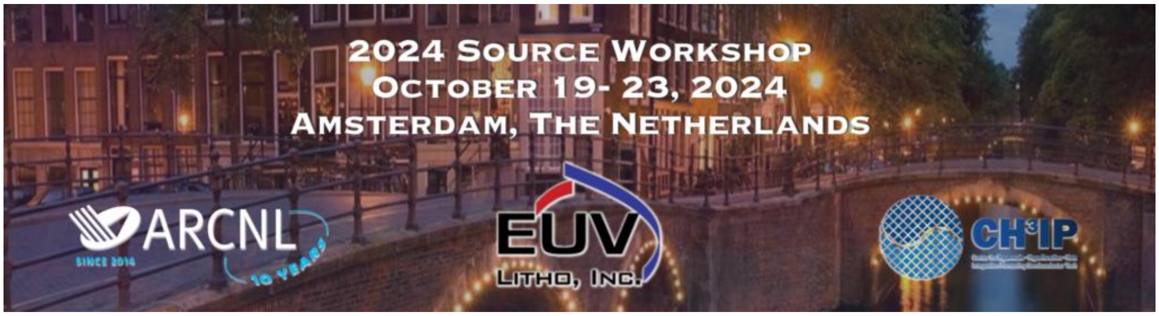

2024 SOURCE WORKSHOP
OCTOBER 19- 23, 2024
AMSTERDAM, THE NETHERLANDS

Workshop Proceedings

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Vivek Bakshi (EUV Litho, Inc), Chair

Oscar Versolato (ARCNL), Co-Chair

2024 Source Workshop Proceedings

Workshop Proceedings

2024 Source Workshop

October 19th – 23rd, 2024

Amsterdam, The Netherlands

2024 Source Workshop

Day One: Monday, October 21st, 2024

4:00 PM – 5:30 PM: Registration and ARCNL Tour

5:30 PM – 6:30 PM: Registration and Welcome Reception

DAY ONE ADJOURNED

2024 Source Workshop

Day Two: Tuesday, October 22nd, 2024

9:00 AM: Session 1: Keynote Presentations

Co-Chair: Oscar Versolato (ARCNL)

0.55 NA EUV lithography: Imaging & Overlay (S1)

Jan van Schoot[1], Sjoerd Lok[1], Rob van Ballegoij[1], Hilbert van Loo[1], Eelco van Setten[1], Simon van Gorp[1], Rudy Peeters[1], Aysegul Cumurcu Gysen[1], Greet Storms[1], Peter Vanoppen[1], Paul Graeupner[2], Olaf Conradi[2], Peter Kuerz[2], and Thomas Stammler[2]

1. *ASML Netherlands B.V., De Run 6501, 5504 DR Veldhoven, The Netherlands*
2. *Carl Zeiss SMT, Rudolf-Eber-Straße 2, 73447 Oberkochen, Germany*

Lithium, a "dream fuel" for actinic inspection? (S5)

Konstantin Koshelev

ISTEQ, High Tech Campus 9, 5656 AE Eindhoven, The Netherlands

10:40AM - 11:00AM: Break

11:00 AM: Session 2 (A): HVM Sources

Co-Chairs: Hakaru Mizoguchi (Kyushu University) and Oscar Versolato (ARCNL)

Plasma-particle interaction under conditions relevant to EUV Lithography: Particle morphology change under long-term H_2 plasma exposure (S49)

Job Beckers

Eindhoven University of Technology, P.O. Box 513, 5600 MB Eindhoven, The Netherlands

Plasma Dynamics and Future of LPP-EUV Source for Semiconductor Manufacturing II (S48)

Hakaru Mizoguchi[1,2], Kentaro Tomita[3], Daisuke Nakamura[1],Yukihiro Yamagata[1], Takeshi Higashiguchi[4], Atsushi Sunahara[5], Katsunobu Nishihara[6], Takashi Toshima[1], Hiroki Kondo[1], Takuji Sakamoto[1], Tanemasa Asano[1], and Masaharu Shiratani[1]

