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11th International Workshop on Inorganic and Organic Electroluminescence

&

2002 International Conference on the Science and Technology of Emissive Displays and Lighting

EL 2002 Ghent

September 23-26, 2002

Ghent University

Ghent, Belgium

http://www.elis.rug.ac.be/EL2002/

Sponsored by
Flemish Ministry of Education and Training
Japan Society for Promotion of Science
Society for Information Display
European Office of Aerospace R&D
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FOREWORD

The EL2002 Conference held in Ghent from September 23 to 26 combines the 11th International Workshop on Inorganic and Organic Electroluminescence and the 2002 International Conference on the Science and Technology of Emissive Displays and Lighting. The aim of **EL2002** is to present a forum for discussing scientific and engineering aspects of organic and inorganic **E**lectro**L**uminescence and of **E**missive displays and **L**ighting.

The "**International Workshop on Electroluminescence**" has been held in Liège, Belgium (1980); Bad Stuer, Germany (1983); Warm Springs, USA (1986); Tottori, Japan (1988); Helsinki, Finland (1990); El Paso, USA (1992); Beijing, China (1994); Berlin, Germany (1996); Bend, USA (1998) and Hamamatsu, Japan (2000). The annual "International Conference on the Science and Technology of Display Phosphors" has been held in San Diego, USA in 1995, 1996, 1999 and 2000, in Huntington Beach, USA in 1997 and in Bend, USA in 1998. Last year, the **2001 International Conference on the Science and Technology of Emissive Displays and Lighting** was held in San Diego, USA.

The program committees have suggested 17 invited speakers. From the numerous abstracts that have been submitted, 30 were selected for oral presentation and 90 for poster presentation. We want to thank the program committees for their help in the selection and review procedures. We acknowledge all the contributors for submitting the manuscripts in time and for preparing their oral or poster presentations.

The oral presentations are thematically distributed over 9 sessions. Specific sessions are devoted to the topics of lighting applications (session 3), interfaces and electrodes for organic EL (session 8) and nanoscale materials (session 9). The poster session on Monday is related with materials, the poster session on Wednesday with devices.

The practical organization of the conference has been carried out by Ghent University, in particular by the Electronics and Information Systems Department (ELIS) and the Solid State Science Department (SSS).

We welcome the participants from countries all over the world to the EL2002 Conference in Ghent. It is the aim of the EL2002 conference

LOCAL ORGANIZING COMMITTEE

P. De Visschere
H. Pauwels
A. De Vos
D. Poelman
K. Neyts
H. Poelman

Conference secretariat

EL2002
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Emissive displays and lighting program committee

C. J. Summers, Chair (Georgia Inst. of Techn., USA)
J. J. Brown (Universal Diplay Corp., USA)
J. Burroughes (Cambridge Display Techn., UK)
P. H. Holloway (Univ. of Florida, USA)
D. Hopper (Air Force Research Lab, USA)
G. E. Jabbour (Univ. of Arizona, USA)
J. McKittrick (UC San Diego, USA)
D. Morton (Army Research Laboratory, USA)
G. O. Mueller (Lumileds, USA)
M. H. Oh (KIST, Korea)
H.D. Park (KRICT, Korea)
R. O. Peterson (Consultant, USA)
L. S. Rohwer (Sandia Nat. Lab., USA)
C. R. Ronda (Philips Research, Germany)
T. Sato (Matsushita Electric. Ind., Japan)
M. Thompson (UC San Diego, USA)
R. Tulis (DARPA, USA)
A. Vecht (Univ. of Greenwich, UK)
B. K. Wagner (Georgia Inst. of Techn., USA)
H. Yamamoto (Tokyo Engin. Univ., Japan)
H. G. Yang (Samsung Display Devices, Korea)
P. N. Yocom (Consultant, USA)

to promote the dissemination of scientific results, to let the participants learn more about related topics and to offer opportunities to ask questions and discuss with colleagues. We hope that the setting of the conference in het Pand, a recently renovated medieval monastery, adjacent to the trafic-free historic center of the city of Ghent may contribute to a pleasant atmosphere during EL2002.

TIMETABLE

	Sunday September 22	Monday September 23	Tuesday September 24	Wednesday September 25	Thursday September 26
8		**Registration**			
8:30			**Inorganic EL Materials**	**Organic EL Materials**	**Phosphor Materials**
9		**Welcome**			
9:30		**Opening**			
10					
10:30		Coffee Break			
11		**Session**	**Lighting Applications**	**Inorganic EL Devices**	**Organic EL Electrodes & Interfaces**
11:30					
12					
12:30		Lunch Break			
13					
13:30					
14		**Poster Session 1**	**Excursion to Brugge**	**Organic EL Devices**	**Nanoscale-**
14:30					
15					Break
15:30				Coffee	
16					**Materials**
16:30				**Poster Session 2**	
17	**Registration**	**City Hall Reception**			**Closing**
17:30					
18					
18:30					

PROGRAM COMMITTEES

Organic EL program committee

J. Salbeck, Chair (Univ. Kassel, Germany)
H. Antoniadis (Osram, USA)
S. R. Forrest (Princeton Univ.,USA)
R. Friend (Univ. Cambridge, UK)
A.J. Heeger (Univ. Calif. at Santa Barbara, USA)
A. Kahn (Princeton Univ., USA)
J. Kido (Yamagata Univ., Japan)
T. Kusumoto (Idemitsu Kosan Co., Japan)
W. Rieß (IBM Research Zürich, CH)
H. Schenk (Covion, Frankfurt, Germany)
Y. Shirota, (Osaka Univ., Japan)
T. Tohma (Tohoku Pioneer, Japan)
C. W.Tang (Eastman Kodak, USA)
S. Tokito (NHK Science & Tech. Res. Labs, Japan)
T. Tsutsui (Kyushu Univ., Japan)
R.J. Visser (Philips Research Eindhoven, NL)

Inorganic EL program committee

K. Neyts, Chair (Ghent Univ., Belgium)
P. Benalloul (Univ. P. et M. Curie, France)
V. Bondar (I. Franko Univ. Lviv , Ukraine)
P. De Visschere (Ghent Univ., Belgium)
C. King (Planar Systems, USA)
A. Kitai (Mc. Master Univ., Canada)
H. Kobayashi (Tottori Univ., Japan)
M. Leskela (Univ. of Helsinki, Finland)
T. Minami (Kanazawa Inst. of Techn., Japan)
Y. Nakanishi (Shizuoka Univ., Japan)
S. Okamoto (NHK, Japan)
D. Poelman (Ghent Univ., Belgium)
S. Tanaka (Tottori Univ., Japan)
J. F. Wager (Oregon State Univ., USA)
T. Welker (Fachhochshule Koln, Germany)
X. Wu (iFire, Canada)
M. Yoshida (Sharp, Japan)
S. J. Yun (ETRI, Korea)

16:30 **Thermodynamic patterning of molecular glasses in electroluminescent and lasing devices**

T. Fuhrmann, M. MüllerWiegand°, G. Georgiev°, E. Oesterschulze°, T. Spehr*, J. Salbeck**

* Macromolecular Chemistry and Molecular Materials, Department of Physics, Center of Interdisciplinary Nanostructure Science and Technology (CINSaT), University of Kassel, Germany; ° Technical Physics, Department of Physics, Center of Interdisciplinary Nanostructure Science and Technology (CINSaT), University of Kassel, Germany

16:50 **Flat light emitting devices with organic luminophors in porous alumina**

*G.G. Gorokh, V.A. Labunov, A.G. Smirnov, A.V. Kukhta**

Belarusian State University of Informatics and Radioelectronics, Belarus; * Institute of Molecular and Atomic Physics, Belarus,

ORGANIZATIONAL DETAILS

Oral Presentations

Please bring your presentation material (portable, slides, transparencies) to the person responsible in the Lecture Hall during the break preceding your session. A PC with CD drive is also available. In this way we may test the functionality.

