

Science and Technology of Light Sources

Newsletter Issue 05

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Dear colleagues

In this 5th issue of the newsletter *Science and Technology of Light Sources* the reader will see familiar sections, some of which can be found in past issues, but also new forms of updating such as reporting on conferences as it is our goal to always try and find new ways of making this publication useful to the community.

More specifically you will find, in titles, a list of selected papers submitted to the IEEE Nuclear and Plasma Sciences Society's 36th International Conference on Plasma Science (ICOPS) that was held in San Diego USA from May 31 to June 5, 2009. The papers were selected based on their relevance to lighting and display applications.

The newsletter is hoping to become, amongst other things, a medium that will bring to you useful papers from various conferences after careful filtering of the proceedings so that it can provide all the relevant information to the reader in a cost and time effective way as it already does in so many other ways. We invite therefore all interested parties that wish but cannot attend a specific event to contact us should they wish to have such a task carried by us. Proceedings and specific agreements will of course be required.

Once again, the reader will find sections of selected links to light source technology news from leading magazines and periodicals, papers that you have sent us and important events related to the field of light sources, due to take place in the near future.

This periodic publication will always try to increase the range of information it delivers as well as the number of ways for achieving this. Moreover we are open to accommodating the needs of the individual readers and/or the institutions they represent. All you have to do is contact us and kick start a discussion.

Best regards

Spiros Kitsinelis

June 2009

ICOPS 2009 proceedings

Lighting & Flat Panel Displays, Non-equilibrium Plasma Applications (oral presentations)

Microwave Excitation of Metal Halide Plasma Lamps

M. Kettlitz¹, R. Kozakov¹, S. Kahn², R. Gesche², H. Porteanu²

¹INP Greifswald, Greifswald, Germany

²FBH Berlin, Berlin, Germany

Experimental and Theoretical Study of the Warm-up of a High-Pressure Mercury Discharge Close to Steady State

S. Franke¹, H. Schapp¹, Z. Araoud^{2,3}, K. Charrada², G. Zissis^{3,4}

¹INP Greifswald, Greifswald, Germany

²Unit Etude des Milieux ionis et Reactifs, IPEIM, Monastir, Tunisia

³Universite de Toulouse; UPS, INPT, LAPLACE (Laboratoire Plasma et Conversion Energie), Toulouse, France

⁴CNRS, LAPLACE, Toulouse, France

Investigation of Barium Evaporation and Diffusion in Fluorescent Lamps

K. Rackow¹, F. Sigener¹, J. Ehlbeck¹, D. Uhrlandt¹, K. D. Weltmann¹,

G. Lieder², M. Lieberer²

¹INP Greifswald, Greifswald, Germany

²RLS-M, Osram GmbH, Munich, Germany

Effect of Impurities on Discharge Lamps and Beneficial Action of Getters

A. Corazza, S. P. Giorgi, V. Massaro

SAES Getters, Lainate (MI), Italy

Microplasma Lighting: Microcavity Plasma Arrays for Future Lighting Applications

S. -J. Park^{1,2}, J. G. Eden¹

¹Department of Electrical and Computer Engineering, University of Illinois, Urbana, IL, United States

²R & D Center, Eden Park Illumination, Champaign, IL, United States

Reduction of Copper Oxides via an Atmospheric Pressure Plasma Torch

A. J. McWilliams, S. J. Hudak, J. J. Cuomo

Materials Science & Engineering, North Carolina State University, Raleigh, NC, United States

A New Glid-Arc Plasmatron Device for on-Board Plasma-Assisted Reforming of JP-8 Fuels for Auxiliary Power Units

M. J. Gallagher, Jr., A. Plevich, A. Rabinovich, A. Fridman
Drexel University, Philadelphia, PA, United States

Effect of Surface Charge Trapping in Dielectric Barrier Discharge

C. Li¹, X. Wang², M. Li¹, H. Zhan¹

¹Beijing Key Laboratory of High Voltage and EMC, North China Electric Power University, Beijing, China