1. *Quantum and Photonics Technology Research Center, Graduate School of Information and Electrical Engineering, Kyushu University,744 Motooka Nishi-ku Fukuoka 819-0395, Japan*
2. *Gigaphoton Inc., 400 Yokokurashinden, Oyama-shi, Tochigi 323-8558, Japan*
3. *Division of Quantum Science and Engineering, Graduate School of Engineering, Hokkaido University, Kita 13, Nishi 8, Kita-ku, Sapporo, Hokkaido 060-8628, Japan.*
4. *Interdisciplinary Graduate School of Engineering Sciences, Kyushu University, Kasuga, Fukuoka 816-8580, Japan*
5. *Center for Materials Under eXtreme Environment (CMUXE), School of Nuclear Engineering, Purdue University, 500 Central Drive, West Lafayette, IN 47907, USA*
6. *Institute of Laser Engineering, Osaka University, 2-6 Yamadaoka, Suita, 565-0871 Osaka, Japan*

Spectroscopic Imaging of Tin Vapor Near Plasma Threshold (S50)

D. J. Engels, H. K. Schubert, M. Kharbedia, W. Ubachs, and O. O. Versolato
Advanced Research Center for Nanolithography (ARCNL), Science Park 106, 1098 XG, Amsterdam, The Netherlands

Power partitioning for 2µm Laser Driven Plasmas (S51)

Dion Engels, Felix Kohlmeier, Edcel Salumbides, Yahia Mostafa, Xyoisan Danser, and Oscar Versolato
ARCNL, Science Park 106, 1098 XG, Amsterdam, The Netherlands

12:00 PM - 1:15 PM: Lunch

1:15 PM: Session 2 (B): HVM Sources

Co-Chairs: Mark van de Kerkhof (ASML) and Ahmed Diallo (PPPL)

EUV induced plasma: fast transients, accumulation and hybrid 3D-PIC model (S45)

Mark van de Kerkhof, Efe Kemaneci, Luuk Heijmans, and Andrei Yakunin
ASML Netherlands B.V., De Run 6501, 5504 DR Veldhoven, The Netherlands

Laser Plasmas Interactions for Microelectronics: Status Update (S46)

A Diallo[1], A. Griffith[1], K. Lezhnin[1], S. Totorica[1], A. Morozov[1], W. Fox[1], M. Simeni[2], and A. Galvanauskas[3]

1. *Princeton Plasma Physics Laboratory (PPPL), 100 Stellarator Rd, Princeton, NJ 08540, USA*

2. *Department of Mechanical Engineering, University of Minnesota, 111 Church Street SE, Minneapolis, MN 55455, USA*
3. *Electrical and Computer Engineering, University of Michigan, 1301 Beal Avenue, Ann Arbor, MI 48109, USA*

Electron Capture in Low-Energy Collisions of Tin Ions with Molecular Hydrogen (S42)

K. Bijlsma[1,2], Emiel de Wit[1,2], L. Tinge[1,2], L. Assink[1,2], L. Oltra[3], I. Rabadán[3], O.O. Versolato[2], L. Méndez[3] and R. Hoekstra[1,2]

1. *Zernike Institute for Advanced Materials, University of Groningen, Zernikeplein 1, 9747 AG Groningen, The Netherlands*
2. *Source Department, Advanced Research Center for Nanolithography (ARCNL), Science Park 106, 1098 XG, Amsterdam, The Netherlands*
3. *Departamento de Química, Universidad Autónoma de Madrid, Facultad de Ciencias (Edificio Ciencias), Calle Francisco Tomás y Valiente, 7, Módulo, 13, 28049 Madrid, Spain*

Effect of target mass on CO_2-driven EUV emitting tin plasma for nanolithography (S41)

J. Gonzalez[1] and J. Sheil[1,2]

1. *Advanced Research Center for Nanolithography (ARCNL), Science Park 106, 1098 XG, Amsterdam, The Netherlands*
2. *Department of Physics and Astronomy, and LaserLaB, Vrije Universiteit, De Boelelaan 1081, 1081 HV Amsterdam, The Netherlands*