Poster Presentations

Please put up your poster well before the start of the session. Participants may watch your posters during the breaks. You can leave your poster on the board during the day following your session. Posters must be attached with tape (no pushpins!). Please stay with your poster during the poster session.

Poster Session I (Materials): put up your poster on Sunday/Monday; remove it on Tuesday.

Poster Session II (Devices): put up your poster on Wednesday; remove it on Thursday.

Lunch breaks

During lunch breaks coffee, wine, soft drinks and sandwiches will be served.

Meeting room

At the northern end of the main corridor, on the second floor, a small discussion/meeting-room has been reserved for EL2002 participants, signposted as ‘meeting room’.

Welcome and introduction

The welcome speech will be given by Prof. Willems, pro-Dean of the faculty of applied sciences and pro-Rector of Ghent University.

City Hall reception Monday September 23d

Monday at 16.40h we will gather in the garden, in front of 'Het Pand'.

We will walk in group through the city to the historic city hall.

At 17.00h there will be a Welcome Speech by the Deputy Mayor Mrs. Hoornaert in the city hall, followed by a reception. The reception will end at 18.00h.

Social event and gala dinner Tuesday September 24th

At 13.45 hour , five busses will pick you up at Poel, a small square around the corner of the conference site 'Het Pand'.

At 14.00 hour sharp (i.e. 2 pm) the busses leave for Bruges, where professional guides will show you around the city. Take note of the bus number.

At 19.00 hour (i.e. 7 pm) the busses will drive back to Ghent. Please get on the same bus as for the outward journey.

At 20.00 hour (i.e. 8 pm) you will be dropped off at Sint-Pietersplein.

There, we will enter the historic site called Sint-Pietersabdij, for the gala dinner.

The choir 'Bladelin' will present a musical program.

Please note that between the excursion to Bruges and the gala dinner, there is NO possibility to go anywhere, neither to the conference site nor to your hotel.

If you are registered for the conference, or you paid for additional tickets, you have received a blue ticket for the Bruges trip and a yellow ticket for the Ghent dinner. Do not forget these! After the dinner we hope you are able to walk back to your hotel (take the map of Ghent with you).

Beer tasting reception Wednesday September 25th

During poster session II (devices), you will have the opportunity to taste some of the finest Belgian beers from 17.30 to 19.00.

11:50 **Improving the thermal stability of organic light-emitting diodes by using a modified phthalocyanine layer**
T. Mori, T. Mitsuoka, M. Ishii, H. Fujikawa, Y. Taga
Toyota Central Research and Development Laboratories, Inc., Japan

12:10 **Electro-optical characteristics of new destructive-interference black layer electrode for OLED applications**
A.N. Krasnov, R.P. Wood, D.J. Johnson, W.Y. Kim
Luxell Technologies Inc., Canada

12:30 **Intrinsic degradation mechanism of triarylamine-based blue light-emitting polymer diodes**
J.S. Kim[a,b], P. Ho[a,b], C. Murphy[b], I. Grizzi[b], A. Seeley[a], M. Leadbeater[b], J. Burroughes[b], R. Friend[a,b]
[a] Cavendish Laboratory, University of Cambridge, UK; [b] Cambridge Display Technology, UK

Session 9: Nanoscale Materials

Chair: T. Fuhrmann & A. Meijerinck

14:00 **Two for one: dream or reality?**
A. Meijerink, R.T. Wegh, K.D. Oskam, P. Vergeer
Physics and Chemistry of Condensed Matter, Debye Institute, Utrecht University, The Netherlands

14:30 **Photonic crystal materials and light extraction enhancement possibilities**
R. Baets, W. Bogaerts, D. Delbeke, P. Bienstman, D. Taillaert, B. Luyssaert
Ghent University - IMEC, Department of Information Technology (INTEC), Belgium

15:00 **Electroluminescence from Polymer-Nanosphere Layers**
T. Kietzke, R. Montenegro, K. Landfester*, U. Scherf, M. Förster, P.S. de Freitas, H.H. Hörhold°, D. Neher*
University of Potsdam, * Max Planck Institute of Colloids and Interfaces Golm, ° University of Jena, Germany

15:20 **Development of Inorganic Light Emitting Devices (ILEDs) based on doped ZnS nano-particles**
R. Andriessen
Agfa-Gevaert, Research and Development of New Materials, Belgium

16:10 **Electroluminescent and insulated molecular wires: cyclodextrinthreaded conjugated polyrotaxanes**
F. Cacialli[1,2], J. Wilson[2], J. Michels[3], C. Daniel[2], C. Silva[2], R.H. Friend[2], N. Severin[4], P. Samori[4], J.P. Rabe[4], M.J. OqConnell[3], P.N. Taylor[3], H.L. Anderson[3]
[1] Department of Physics and Astronomy, University College London, UK; [2] Department of Physics, Cavendish Laboratory, University of Cambridge, UK; [3] Department of Chemistry, University of Oxford, Dyson Perrins Laboratory, UK; [4] Department of Physics, Humboldt University Berlin, Germany

THURSDAY, 26 SEPTEMBER

Session 7: Phosphor Materials

Chair: A. Vecht

8:30 **Development of New Phosphor Materials Through Combinatorial Chemistry and Computed Material Design Techniques**
*H.D. Park, C.H. Kim, H. Chang, K.S. Sohn**
Advanced Materials Division, Korea Research Institute of Chemical Technology, Korea; * Department of Material Science & Metallurgical Engineering, Sunchon National University, Korea

9:00 **Evaluation of Full Color Field Emission Display Phosphor Sets**
*F.L. Zhang, J. Penczek, B.K. Wagner, C.J. Summers**
Phosphor Technology Center of Excellence, Georgia Institute of Technology, USA; * School of Materials Science and Engineering, Georgia Institute of Technology, USA

9:20 **Synthesis of Gallium Nitride Powders by Two-Stage Chemical Vapor Method for Phosphor Applications**
K. Hara, E. Okuyama, T. Matsumoto
Imaging Science and Engineering Laboratory, Tokyo Institute of Technology, Japan

9:40 **Influence of the deposition temperature on the luminescent properties of ALCVD ZnS:Cu thin films**
A. Hikavyy, P. De Visschere
ELIS Department, Ghent University, Belgium

10:00 **Peculiarities of degradation of phosphor screens under low energy electrons excitation**
S.A. Bukesov, D.Y. Jeon
Department of Materials Science and Engineering, Korea Advanced Institute of Science and Technology, Korea