²Department of Electrical Engineering, Tsinghua University, Beijing, China

Electromagnetic Propagation Effects in a Capacitively Coupled Plasma Reactor

R. Kinder, P. Kothnur

Novellus Systems, Inc., San Jose, CA, United States

Plasmas for Lighting and Flat Panel Displays (posters)

A Strategy Towards the Next Generation of Low Pressure Discharge Lamps

S. Kitsinelis¹, G. Zissis^{2,3}, E. Fokitis¹

¹National Technical University of Athens, Department of Physics, Athens, Greece

²Universite de Toulouse; UPS, INPT, LAPLACE (Laboratoire Plasma et Conversion d'Energie), Toulouse, France

³CNRS, LAPLACE, Toulouse, France

High Power VUV and UV Excilamps

V. F. Tarasenko, S. M. Avdeev, M. V. Erofeev, M. I. Lomaev, E. A. Sosnin, V. S. Skakun, D. V. Shitz

High Current Electronics Institute, Tomsk, Russian Federation

Effect of the Auxiliary External Electrode on Xenon Fluorescent Lamp Depending on Its Diameter

M. Hirahaya, M. Takeda, K. Oka, Y. Toda, H. Motomura, M. Jinno

Department of Electrical and Electronic Engineering, Ehime University, Matsuyama, Japan

Variation of Discharge Parameters Versus Cold Spot Temperature in a 50 Hz AC Operated Fluorescent Lamp

Y. Liu^{1,2}, G. Zissis^{1,3}, D. Buso^{1,3}, S. Bhosle^{1,3}, D. Chen²

¹Universite de Toulouse; UPS, INPT; LAPLACE (Laboratoire Plasma et Conversion Energie), Toulouse, France

²University of Fudan, Institute for Electrical Light Sources, Shanghai, PR China

³CNRS, LAPLACE, Toulouse, France

A Study on the Influence of Operating Circuit on the Position of Emission Point of Fluorescent Lamp

T. Uetsuki¹, Y. Genba¹, T. Kanda²

¹Department of Electrical and Electronic Engineering, Tsuyama National College of Technology, Tsuyama, Okayama, Japan

²Panasonic Electric Works Ltd., Kadoma, Osaka, Japan

A Study on the Relationship Between CCFL's Characteristics and Gas Pressure

T. Uetsuki¹, N. Aoyama¹, Y. Takeda², H. Yano², O. Fukumasa³

¹Department of Electrical and Electronic Engineering, Tsuyama National College of Technology, Tsuyama, Okayama, Japan

²Harison Toshiba Lighting Corp., Imabari, Ehime, Japan

³Yamaguchi Univ., Ube, Yamaguchi, Japan

A Study on the Ignition Characteristics of Magnetic Coupled Electrodeless Lamp

T. Uetsuki¹, M. Fujita¹, M. Saimi², H. Kakehashi²

¹Department of Electrical and Electronic Engineering, Tsuyama National College of Technology, Tsuyama, Okayama, Japan

²Panasonic Electric Works Ltd., Kadoma, Osaka, Japan

Barium Transport in Fluorescent Lamps

F. Sigener¹, K. Rackow¹, D. Uhrlandt¹, J. Ehlbeck¹, G. Lieder²

¹INP Greifswald, Greifswald, Germany

²RLS-M, OSRAM GmbH, Munich, Germany

Fabry-Perot Measurements of Barium Temperature in Fluorescent Lamps

R. C. Garner¹, S. Hadrath²

¹Osram Sylvania Inc, Beverly, MA, United States

²Osram GmbH, Munich, Germany

Microchannel Plasma Devices Fabricated in a Single Sheet of Aluminium Foil: Large Scale Arrays for Photonic Applications

K. S. Kim, J. K. Yoon, S. -J. Park, J. G. Eden

Department of Electrical and Computer Engineering, University of Illinois, Urbana, IL, United States

Three-Dimensional Simulation of an Ac Plasma Display Panel with T-Shaped Electrodes in Waffle Rib Structure