2:15 PM - 2:35 PM: Break

2:35PM: Session 3: Modeling and Code Comparison

Co-Chairs: John Sheil (ARCNL) and Samuel Totorica (PPPL)

Code comparison 2024: Summary (S10A)

John Sheil[1], Howard Scott[2], James Colgan[3], Igor Golovkin[4], Akira Sasaki[5], Oscar Versolato[1], Vivek Bakshi[6], and Yuri Ralchenko[7]

1. *Advanced Research Center for Nanolithography (ARCNL), Science Park 106, 1098 XG, Amsterdam, The Netherlands*
2. *Lawrence Livermore National Laboratory, 7000 East Ave., Livermore, CA 94550, USA*
3. *Los Alamos National Laboratory, Bikini Atoll Rd, Los Alamos, NM 87545, USA*
4. *Prism Computational Sciences, Inc., 455 Science Drive, Suite 140, Madison, WI 53711, USA*

5. *Kansai Photon Science Institute, National Institutes for Quantum Science and Technology, 8-1-7 Umemidai, Kizugawa-shi, 619-0215, Kyoto, Japan*
6. *EUV Litho, Inc., 10202 Wommack Rd., Austin, Texas, 78748, USA*
7. *National Institute of Standards and Technology, 100 Bureau Drive, Gaithersburg, MD 20899, USA*

ATOMIC calculations for code comparison (S10B)

J. Sheil[1,2] and J. Colgan[3]
1. *Advanced Research Center for Nanolithography (ARCNL), Science Park 106, 1098 XG Amsterdam, The Netherlands*
2. *Department of Physics and Astronomy, and LaserLab, Vrije Universiteit, De Boelelaan 1081, 1081 HV Amsterdam, The Netherlands*
3. *Los Alamos National Laboratory, Bikini Atoll Rd, Los Alamos, NM 87545, USA*

The model and method used in SPECT3D code to calculate EUV spectrum of Sn (S12)

Igor Golovkin
Prism Computational Sciences, Inc., 455 Science Drive, Suite 140, Madison, WI 53711, USA

The model and method used in JATOM2 code to calculate EUV spectrum of Sn (S13)

Akira Sasaki
Kansai Photon Science Institute, National Institutes for Quantum Science and Technology, 8-1-7 Umemidai, Kizugawa-shi, 619-0215, Kyoto, Japan

Kinetic Simulations of Ion Dynamics in Laser-Driven Tin Plasma EUV Sources (S11)

S. Totorica[1], K. Lezhnin[2], D. Hemminga[3], J. Gonzalez[3], J. Sheil[3], A. Diallo[2], A. Hyder[1], and W. Fox[1]
1. *Princeton University, Princeton, NJ 08544, USA*
2. *Princeton Plasma Physics Laboratory, 100 Stellarator Rd., Princeton, NJ 08540, USA*
3. *Advanced Research Center for Nanolithography (ARCNL), Science Park 106, 1098 XG Amsterdam, The Netherlands*

3:35 PM - 3:55 PM: Break

3:55PM: Session 4: Metrology Sources

Co-Chairs: Yusuke Teramoto (USHIO) and David Reisman (Energetiq)

Status update of EUV light source development for inspection tools (S63)

Keitaro Hayashida, Shinji Tanaka, Masaki Koichi, Masayasu Nishizawa, and Atsushi Tajima
Lasertec Corporation, 2-10-1 Shin-Yokohama, Kohoku-ku, Yokohama 222-8552, Japan

Development progress of Gigaphoton's Sn-LPP EUV light source for inspection systems (S62)

Fumio Iwamoto, Yoshifumi Ueno, Shinji Nagai, Kenichi Miyao, Hideyuki Hayashi, Takuya Ishii, Tamotsu Abe, Hiroaki Nakarai, and Takashi Saito
Gigaphoton Inc., 400 Yokokura Shinden, Oyama-shi, Tochigi 323-8558, Japan

Next-generation Discharge-Produced Plasma (DPP) EUV Source (S61)

D. Reisman[1], D. Arcaro[1], N. Lubinsky[1], K. Saito[2], F. Niell[3], Mike Roderick[1], Aaron Feldman[1], and Chris Lee[1]