Session 8: Organic EL Electrodes & Interfaces

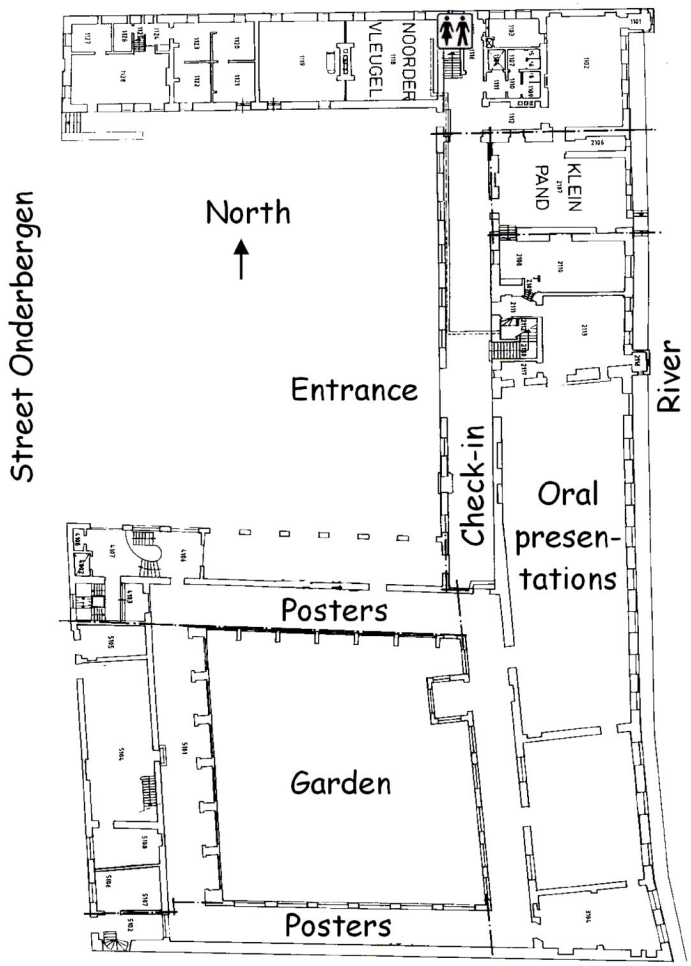
Chair: C.H. Chen

11:00 **High Efficiency Organic EL Devices Having Charge Generation Layer**
J. Kido, T. Nakada, J. Endo, N. Kawamura, K. Mori, A. Yokoi, T. Matsumoto*
* Graduate School of Science and Engineering, Yamagata University, Japan; IMES Co., Ltd., Japan

11:30 **Organic light-emitting diodes using new composite transparent anode**
K. Tamano, D.C. Cho, T. Mori, T. Mizutani, T. Katayama, M. Sugiyama**
Dept. of Electrical Eng., Graduate School of Eng., Nagoya University, Japan; * Tokai Rubber Industries, Ltd., Japan

Program Committee Meeting Wednesday September 25th

At 19.00 hour, we have planned a dinner meeting for the three program committees in the restaurant of 'Het Pand' (ground floor, north of the entrance). If you are a program committee member, please confirm your presence for this meeting by Monday 14.00 hour at the reception desk, so we can make a reservation for the dinner.



MONDAY, 23 SEPTEMBER

Opening Session

Chair: J. Salbeck & C.J. Summers

9:30 **Progress in Organic Light Emitting Diodes**
C.W. Tang
Display Technology Laboratory, Eastman Kodak Company, USA

10:00 **History of TFEL Technology at Planar Systems**
C. King
Planar Systems, Inc., USA

11:00 **Development of New Charge-transporting and Emitting Materials and Their Application in Organic Electroluminescent Devices**
Y. Shirota, K. Okumoto, H. Doi, M. Kinoshita, J. Yu
Department of Applied Chemistry, Faculty of Engineering, Osaka University, Japan

11:30 **Using Phosphors to Generate White Light**
*S.R. Forrest, B. D'Andrade, M.E. Thompson**
Department of Electrical Engineering, Princeton University, USA; * Department of Chemistry, University of Southern California, USA

12:00 **Polymer Light-Emitting Devices and Ink Jet Printing**
E.I. Haskal, H.P. van Broekhuyzen, M. Buechel, I.G. Camps, J.F. Dijksman, P.C. Duineveld, O. Gielkens, M.M. de Kok, M.P. Ligter*, R. Los, E. Meulenkamp, J.E. Rubingh, A. Sempel, P. Snijder, S.I.E. Vulto, P. van de Weijer, S.P.H.M. de Winter*
Philips Research Laboratories, The Netherlands; * Philips Mobile Display Systems, The Netherlands

Poster Session I (Materials)

PI-1 **Mechanisms of recombination in Zn_2GeO_4:Mn photo- and electroluminescence**
*V. Bondar, Y. Dubov, Y. Kononets**
Lviv National University, Department of Physics, Ukraine; * Institute of Semiconductor Physics, Ukraine

PI-2 **Photoluminescent and morphological properties of CaS:Bi thin films**
P.F. Smet, J. Van Gheluwe, D. Poelman, R.L. Van Meirhaeghe
Ghent University, Department of Solid State Sciences, Belgium.

PI-3 **TFEL Phosphor Host / Luminescent Impurity Doping Trends**
*J.F. Wager, J.C. Hitt, B.A. Baukol, J.P. Bender, D.A. Keszler**
Dept. of Electrical & Computer Engr., Oregon State University, U.S.A.; * Department of Chemistry, Oregon State University, U.S.A.

PII-37 **Simulation of the carrier injection of organic light-emitting diode using one-dimensional discontinuous model**
T. Ogawa, D.C. Cho, K. Kaneko, T. Mori, T. Mizutani
Department of Electrical Engineering, Graduate School of Engineering, Nagoya University, Japan

PII-39 **Fabrication of Active Smart Pixel with Polymerized Gate Insulator by Vapor Deposition Polymerization**
S.W. Pyo, J.H. Kim, J.H. Shim, Y.K. Kim°*
Dept. of Electrical Information & Control Eng., Hongik Univ., Korea; * Research Institute of Sci. & Tech., Hongik Univ., Korea; ° Dept. of Chemical Eng., Hongik Univ., Korea

PII-40 **High-efficiency electrophosphorescent light-emitting diodes with Iridium-complex doped double light-emitting layers: combining both hole and electron transport materials as hosts**
X. Zhou, D. Qin, J. BlochwitzNimoth, M. Pfeiffer, K. Leo
Institut für Angewandte Photophysik, Technische Universität Dresden, Germany

PII-41 **Efficient white light-emission in organic multilayer electroluminescence devices**
C.H. Lee, G.W. Kang, Y.J. Ahn, J.T. Lim
Department of Physics, Inha University, Korea

PII-42 **Current transport in multi-layered PVCz polymer LED's with electron and hole transport layers**
Y. Hino, M. Kitagawa, H. Yoshihara, Y. Horii, H. Kusano, H. Kobayashi
Department of Electrical and Electronic Engineering, Tottori University, Japan; Industrial Research Institute, Japan