J. Jadidian, E. Hashemi, K. Niayesh

School of Electrical Engineering, University of Tehran, Tehran, Iran

Improvement of Efficiency and Luminous Efficacy of RF Plasma Display Panels by Modified Cell Structure

J. Jadidian, E. Hashemi, K. Niayesh

School of Electrical Engineering, University of Tehran, Tehran, Iran

The Study of Black Matrix Ashing of FPD Industry by Atmospheric Pressure Plasma Technology

W. T. Hsieh, C. D. Tsai, J. U. Lin, C. H. Su, C. H. Liu

Mechanical and Systems Research Laboratories, Industrial Technology Research Institute, Hsinchu, Taiwan

Optimization of Electronic Ballast Drive for the High Power Sodium Vapour Lamps Based on Two-Dimensional Plasma Finite Element Modelling

E. Hashemi, A. Naeiny, J. Jadidian, H. Mohseni

School of Electrical Engineering, University of Tehran, Tehran, Iran

Recent publications

Absolute transition probabilities for 559 strong lines of neutral cerium

J. J. Curry

Journal of Physics D: Applied Physics 42, 135205 (2009)

Impact of ion-quasistatic broadening on the determination of the electron density in a laser-induced plasma from line self-reversal

J. Phys. D: Appl. Phys. 42 (2009) 105202 (5pp)

D Karabourniotis¹, M Ribiere and B G Cheron

Spectroscopic analysis of the excitation transfer from background air to diffusing aluminium laser produced plasma

Journal of Applied Physics, Volume 105, Issue 8, pp. 083309-083309-7 (2009).M. Ribière, D. Karabourniotis, and B. G. Chéron

You can support this project by sending your work in titles that includes any kind of publications and announcements. You can also forward this newsletter to your colleagues and ask them to send their email addresses if they want to be added on the email list. Any messages or material related to the field are welcomed as it is intended to create a Light Sources newsletter with a wide range of topics. Any questions, suggestions or requests can be sent to the project coordinator at skitsinelis@ath.forthnet.gr



EVENTS



International Symposium on Automotive Lighting

September 28-30, 2009, Darmstadt, Germany

Local Organization Chair: Prof. Dr.-Ing. habil. Tran Quoc Khanh
Technische Universität Darmstadt, Laboratory of Lighting Technology
Hochschulstrasse 4a, D-64289 Darmstadt, Germany

Phone: +49/(0)6151/16-6142

Fax: +49/(0)6151/16-5468

Email: info@isal-symposium.de



LED Japan/Strategies in Light is a business-oriented conference and exhibition on high-brightness LEDs produced by PennWell and e.x. Press.

For more information on exhibiting or sponsoring:
USA, Europe, and Asia (Outside Japan): Tim Carli at (650) 941-3438, x23 or tcarli@strategies-u.com , or Jeff Gallagher at (603) 891-9147 or JeffG@pennwell.com
Japan: Manami Konishi +81(3)3556-1578 or manami.konishi@ex-press.jp



15th International Trade Fair
for Lighting, Light Technology
& Intelligent Building Technology

INTERLIGHT MOSCOW
November 10 - 13, 2009 Moscow

2009

INTERLIGHT MOSCOW

15th International Trade Fair for Lighting, Light Technology &
Intelligent Building Technology
November 10 - 13, 2009 Moscow



INTERNATIONAL
LED FORUM MOSCOW
LEDs IN LIGHTING TECHNOLOGIES

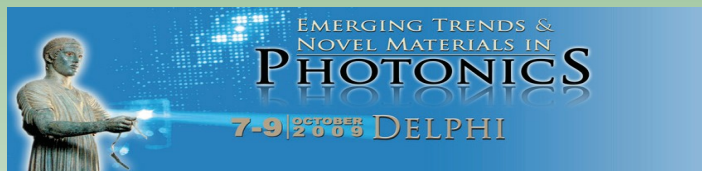


The 3rd **INTERNATIONAL LED FORUM** "LEDs in Lighting Technologies" features state-of-the-art technologies. Renowned scientists and application specialists will present latest findings in semiconductor research, business strategies and application projects. Investment plans of Russian companies will be another important topic.