1. *Energetiq Technology, Inc., Wilmington, MA 01887, USA*
2. *Hamamatsu Photonics K.K., Japan*
3. *Nielltronix Inc., Tampa, FL 33609, USA*

A compact laser-driven short-wavelength radiation source (S65)

Yusuke Teramoto[1], Paolina Noll[1], Guido Mertens[1], Ralf Kops[1], Margarete Kops[1], Wilko van Nunspeet[1], Marcel Schneider[1], Johannes Ebert[2], Jochen Vieker[2], and Klaus Bergmann[2]

1. *Ushio Germany GmbH, Steinbachstrasse 15, 52074 Aachen, Germany*
2. *Fraunhofer ILT, Steinbachstrasse 15, 52074 Aachen, Germany*

Soft X-ray scatterometry for semiconductor device metrology (S64)

Peter Smorenburg
ASML, De Run 6501, 5504 DR, Veldhoven, The Netherlands

5:10 PM - 5:30 PM: Break

5:30 PM: Session 5: Poster Session

Chair: Vivek Bakshi (EUV Litho)

Predicting the chemical stability of thin film coatings in hydrogen for EUV applications (S81)

Abdul Rehman, Robbert W.E. van de Kruijs, Wesley T.E. van den Beld, Jacobus M. Sturm, and Marcelo Ackermann
Industrial Focus Group XUV Optics, MESA+ Institute for Nanotechnology, University of Twente, Drienerlolaan 5, 7522NB Enschede, the Netherlands

Short-wavelength EUV source by a continuous liquid bismuth jet (S83)

Tatsuya Soramoto[1], Ayaka Ogiwara[1], Hiroki Morita[1], Shinichi Namba[2], and Takeshi Higashiguchi[1]

1. *Department of Electrical and Electronic Engineering, Faculty of Engineering, Utsunomiya University, 7-1-2, Yoto, Utsunomiya, Tochigi 321-8585, Japan*
2. *Department of Advanced Science and Engineering, Hiroshima University, 1-4-1, Kagamiyama, Higashihiroshima, Hiroshima 739-8527, Japan*

Enhancement of the EUV conversion efficiency using multiple-solid-state-laser pulse (S84)

Tsukasa Sugiura[1], Hayato Yazawa[1], Hiroki Morita[1], Atsushi Sunahara[2], Shinichi Namba[3], and Takeshi Higashiguchi[1]

1. *Department of Electrical and Electronic Engineering, Faculty of Engineering, Utsunomiya University, 7-1-2, Yoto, Utsunomiya, Tochigi 321-8585, Japan*
2. *Center for Materials Under Extreme Environment (CMUXE), School of Nuclear Engineering, Purdue University, West Lafayette, Indiana 47907, USA*
3. *Department of Advanced Science and Engineering, Hiroshima University, 1-4-1, Kagamiyama, Higashihiroshima, Hiroshima 739-8527, Japan*

Investigating EUV degradation with in-situ EUV transmission measurements (S82)

Duncan Ramsamoedj, Wesley van den Beld, and Marcelo Ackermann
Industrial Focus Group XUV Optics, MESA+ Institute for Nanotechnology, University of Twente, Drienerlolaan 5, 7522NB Enschede, The Netherlands

Surface Modulations of Free-Flying Liquid Metal Sheets (S85)

H.K. Schubert[1,2], D.J. Engels[1,2], M. Kharbedia[1], and O.O. Versolato[1,2]

1. *Advanced Research Center for Nanolithography (ARCNL), Science Park 106, 1098 XG Amsterdam, The Netherlands*

2. *LaserLab, Department of Physics and Astronomy, Vrije Universiteit Amsterdam, De Boelelaan 1105, 1081 HV Amsterdam, The Netherlands*

Next-Generation DPP EUV Light Source to Support the HVM Lithography Ecosystem (S87)

D. Reisman[1], D. Arcaro[1], K. Saito[2], F. Niell[3], M. Roderick[1], S. Moore[1], W. Neff[1], D. McDaniel[1], and C. Lee[1]