PII-43 **New Insight into the Electric Field Distribution in OLEDs**
D. Berner[+], E. Tuti[°+], L. Zuppiroli[°]*
[+] CFG microelectronic, Switzerland; [°] LOMM/IMX, Ecole Polytechnique Fédérale, Switzerland; [*] Institute of Physics, Croatia

PII-44 **Three - Amorphous Silicon Thin-Film Transistors-based Active-Matrix Organic Polymer Light-Emitting Displays**
J.H. Kim, D. Lee, J. Kanicki
Solid-State Electronics Laboratory, Department of EECS, The University of Michigan, USA

PII-45 **Remote-plasma modification of the tris-(8-hydroxy-quinoline) aluminum layer in organic light emitting diodes: Correlations with adhesion**
H.M. Grandin, P.R. Norton, K. Griffiths
Department of Chemistry and Interface Science Western, The University of Western Ontario, Canada

Applied Films GmbH & Co. KG, Germany; * Institut für Hochfrequenztechnik, Technische Universität Braunschweig, Germany

PII-27 **Initial Drop of Efficiency in Polymer Light Emitting Diodes**

P. van de Weijer, E.A. Meulenkamp, S.I.E. Vulto
Philips Research Laboratories, The Netherlands

PII-28 **High-Speed Response of Organic Light-Emitting Diodes with a Lithium Metal Cathode**

M. Ichikawa, J. Amagai, Y. Horiba, H. Nakatani, T. Koyama, Y. Taniguchi*
Department of functional Polymer Science, Faculty of Textile Science and Technology, Shinshu University, Japan; * Central R&D Laboratories, Taiyo Yuden Co., Japan

PII-29 **Reverse fabrication process for organic light emitting device**

D. Planchon, L. Segers, M.P. Delplancke, F. Maseri°, R. Winand°*
Université Libre de Bruxelles - Service Génie Métallurgique; * Université Libre de Bruxelles - Service Chimie Industrielle; ° CSA-RDCS - Arcelor Innovation

PII-30 **Electroluminescence of inhomogeneous organic thin film structures**

A.V. Kukhta, E.E. Kolesnik, M.I. Taoubi, S.A. Vorobyova, E.M. Gartsueva*, A.I. Lesnikovich**
Institute of Molecular and Atomic Physics, NAS, Belarus; * Research Institute for Physical and Chemical Problems, Belarussian State University

PII-31 **Improvement of hole-injection in polymer electroluminescent devices by reduction of oxygen deficiency near the ITO surface**

B. Low, F. Zhu, K. Zhang, S. Chua
Institute of Materials Research & Engineering, Singapore

PII-32 **Data-storage devices based on conjugated polymer for memory applications**

H.S. Majumdar, A. Bandyopadhyay, A. Bolognesi, A.J. Pal*
Indian Association for the Cultivation of Science, Department of Solid State Physics, India; * ISMAC-CNR, Italy

PII-33 **Ion beam etching of organic layers and study of the ion effects on their electroluminescent properties**

R. Antony, B. Lucas, A. Moliton
U.M.O.P., EA 1072, Faculté des Sciences et Techniques, France

PII-34 **Encapsulation of Alq3 based OLEDs by vapour deposition polymerisation**

*B. Brousse, B. Ratier, A. Moliton, L. Guyard**
UMOP, Faculté des Sciences et Techniques de Limoges, France; * Université de Franche Comté, Laboratoire de Chimie et dqElectrochimie Moléculaire, France

PII-35 **Controlled Hole Transports in Organic Solids**

S.K. So, H.H. Fong, K.C. Lun
Department of Physics, Hong Kong Baptist University, China

PII-36 **Near-Field UV Lithography of a Conjugated Polymer**

R. Riehn[1], A. Charas[2], J. Morgado[2], F. Cacialli[1,3]
[1] Department of Physics, Cavendish Laboratory, University of Cambridge, UK; [2] Instituto Superior Técnico, Portugal; [3] Department of Physics and Astronomy, University College London, UK

PI-4 **Structural and luminescent characterization of blue-emitting CaS:Cu thin film phosphor**

S.H. Choi, C.O. Park, H.S. Park, S.H.K. Park°, S.J. Yun°*
Department of Materials Sci. & Eng., Korea Advanced Institute of Science and Technology, Korea; * Genitech Inc., Korea; ° Microelectronics Technology Laboratory, Electronics and Telecommunications Research Institute, Korea

PI-5 **Luminescence of Eu^{2+} in Calcium Thiogallate $CaGa_2S_4$**

R.B. Jabbarov[a,c], P. Benalloul[a], C. Barthou[a], C. Fouassier[b], B.G. Tagiev[c], O.B. Tagiev[c], A.N. Georgobiani[d], L.S. Lepnev[d], Y.N. Emirov[d], A.N. Gruzintsev[e]
[a] Laboratoire d'Optique des Solides, Université P. & M. Curie, France; [b] Institut de Chimie de la Matière Condensée de Bordeaux, France; [c] Institute of Physics of Azerbaijan, Academy of Sciences, Azerbaijan; [d] P.N. Lebedev Physical Institute, Russia; [e] Institute of Microelectronics Technology, Russian Academy of Sciences, Russia

PI-6 **Raman investigation of polycrystalline $SrGa_2S_4$ compound**

C. Chartier[a], R. Jabbarov[a,c], M. Jouanne[b], J.F. Morhange[b], P. Benalloul[a], C. Barthou[a], J.M. Frigerio[a], B. Tagiev[c]
[a] Laboratoire d'Optique des Solides; [b] Laboratoire des Milieux Désordonnés et Hétérogènes, Université P. et M. Curie, France; [c] Institut of Physics, Azerbaijan Academy of Sciences, Azerbaijan

PI-7 **Blue Electroluminescence of ZnSe Thin Film**

W. Yu[1,2,3], Z. Xu[1,3], X. Chen[1,2,3], Y. Hou[1,3], D. He[1,3], X. Xu[1,2,3]
[1] Institute of Optoeletronics, Northern Jiaotong University,P.R.China; [2] Changchun Institute of Optics & Fine Mechanics and Physics, P.R.China; [3] The Lab of Materials for Information Storage and Displays, P.R.China

PI-8 **Growth and Characterization of Near-Infrared Emitting Thin Film Electroluminescent Phosphors**

A. Kale, W. Glass, M. Davidson, P. Holloway
University of Florida, Dept. of Materials Science and Engineering, USA

PI-9 **Mn^{2+} and Eu^{2+} Doped Barium Zinc Sulfide Phosphors**

R. Nakagawa, Y. Kinoshita, M. Kawanishi, N. Miura, H. Matsumoto, R. Nakano
Meiji University, Japan

PI-10 **Laser annealing of inorganic thin film phosphors**

D.C. Koutsogeorgis, B. Nassuna, S.C. Liew, R.M. Ranson, W.M. Cranton, C.B. Thomas
The Nottingham Trent University, Centre for Creative Technologies, UK

PI-11 **Vacuum ultraviolet studies of luminescent centers in SrS layers doped with cerium and yttrium**

A.J. Wojtowicz, K. Neyts, W. Drozdowski, P. Szupryczynski*
Institute of Physics, N. Copernicus University, Poland; * ELIS Department, Ghent University, Belgium