November 11th - 12th, 2009

Venue: Expocentre Fairgrounds, Moscow

<http://www.ledforum-moscow.com/>



ICO PHOTONICS DELPHI2009

"Emerging Trends and Novel Materials in Photonics"

Organised by the Hellenic Optical Society under the auspices of the International Commission for Optics-ICO, from 7-9 October 2009 in Delphi, Greece.

More info at

<http://www.ico-photonics-delphi2009.org/>



Advanced Lighting EU – Inaugural Conference & Exhibit

June 30 – July 2, 2009, Prague, Czech Republic.

For more information please contact
Derek Mitchell, +1 207 781 9615
derek.mitchell@pira-international.com



IECON 2009 – The 35th Annual Conference of the IEEE Industrial Electronics Society

3-5 November 2009, Porto, Portugal

Special Session on Electronic Ballasts and Lighting Applications organized by
J. Marcos Alonso (marcos@uniovi.es), Universidad de Oviedo, Spain
Francisco Azcondo (azcondof@unican.es), Universidad de Cantabria, Spain
<http://paginas.fe.up.pt/~iecon09>



LEDs Asia 2009

Tuesday, March 31 - Thursday, April 02, 2009
Eaton Hotel | Hong Kong | China

Registration Inquiries: Brian Santos, +1 207 781 9618
brian.santos@pira-international.com

<http://www.ledsasia.com/>



SPIE Photonics West

January 23-28, 2010
San Francisco, California

SPIE Photonics West—the largest photonics event in North America, 23-28 January 2010, at The Moscone Center in San Francisco, California. Organized around four symposia, Biomedical Optics (BiOS), Lasers and Applications (LASE), Optoelectronic Materials, Devices, and Applications (OPTO), and Micro and Nanofabrication (MOEMS-MEMS).

http://spie.org/photonics-west.xml?WT.mc_id=RPW10LEDBVE.



CIOE 2009 LED Expo

September 6 - 9, 2009
Shenzhen, China

The CIOE 2009 will be presenting LEDs, optical communications, sensors, lasers and infrared applications, and precision optics. CIOE 2009 LED EXPO is one of the most important sub-exposition of CIOE, and it is also the earliest LED expo in China. CIOE 2009 LED EXPO, as the earliest LED event in China, is the market leader and trendsetting of LED industry.

www.opto-china.com.



SELECTED LINKS

White organic light-emitting diodes with fluorescent tube efficiency

<http://www.nature.com/nature/journal/v459/n7244/full/nature08003.html>
Nature 459, 234-238 (14 May 2009) | doi:10.1038/nature08003;

Why 2008 was the Year of LED Standards

<http://www.ledsmagazine.com/features/6/4/1>
LEDs Magazine

Avoiding thermal runaway when driving multiple LED strings

<http://www.ledsmagazine.com/features/6/2/2>
LEDs Magazine

Power Integrations achieves 92%-efficient power supply for LED streetlights up to 150 W

<http://www.ledsmagazine.com/products/18711?cmpid=EnILEDsMay272009>
LEDs Magazine

UPEC releases new 10W high power LED

<http://www.ledsmagazine.com/products/18725?cmpid=EnILEDsMay272009>
LEDs Magazine

LED bandage to enable outpatient skin cancer treatment

<http://www.ledsmagazine.com/news/6/5/16?cmpid=EnILEDsMay272009>
LEDs Magazine

LED Design Forum: Optimized control schemes improve LED driver performance

<http://www.ledsmagazine.com/features/6/5/6?cmpid=EnILEDsJune102009>
LEDs Magazine

Japanese researchers double green phosphorescent OLED efficiency

LED Professional Review, May/June issue, page 13

A compact model that can be integrated in 'Flotherm' software is now available on the web for calculating thermal behaviour.

www.osramos.com/thermal-files

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