1. *Energetiq Technology, Inc., Wilmington, MA 01887, USA*
2. *Hamamatsu Photonics K.K., Japan*
3. *Nielltronix Inc., Tampa, FL 33609, USA*

Numerical Study of Laser-Produced Plasma Light Source on Improving Conversion Efficiency by Three Pulse Scheme (S89)

Chun-Tse Wu[1], Yao-Li Liu[2], Po-Yen Lai[1], Chia-Hsiang Chen[3], Chun-Lin Chang[3], and Shih-Hung Chen[1]

1. *Physics, National Central University, No. 300, Zhongda Rd., Zhongli District, Taoyuan City 320317, Taiwan*
2. *Institute of Space and Plasma Sciences, National Cheng Kung University, 1 Daxue Rd., East District, Tainan City 70101, Taiwan*
3. *Taiwan Semiconductor Manufacturing Company, 8, Li-Hsin Rd. 6, Hsinchu Science Park, Hsinchu 300-096, Taiwan*

Broadband reflective spectrometer for high-resolution spectral characterization of radiation sources (S90)

Ismael Gisch[1], Sophia Schröder[1], Sven Glabisch[1], Dr. Sascha Brose[1,2,3], Dr. Serhiy Danylyuk[3], Dr. Jochen Stollenwerk[1,2,3], and Prof. Carlo Holly[1,2,3]

1. *Chair for Technology of Optical Systems, RWTH Aachen University TOS, Steinbachstr. 15, 52074 Aachen, Germany*
2. *JARA – Fundementals of Future Information Technology, Jülich, Germany*
3. *Fraunhofer ILT - Institute for Laser Technology, Steinbachstr. 15, 52074 Aachen, Germany*

LEUS: A Novel LPP EUV Light Source with Fast-Rotating Lithium Target and Unique Spectral Brightness (S91)

Alexander Tovstopyat, Mikhail Krivokorytov, Vladimir Gubarev, Nazar Vorona, Sergey Zyryanov, Alexey Zotovich, Alexander Vinokhodov, Vladimir Ivanov, Vladimir Krivtsun, Alexander Lash, Vyacheslav Medvedev, Denis Glushkov, Samir Ellwi, Eugene Gorsky and Konstantin Koshelev

ISTEQ Group, High Tech Campus 9, 5656 AE Eindhoven, The Netherlands

EUV and soft X-ray optical evaluation system development in TOYAMA (S92)

Akira Miyake
TOYAMA Co., Ltd., 3816-1 Kishi, Yamakita-machi, Ashigarakami-gun, Kanagawa 258-0112, Japan

Plasma Modeling at FS Dynamics (S93)

Alessandro Ruocco
FS Dynamics, Polaris Business Park, Espoo 02600, Finland

DAY TWO ADJOURNED

2024 Source Workshop

Day Three: Wednesday, October 23rd, 2024

9:00 AM: Session 6: Keynote Presentations

Chair: Marcelo Ackerman (University of Twente)

3D Nanotomography via Coherent X-ray Lensless Imaging (S3)

Manuel Guizar-Sicairos[1,2]

1. *Paul Scherrer Institute, Villigen 5232, Switzerland*
2. *École Polytechnique Fédérale de Lausanne, Lausanne (EPFL) 1015, Switzerland*

EUV multilayer optics for non-lithography applications (S4)

Torsten Feigl, Marco Perske, Hagen Pauer, Tobias Fiedler, Philipp Naujok, Klara Stallhofer, Tina Seifert, Ernesto Roa Romero, Annika Schmitt, Frank Nebel, Alexander Bergner, and Marcus Trost

optiX fab GmbH, Otto-Schott-Str. 41, 07745 Jena, Germany

Solid state laser drivers for EUV plasma sources (S2)

Peter Moulton

MIT Lincoln Laboratory, 244 Wood Street, Lexington, MA 02421, USA

10:40 AM - 11:00 AM: Break

11:00 AM: Session 7: Laser, HHG and Applications

Chairs: Thomas Metzger (Trumpf) and Brendan Reagan (LLNL)

Ultrafast Thin-Disk Amplifiers & Nonlinear Pulse Compression (S23)