PI-12 **Vacuum ultraviolet studies of new phosphor material, $Rb_3Lu(PO_4)_2$:Ce**

A.J. Wojtowicz, D. Wisniewski, W. Drozdowski, J.M. Farmer, L.A. Boatner**

Institute of Physics, N. Copernicus University, Poland; * Solid State Division, Oak Ridge National Laboratory, USA

PI-13 **Low-temperature deposition of the monocrystalline ZnO films by electron-beam evaporation at ion component composition control on the substrate.**

A.N. Gruzintsev, V.T. Volkov, L.N. Matveeva
Institute of Microelectronics Technology, Russian Academy of Sciences, Russia

PI-14 **Luminescence Properties of Aggregation of Oriented ZnO Micro-Hexagonal Prisms Prepared by Chemical Vapor Deposition**

T. Hirate, N. Takei, T. Satoh
Department of Electrical, Electronics and Information Engineering, Kanagawa University, Japan

PI-15 **Luminescent properties of the p-type ZnO:N films**

A.N. Georgobiani, A.N. Gruzintsev, M.O. Vorobiev, V.T. Volkov**
P.N.Lebedev Physical Institute of Russian Academy of Sciencies, Russia; * Institute of Microelectronic Technology and High Purity Materials of Russian Academy of Sciencies, Russia

PI-16 **Luminescence of Pulsed Laser Deposited $Gd_2O_3:Eu^{3+}$ Thin Film Phosphors on Glass Substrate**

K.S. Sohn, S.Y. Seo, S. Lee*, H.D. Park°*
Department of Materials Science and Metallurgical Engineering, Sunchon National University, Korea; * Department of Materials Science and Engineering, K-JIST, Korea; ° Display Phosphor Group, KRICT, Korea

PI-17 **Luminescence properties of $(Eu_xAl_{1-x})_2O_3$ prepared by low temperature combustion synthesis technique**

*O. Ozuna, N. Rakov, G.A. Hirata, J. Mckittrick**
Centro de Ciencias de la Materia Condensada, Universidad Nacional Aut oma de México, México; * University of California at San Diego, Materials Science and Engineering Program and Mechanical and Aerospace Engineering, USA

PI-18 **Structure and Optical Properties of Electron Beam Evaporated Y_2O_3:Eu Films**

M.M. Sychov[1], Y. Nakanishi[2,3], H. Nakajima[3], T. Magami[3], H. Kominami[2], Y. Hatanaka[4]
[1] St. Petersburg State Institute of Technology, Russia; [2] Research Institute of Electronics, Shizuoka University, Japan; [3] Graduate School of Electronics Science and Technology, Shizuoka University, Japan; [4] Aichi University of Technology, Japan

PI-19 **Studies of photoluminescence and radiation induced defects in $YVO_4:Pb^{2+},Eu^{3+}$ red phosphor material**

F.M. Nirwan, T.K.G. Rao, P.K. Gupta°, R.B. Pode*
Department of physics, Nagpur University, India; * Regional Sophisticated Instrumentation Centre, IIT, India; ° Centre for Advance Technology, India

PI-20 **A Degradation Study of Sulfide Phosphors for Field Emission Displays**

B.K. Wagner, P. Manigault, C.J. Summers, B. Cummings°*

*D. Troadec, A. Moliton, B. Ratier, R. Antony, G. Vériot**
U.M.O.P., EA 1072, Faculté des Sciences et Techniques, France; *CEA/Saclay - SE2M/LCOF

PII-17 **Super Bright LED modules and their Application**

M.G. Tomilin, V.S. Abramov, A.E. Puisha*
S.I. Vavilov State Optical Institute, Russia; * Corvet, Moscow, Russia

PII-18 **Generation of plasma emission from porous silicon - a potential plasma display emitter**

H.L. Tam, E.W. Kung, X.X. Zhang, M.L. Gong*, K.W. Cheah*
Department of Physics, Hong Kong Baptist University, China; * School of Chemistry and Chemical Engineering, Sun Yat Sen University, P. R. China

PII-19 **Active Textured Metallic Microcavity**

H.L. Tam, R. Huber, K.F. Li, W.H. Wong°, Y.B. Pun°, S.K. So, K.W. Cheah*
Department of Physics, Hong Kong Baptist University, PRC; * Physik-Department E11, TU München, Germany; ° Department of Electronic Engineering, City University of Hong Kong, PRC

PII-20 **Electroluminescence of diodes with thick fully strained SiGe layers**

T. Stoica, L. Vescan
Institut für Schichten und Grenzflächen, Forschungszentrum Jülich GmbH, Germany

PII-21 **Interface-Induced Luminescence and Lasing at a Type II Single Broken-gap Heterointerface**

K.D. Moiseev, M.P. Mikhailova, A. Krier, Y.P. Yakovlev*
A.F.Ioffe Physico-Technical Institute, Russian Academy of Sciences, Russia; * Department of Physics, Lancaster University, UK

PII-22 **Experimental Proof of Cathodoluminescence-like (CL-like) Emission for Inorganic/Organic Heterojunction**

Z. Xu, C. Qu, X. Xu, X. Chen, S. Zhao, X. Xu
Inst. of Optoelectronics, Northern Jiaotong University, P.R. China

PII-23 **Effects of substrates and heat-treatment atmosphere on the growing behavior and luminous properties of $ZnGa_2O_4$ thin films**

S.M. Chung, Y.E. Lee, Y.J. Kim*
Department of Materials Engineering, Kyonggi University, Korea; * Micro-Electronic Technology Laboratory, ETRI, Korea

PII-24 **Diamond-like Carbon Films as Passivation Layer for Top-Emission AMOLED**

K.j. Chen, J.f. Pai, H. Yang
Toppoly Optoelectronics Corporation, Taiwan

PII-25 **Mixed-signal driver chips for emerging displays**

K. Wiedorn
CLARE Field Application Engineer Central Europe

PII-26 **ITO coating processes for organic LED applications**

*M. Bender, U. Hoffmann, P. Netuschil, A. Klöppel, A. Hellmich, L. Dreyer**

M.K. Samokhvalov, R.R. Davidov
Ulyanovsk State Technical University, Russia

PII-7 **On Role of Temperature in Formation of Self-Organized Patterns in Emission of Bistable ZnS:Mn TFEL Structures**
N.A. Vlasenko, H.G. Purwins, Y.F. Kononets, F.J. Niedernostheide*, L.I. Veligura, S. Zuccaro*, I.A. Gumenyuk*
Institute of Semiconductor Physics, NAS of Ukraine, Ukraine; * Institute of Applied Physics, Westfaelische Wilhelms-Universitaet, Germany.