Thomas Metzger and Catherine Teisset

TRUMPF Scientific Lasers GmbH & Co. KG, Feringastr. 10a, 85774 Unterföhring, Germany

High-Flux XUV Beamlines for Imaging and Spectroscopy (S21)

Maxim Tschernajew, Vinzenz Hilbert, Oliver Herrfurth, Christian Gaida, Sven Breitkopf, Tino Eidam, and Jens Limpert

Active Fiber Systems GmbH, Ernst-Ruska-Ring 17, 07749 Jena, Germany

Recent advances on High-Brilliance EUV Sources based on high harmonic generation (S22)

Bastian Manschwetus, Valentina Shumakova, Oscar Naranjo, and Robert Riedel
Class 5 Photonics GmbH, Notkestrasse 85, 22607 Hamburg, Germany

Pulse Shortening with Multipass Cells (S24)

Oleg Pronin[1,2], Christian Franke[2], and Kilian Fritsch[2], Semyon Goncharov[2], and Moinuddin Kadiwala[2]

1. *Helmut Schmidt University, Holstenhofweg 85, 22043 Hamburg, Germany*
2. *n2-Photonics GmbH, Hans-Henny-Jahnn-Weg 53, 22085 Hamburg, Germany*

2µm wavelength fiber lasers for next generation EUV plasma sources (S25)

Jens Limpert

1. *Fraunhofer IOF, Albert-Einstein-Str. 7, 07745 Jena, Germany*
2. *Friedrich-Schiller-Universität Jena, Institute of Applied Physics, Albert-Einstein-Straße 10, 07745 Jena, Germany*
3. *Helmholtz-Institute, Fröbelstieg 3, 07743 Jena, Germany*
4. *Active Fiber Systems GmbH / Member of the TRUMPF Group, Ernst-Ruska ring 17, 07745 Jena, Germany*

Solid state λ ≈ 2 µm laser drivers for EUV lithography (S32)

Brendan Reagan, Craig Siders, Issa Tamer, Zbynek Hubka, Leily Kiani, Jason Owens, Andrew Church, František, Batysta, Tom Galvin, Drew Willard, Andrew Yandow, Justin Galbraith, David Alessi, Colin Harthcock, Brad Hickman, Candis Jackson, James Nissen, Sean Tardif, Hoang Nguyen, Emily Sistrunk, and Thomas Spinka
Lawrence Livermore National Laboratory, 7000 East Ave, Livermore, CA 94550, USA

12:30PM - 2:00 PM: Lunch and Steering Committee Meeting

2:00 PM: Session 8: Optics and Metrology

Co-Chairs: Muharrem Bayraktar (University of Twente) and Sascah Brose (RWTH)

How can we achieve at-resolution metrology in optical microscopy? (S77)

Peter M. Kraus

1. *Advanced Research Center for Nanolithography (ARCNL), Science Park 106, 1098 XG Amsterdam, The Netherlands*
2. *Department of Physics and Astronomy, and LaserLaB, Vrije Universiteit, De Boelelaan 1081, 1081 HV Amsterdam, The Netherlands*

EUV-sources for optics-lifetime and materials testing (S73)

Lucas Poirier, Arnold Storm, Youyou Westland, Karima Tabakkouht Achouri, Corné Rijnsent, Jean-Baptiste Thouvenin, Jacqueline van Veldhoven, Faisal Ali, Kristell Barthélémy, Dirk van Baarle, and Kees de Koning
TNO, Stieltjesweg 1, 2628 CK, Delft, The Netherlands

EUV high intensity exposure setup for small-spot in-band exposures (S76)

Linus Nagel[1], Ismael Gisch[1], Adelind Elschani[1], Sascha Brose[1,2], Annika Bonhoff[1], Serhiy Danylyuk[2], and Carlo Holly[1,2]

1. *Chair for Technology of Optical Systems, RWTH Aachen University TOS, Steinbachstr. 15, 52074 Aachen, Germany*
2. *Fraunhofer ILT - Institute for Laser Technology, Steinbachstr. 15, 52074 Aachen, Germany*

Ultra-compact inline transmission grating spectrograph for extreme ultraviolet wavelengths (EUV-TGS) (S71)

Sascha Brose[1,2], Serhiy Danylyuk[2], Ismael Gisch[1], Lars Lohmann[1], Annika Bonhoff[1], and Carlo Holly[1,2]

1. *Chair for Technology of Optical Systems, RWTH Aachen University TOS, Steinbachstr. 15, 52074 Aachen, Germany*
2. *Fraunhofer ILT - Institute for Laser Technology, Steinbachstr. 15, 52074 Aachen, Germany*

From EBL Gratings to Advanced Photonics for the inspection of Complex Nanostructures (S72)

Analía F. Herrero, V. Truong, S. Rehbein, F. Siewert, F. Scholze, and V. Soltwisch
Physikalisch-Technische Bundesanstalt Braunschweig und Berlin (PTB), Abbestraße 12, 10587 Berlin, Germany

EUV Reflectometry and Non-Destructive Nanoscale Sub-Surface Imaging with HHG Sources (S75)

Martin Wünsche[1,2,3], Silvio Fuchs[1,2,3,4], Johann Jakob Abel[2,3], Julius Reinhard[2,3], and Gerhard G. Paulus[2,3]

1. *Indigo Optical Systems GmbH, Moritz-von-Rohr-Str. 1a, 07745 Jena, Germany*
2. *Institute of Optics and Quantum Electronics, Max-Wien-Platz 1, 07743 Jena, Germany*
3. *Helmholtz Institute Jena, Fröbelstieg 3, 07743 Jena, Germany*
4. *Laserinstitut Hochschule Mittweida, Technikumplatz 17, 09648 Mittweida, Germany*

EUV source metrology using transmissive and diffractive optics (S74)

Muharrem Bayraktar
XUV Optics Group, MESA+ Institute for Nanotechnology, University of Twente, Drienerlolaan 5, 7522 NB Enschede, The Netherlands

3:45 PM - 4:05 PM: Break

4:05 PM: Session 9: EUV Extension - Blue-X

Co-Chairs: Takeshi Higashiguchi (Utsunomiya University) and Ladislav Pina (Rigaku)

Recent progress of beyond EUV sources: fundamental experiments about laser irradiation scheme (S31)

Takeshi Higashiguchi, Hiroki Morita, Kazuyuki Sakaue, Daisuke Nakamura, Eiji J. Takahashi, Atsushi Sunahara, Gerry O'Sullivan, and Shinichi Namba
Department of Electrical and Electronic Engineering, Faculty of Engineering, Utsunomiya University, 7-1-2 Yoto, Utsunomiya, Tochigi 321-8585, Japan

Grazing Incidence Optics Calculations for Plasma and 6.xx nm Coherent Beams (S34)

Ladislav Pina
Rigaku Innovative Technologies Europe, Dolni Brezany 868, 25241 Prague, Czech Republic

Optimizing source-mirrors combinations for EUV lithography (S36)

Marcelo Ackermann
XUV Optics Group, University of Twente, Drienerlolaan 5, 7522 NB Enschede, The Netherlands

Industrialization of Laser-Driven Accelerators & Light Sources (S35)

Bjorn Hegelich[1,2] and Catalin C. Neacsu[1]

1. *TAU Systems Inc., 201 W 5th St Suite 1100, Austin, TX 78701, USA*
2. *University of Texas at Austin, 110 Inner Campus Drive, Stop G0400, Austin, TX 78712, USA*

Enabling a Path to a 2kW EUV Source (S33)

Nicholas Kelez, Chris Anderson, Kevin Heidrich, and Janis Lai
xLight, 380 Portage Ave, Palo Alto, CA 94306, USA

Blue-X Technical Working Group (TWG): Plan B for Extension of EUVL (S37)

Vivek Bakshi
EUV Litho, Inc., 10202 Wommack Road, Austin, TX 78748, USA

5:35 PM - 5:45 PM: Announcements by Vivek Bakshi (EUV Litho, Inc.)

5:45 PM - 6:00 PM: Break

Workshop Adjourned

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