PII-8 **Effect of photoassisted deposition and annealing on characteristics of ZnS:Mn TFEL devices**
Y.V. Kopytko, N.A. Vlasenko, Z.L. Denisova, Y.F. Kononets, A.A. Vdovenkov, L.I. Veligura*
Institute of Semiconductor Physics, NAS of Ukraine, Ukraine; * Kiev Research Institute of Microdevices, Ukraine

PII-9 **High-luminance TFEL devices using Ga_2O_3:Mn phosphor thin films prepared by a spray coating method**
T. Miyata, T. Utsubo, S. Suzuki, T. Minami
Optoelectronic Device System R&D Center, Kanazawa Institute of Technology, Japan

PII-10 **D.C. Electroluminescence in ZnS:Mn,Cu Powder Phosphors**
R. Withnall, A.J. Staple, D.A. Davies, J. Silver
Centre for Phosphors and Display Materials, University of Greenwich, United Kingdom

PII-11 **Organic Conductors as Front and Back Electrodes in Thick Film Inorganic Electroluminescent Lamps**
JP. Tahon, T. Cloots, P. Willaert, E. Verdonck, R. Van Den Bogaert, F. Louwet
Agfa-Gevaert N.V., Belgium

PII-12 **Electroluminescence of ZnSe/$Cd_xZn_{1-x}Se$ superlattices**
E.N. Agafonov, A.N. Georgobiani, L.S. Lepnev, Yu.G. Sadofyev
P.N. Lebedev Physical Institute of RAS, Russia

PII-13 **Electroluminescent porous silicon microdisplay**
S. Lazarouk, A. Smirnov, V. Labunov, A. Belous, S. Shvedov*, A. Parchomchuk*
State University of Informatics and Radioelectronics, Belarus; * R&D Center “Belmicrosystems SPC “Integral , Belarus

PII-14 **Luminescent Thin Films as Temperature Sensors**
E.J. Bosze[1], G.A. Hirata[1,2], J. McKittrick[1]
[1] University of California, San Diego, Materials Science and Engineering Program and Mechanical and Aerospace Engineering Department, USA; [2] Centro de Ciencias de la Materia Condensada, Universidad Nacional Aut
oma de México, Mexico

PII-15 **Luminescence and photosensitivity of low-dimension porous silicon based heterostructures**
L.S. Monastyrskii, I.B. Olenych, P.P. Parandiy, V.Y. Kavych, B.O. Simkiv
Physical Department, Iv.Franko Lviv National University, Ukraine

PII-16 **Photometry for OLED luminance characterizations**

Phosphor Technology Center of Excellence, Georgia Institute of Technology, USA; * School of Materials Science and Engineering, Georgia Institute of Technology, USA; ° Candescent Technologies, USA

PI-21 **Upconversion luminescence of $KZnF_3:Er^{3+}$**
S. Zhao, Z. Xu, Y. Hou, X. Pei, X. Xu
Institute of Optoelectronic Technology, Northern Jiaotong University, P.R.China; The Lab of Materials for Information Storage and Displays, P.R.China

PI-22 **Colour cathodoluminescence of europium and terbium activated calcium tungstate phosphors**
M.V. Nazarov, M.V. Zamoryanskaya, EJ. Popovici°, L. Ungur°*
Technical University of Moldova, Moldova; * Ioffe Physical-Technical Institute, Russia; ° “Raluca Ripan Institute of Chemistry, Romania

PI-24 **Combustion Synthesis Effects on the Powder of Cerium Activated Yttrium Silicate Phosphor**
E.J. Bosze[1], G.A. Hirata[1,2], J. McKittrick[1]
[1] Materials Science and Engineering Program and Mechanical and Aerospace Engineering Department, Univeristy of California, USA; [2] Centro de Ciencias de la Materia Condensada, Universidad Nacional Aut
oma de México, Mexico

PI-25 **Interface formation between poly (9,9-dioctylfluorene) and alkali metals investigated by photoemission spectroscopy**
M.K. Fung[a], S.L. Lai[a], S.N. Bao[a,b], C.S. Lee[a], W.W. Wu[c], M. Inbasekaran[c], J.J. O’Brien[c], S.T. Lee[a]
[a] Center of Super-Diamond and Advanced Films (COSDAF) & Department of Physics and Materials Science, City University of Hong Kong, China; [b] Institute of Condensed Matter Physics, Zhejiang University, China; [c] Advanced Electronic Materials, The Dow Chemical Company, USA

PI-26 **Synthesis and Electroluminescent Properties of a Novel Polyacrylate-Based Copolymer Bearing Coumarin Pendants**
Z.Y. Lu, X.Q. Wei, Y.L. Chen, W.G. Zhu, M.G. Xie
Faculty of Chemistry, Sichuan University, P.R. China

PI-27 **Transparent flexible substrate based on polyimides with ITO thin films for organic electroluminescent devices**
H. Lim, C.M. Bae, J.W. Park, Y.K. Kim, C.H. Park*, S. Ando°, W.J. Cho, C.S. Ha*
Department of Polymer Science and Engineering, Pusan National University, Korea; * Department of Electrical Engineering, Pusan National University, Korea; ° Department of Organic and Polymeric Materials, Tokyo Institute of Technology, Japan.

PI-29 **Thermal and structural properties of the organic electroluminescent material tris(8-hydroxyquinoline)aluminum (Alq_3)**
M. Cölle, J. Gmeiner*, W. Milius°, H. Hillebrecht°, W. Brütting**
* Experimentalphysik II, Universität Bayreuth, Germany; ° Anorganische Chemie I, Universität Bayreuth, Germany

PI-30 **Study of Conjugated Hyperbranched Electroluminescent Polymers**
Q. He, F. Bai, H. Huang, J. Yang, H. Lin

Lab of Organic solids, Center for Molecular Science, Institute of Chemistry, Chinese Academy of Science, P.R. China

PI-31 **New Synthesis of a Soluble High Molecular Weight Poly(arylene vinylene) derivatives: Monomer synthesis, Polymerisation and Device Properties**

L. Lutsen, S. Gillissen, E. Kesters, T. Munters, H. Roex, P. Adriaensens, D. Vanderzande, J. Gelan
IMEC, Belgium; Limburgs Universitair Centrum, Belgium

PI-32 **Synthesis, characterization and electrical studies of 2-hydroxyacetophenone-biuret-formaldehyde terpolymers**

W.B. Gurnule, P.K. Rahangdale, L.J. Paliwal°, R.B. Kharat**
Department of Chemistry, Kamla Nehru College, India; * Department of Chemistry, Institute of Science, India; ° Department of Chemistry, Hislop College, India.

PI-33 **Emission characteristics of unsymmetrically substituted spiro linked compounds**

R. Pudzich, J. Salbeck
Macromolecular Chemistry and Molecular Materials, University of Kassel, Germany

PI-34 **Optical amplification in spiro-type molecular glasses**

T. Fuhrmann, M. Schörner, T. Spehr, J. Salbeck
Macromolecular Chemistry and Molecular Materials, Department of Physics, Center of Interdisciplinary Nanostructure Science and Technology (CINSaT), University of Kassel, Germany

PI-35 **Novel binuclear gallium complexes with tridentate schiff base ligands: a promising electroluminescent material**

J. Qiao, Y. Qiu, L. Wang, L. Duan*
Organic Optoelectronics Lab, Department of Chemistry, Tsinghua University, China

PI-36 **Photoluminescence and electroluminescence properties of the phosphorescence and fluorescence dye double-doped poly(vinylcarbazole) films**

S. Kan, F. Shen, Y. Ma, G. Zhang, Y. Wang, J. Shen
Key Lab for Superamolecular Structure and Materials of Ministry of Education, Jilin University, P.R. China

PI-37 **Optimisation of europium ß-diketonates for OLEDs**

V. Tsaryuk, V. Zolin*, J. Legendziewicz°, J. Sokolnicki°, V. Kudryashova**
* Institute of Radioengineering and Electronics of RAS, Russia; ° Faculty of Chemistry, University of Wroclaw, Poland

PI-38 **Luminescence properties of some novel poly (phenelene vinylene) derivatives containing oxadiazole segments**

X. Chen[1,2,3,4], Y. Hou[1,4], Z. Xu[1,2,4], W. Yu[1,2,4], X. Xu[1,2,3,4], S. Wang[5]
[1] Institute of Optoeletronics, Northern Jiaotong University,P.R.China; [2] Changchun Institute of Optics & Fine Mechanics and Physics,P.R.China; [3] Institute of Material Physics, Tianjin Institute of Technology,P.R.China; [4] The Lab of Materials for Information Storage and Displays, P.R.China; [5] Department of Chemistry, Beijing University, P.R.China

PI-39 **Optical spectroscopy of organic Alq_3 thin films**

G. Baldacchini, S. Gagliardi, S. Gambino, A. Pace, R.M. Montereali*

14:30 **Recent advances in organic EL research at Sony**

S.i. Tamura
Organic EL Development Department, Core Technology & Network Company, Sony Corporation, Japan

15:00 **Highly efficient OLEDs with doped transport layers**

M. Pfeiffer, S.R. Forrest, X. Zhou, J. Huang*, D. Qin*, J. BlochwitzNimoth*, K. Leo**
Dep. of Electrical Engineering, Princeton University, USA; * Institut für Angewandte Photophysik, Technische Universität Dresden, Germany

15:20 **Organic light-emitting diodes with a graded emissive region**

D. Ma, C.S. Lee, L.S. Hung*, S.T. Lee**
Key State Laboratory of Polymer Physics and Chemistry, Changchun Institute of Applied Chemistry,P.R. China; * Center of Super-Diamond and Advanced Films (COSDAF) & Department of Physics and Material Science, City University of Hong Kong, China,

15:40 **Organic Vapour Phase Deposition (OVPD): A New Production Technology for OLED Display Manufacturing**

M. Schwambera, N. Meyer, S. Leder, M. Reinhold, M. Dauelsberg, G. Strauch, M. Heuken, H. Juergensen, T. Zhou, T. Ngo*, J. Brown*, M. Shtein°, S.R. Forrest°*
AIXTRON AG, Germany; * Universal Display Corporation, USA; ° Department of Electrical Engineering, Princeton University, USA

Poster Session II (Devices)

PII-1 **Capacitively Switched Matrixed AC EL Display**

A.H. Kitai, K.A. Cook, W. Tait**
McMaster University, Canada; * Elite Display Systems, Canada

PII-2 **Thin film electroluminescent devices based on SrS:Cu,Ag**

S.C. Liew, D.C. Koutsogeorgis, W.M. Cranton, C.B. Thomas
The Nottingham Trent University, Center For Creative Technology, United Kingdom

PII-3 **Luminescent Characteristics of Blue-emitting $(Sr_{1-x}Ca_x)S:Cu,F$ Solid Solution TFEL Devices**

M. Ehara, S. Hakamata, H. Kominami, Y. Nakanishi, Y. Hatanaka°*
Graduate School of Electronic Science and Technology, Shizuoka University; * Research Institute of Electronics, Shizuoka University; ° Aichi University of Technology

PII-4 **Role of hybrid EL roughness on the electrical behavior**

G. Stuyven, P. De Visschere, K. Neyts, A. Hikavyy
ELIS Department, Ghent University, Belgium

PII-5 **Thermal annealing of ZnS:Mn TFEL devices fabricated with an organometallic precursor-based ALD process**

G. Stuyven, P. De Visschere, K. Neyts, A. Hikavyy
ELIS Department, Ghent University, Belgium

PII-6 **Determination of the Impact Excitation Cross Section for Luminophor Activators Using Voltage-Luminance Characteristics of Thin-Film Electroluminescent Structures**

and Engineering, USA; ° Department of Inorganic and Physical Chemistry, Indian Institute of Science, India

9:50 **Highly Efficient RGB Emissions from Polymer Light-emitting Diodes using Phosphorescent Polymers**
S. Tokito, M. Suzuki, M. Kamachi, K. Shirane*, F. Sato*
NHK Science and Technology Research Laboratories, Japan; * Corporate R&D Center, Showa Denko K.K., Japan

10:10 **Factors influencing the precise addressing of single pixels in electroluminescent passive matrix displays**
D. Sainova, A. Wedel, S. Barth, J. Wahl**
Fraunfofer Institute for Applied Polymer Research, Germany; * Optrex Europe GmbH, Germany

Session 5: Inorganic EL Devices

Chair: P. Benalloul

11:00 **Recent Development in Hybrid Inorganic Electroluminescent Devices**
X. Wu
iFire Technology Inc. Canada

11:30 **Rare-Earth Doped GaN Phosphors: Growth, Properties and Fabrication of Electroluminescent Displays**
A.J. Steckl, J. Heikenfeld, D.S. Lee, J. Wang, R. Jones
University of Cincinnati, USA

11:50 **Defect Reduction Study of SrS:Cu for Full Color AMEL Displays**
W. Tong, B.K. Wagner, C.J. Summers, S.S. Sun, M. Bowen**
Phosphor Technology Center of Excellence, Manufacturing Research Center, Georgia Institute of Technology, USA; * Planar Systems, USA

12:10 **Inorganic Phosphors and ACTFEL Devices on Flexible Plastic Substrates**
J.P. Bender, J.F. Wager, S. Park, B.L. Clark*, D.A. Keszler**
Department of Electrical and Computer Engineering, Oregon State University, USA; * Department of Chemistry, Oregon State University, USA

12:30 **Electric Field Enhancement for Oxide Phosphor Thin Film Electroluminescent Devices**
A.H. Kitai, S. Li, D. Stevanovic, J. Deng, K.A. Cook
McMaster University, Canada

Session 6: Organic EL Devices

Chair: E. Haskal

14:00 **Optimizing OLED Performance by Using Interference Effects**
H. Riel, T. Beierlein, S. Karg, W. Rieß
IBM Research, Zurich Research Laboratory, Switzerland

ENEA, UTS Tecnologie Fisiche Avanzate, Centro Ricerche Frascati, Italy; * INFM and University of Palermo, Electric Engineering Department, Italy

PI-40 **Influence of annealing in nitrogen, oxygen and ambient atmosphere on the photoluminescence of Alq_3**
G. Baldacchini, R.M. Montereali, A. Pace, T. Baldacchini, R.B. Pode*
ENEA, Centro Ricerche Frascati, Italy; * Department of Chemistry, Boston College, USA; ° Department of Physics, Nagpur University, India

PI-41 **PVCz polymer LED's doped with ZnS:Mn nano-crystalline particle**
T. Murakami, M. Kitagawa, Y. Horii, H. Yoshihara, N. Funabashi, Y. Tanaka, H. Kobayashi
Department of Electrical and Electronic Engineering, Tottori University, Japan

PI-42 **White light emission from PLEDs**
M.M. de Kok, A.J.M. van den Biggelaar, M. Buechel, K. Brunner, I.G.J. Camps, A. van Dijken, C. Liedenbaum, E.A. Meulenkamp, S.I.E. Vulto, P. van de Weijer, S. de Winter, E.I. Haskal
Philips Research Laboratories, The Netherlands

PI-43 **Novel Anthracene-Based Blue Light Emitting Material with High Efficient and High Color Purity**
*Y.H. Kim, H.C. Jeong, K.S. Lee, H.S. Kim, S.K. Kwon**
Engineering Research Institute, Gyeongsang National University, Korea; * Department of Polymer Science & Engineering, Gyeongsang National University, Korea

PI-44 **Novel Fluorene-Based Blue Light Emitting Materials**
S.K. Kwon, Y.H. Kim, D.C. Shin, S.Y. Jung, H. You°, D.H. Shin°, D.J. Joo°, M.A. Ok°*
Department of Polymer Science & Engineering, Gyeongsang National University, Korea; * Research Institute of Industrial Technology, Gyeongsang National University, Korea; ° SK Corp, Korea

PI-45 **Electrophosphorescence Devices Using Novel Cyclometallated Complexes with Bulky Ligands**
S.K. Kwon, S.O. Jung, C.H. Zhao, Y.H. Kim, J.H. Yang°, H.Y. Oh°*
Department of Polymer Science & Engineering, Gyeongsang National University, Korea; * Research Institute of Industrial Technology, Gyeongsang National University, Korea; ° LG Electronic Institute of Technology, Korea

PI-46 **Spectroscopic Characterization of Perylene Tetracarboxylic Di-imide/ Phthalocyanine Mixed Films**
T. Del Caño, R. Aroca, J.A. de Saja*
Física de la Materia Condensada, Facultad de Ciencias, Universidad de Valladolid, Spain; * Materials and Surface Science Group, School of Physical Sciences, University of Windsor, Canada

PI-47 **Characteristics of blue electroluminescence in Perylene doped multi-layered PVCz polymer LED's**
H. Yoshihara, M. Kitagawa, Y. Horii, H. Kusano, H. Kobayashi*
Department of Electrical and Electronic Engineering, Tottori University, Japan; * Industrial Research Institute, Japan

PI-48 **Electroluminescence of polymer/J-aggregate nanocomposites in the near-IR**
E.I. Mal'tsev, D.A. Lypenko, V.V. Bobinkin, B.I. Shapiro, S.V. Kirillov, A.I. Tolmachev, Y.L. Slominsky*, H.F.M. Schoo°, A.V. Vannikov*
Frumkin Institute of Electrochemistry of the Russian Academy of Sciences, Russia; * Institute of organic chemistry, Ukrainian National Academy of Sciences, Ukraine; ° TNO Institute of Industrial Technology, the Netherlands

PI-49 **Enhanced photoluminescence in Europium (III) activated complex for organic light emitting diodes**
R.G. Atram, V.A.L. Roy, R.B. Pode
Department of Physics, Nagpur University, India

TUESDAY, 24 SEPTEMBER

Session 2: Inorganic EL Materials

Chair: H. Kobayashi

8:30 **Oxide phosphors for electroluminescent devices**
T. Minami
Optoelectronic Device System R&D Center, Kanazawa Institute of Technology, Japan

9:00 **New RGB phosphors for full color inorganic EL display**
Y. Yano, T. Oike, K. Nagano
Corporate R&D Center, TDK Corporation, Japan

9:30 **Red Eletroluminescence from MgS:Eu and $Mg_{1-x}Ca_xS$:Eu Thin-Film Phosphors Prepared by RF-Sputtering Technique**
A. Mikami, K. Yamamoto
Kanazawa Institute of Technology, Ishikawa, Japan

9:50 **Stabilization of Blue Ce^{3+} Emission by Rb Doping in SrS:Ce Thin Film Electroluminescent Devices**
H. Fukada, A. Sasakura, T. Kimura, K. Ohmi, S. Tanaka, H. Kobayashi
Department of Electrical and Electronic Engineering, Tottori University, Japan

10:10 **Possibility of RGB Emission by Eu^{2+} ion doped IIa-$IIIb_2$-S_4 phosphors for Full Color Inorganic Electroluminescent Displays**
M. Kawanishi, Y. Ono, R. Nakagawa, N. Miura, H. Matsumoto, R. Nakano
School of Science and Technology, Meiji University, Japan

Session 3: Lighting Applications

Chair: G. Mueller

11:00 **Preparation and characterization of phosphor materials for semiconductor lighting applications**
T. Taguchi

Faculty of Engineering, Yamaguchi University, Japan

11:30 **Interaction between pump source and phosphors in pcLED**
R. MuellerMach, G.O. Mueller, T. Trottier
Lumileds Lighting, Advanced Labs, USA

11:50 **Luminescent properties of ZnO films, doped with Cu, Ag and Au.**
A.N. Gruzintsev, T.W. Nikiforova, V.T. Volkov, C. Barthou, P. Benalloul**
Institute of Microelectronics Technology, Russian Academy of Sciences, Russia; * Laboratoire d'Optique des Solides, Université P. et M. Curie, France

12:10 **Unusual Luminescence Behavior in Eu-Activated Europium Aluminum Oxide**
G.A. Hirata[1,2], F.E. Ramos[2], E.J. Bosze[1], J. McKittrick[1]
[1] University of California at San Diego, Mechanical and Aerospace Engineering Department and Materials Science and Engineering Program, USA; [2] Centro de Ciencias de la Materia Condensada, Universidad Nacional Aut
oma de México, México

12:30 **Emission Characteristic of White Light Phosphor**
K.M. Lee, K.W. Cheah, B.I. An, M.I. Gong*, Y.I. Liu°*
Department of Physics, Hong Kong Baptist University, China; * School of Chemistry & Chemical Engineering, Sun Yat-Sen University, P. R. China; ° Department of Chemistry, Jinan University, P. R. China

WEDNESDAY, 25 SEPTEMBER

Session 4: Organic EL Materials

Chair: J. Kido

8:30 **Recent Developments for Polymers in Light Emissive Applications**
E. Breuning, H. Becker, A. Büsing, A. Falcou, S. Heun, A. Parham, H. Spreitzer, J. Steiger, P. Stößel, K. Treacher
Covion Organic Semiconductors GmbH, Germany

9:00 **A New Yellow Fluorescent Dopant for High-Efficiency OLEDs**
Y.S. Wu, T.H. Liu, C.Y. Iou, C.H. Chen
OLED Technology Research Laboratory, Microelectronics & Information Systems Research Center and Department of Applied Chemistry, National Chiao Tung University, Taiwan

9:30 **Infrared emission from electroluminescent polymer LEDs**
J. Shim, B.S. Harrison, T.J. Foley*, M. Bouguettaya*, N. Ananthakrishnan*, G. Padmanaban°, J.M. Boncella*, S. Ramakrishnan°, J.R. Reynolds*, K.S. Schanze*, P.H. Holloway*
University of Florida, Department of Materials Science and Engineering, USA; * University of Florida, Department of Chemistry and Center for Macromolecular Science