LEMBAR
HASIL PENILAIAN SEJAWAT SEBIDANG ATAU *PEER REVIEW*
KARYA ILMIAH : PROSIDING

Judul Karya Ilmiah (Prosiding)	:	**Photoelectrochemical Characterizations of $CuInS_2$ and $Cu(In,Ga)S_2$ Thin Films Fabricated by A Spray Pyrolysis Method**		
Nama/ Jumlah Penulis	:	**Gunawan/6**		
Status Pengusul	:	penulis ke-2		
Identitas Prosiding	:	a. Judul Prosiding	:	Advanced Materials Research
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		d. Penerbit/Organiser	:	Trans Tech Publications Ltd
		e. Alamat Repository/Web	:	https://www.scientific.net/AMR.894
		Alamat Artikel	:	https://www.scientific.net/AMR.894.427
		f. Terindeks di (jika ada)	:	SJR (Scimago Journal & Country Rank)

Kategori Publikasi Makalah (beri ✓pada kategori yang tepat) : [√] *Prosiding* Forum Ilmiah Internasional
[ ] *Prosiding* Forum Ilmiah Nasional

Hasil Penilaian *Peer Review* :

Komponen Yang Dinilai	Nilai Maksimal Prosiding		Nilai Akhir Yang Diperoleh
	Internasional [30]	Nasional [ ]	
a. Kelengkapan unsur isi prosiding (10%)	3		3
b. Ruang lingkup dan kedalaman pembahasan (30%)	9		9
c. Kecukupan dan kemutahiran data/informasi dan metodologi (30%)	9		8
d. Kelengkapan unsur dan kualitas terbitan /prosiding (30%)	9		9
Total = (100%)	**30**		**29**
Nilai Pengusul =			

Catatan Penilaian artikel oleh Reviewer:

1. **<u>Kesesuaian dan kelengkapan unsur isi jurnal:</u>**
   Artikel yang dimuat sesuai dengan kepakaran penulis. Isi unsur jurnal lengkap sesuai yang dipersyarakan oleh jurnal internasional (Advanced Materials Research). Dengan similarity 14% exclude quote On.
2. **<u>Ruang lingkup dan kedalaman pembahasan:</u>**
   Ruang lingkup jurnal ini tentang karakterisasi fotoelektrokimia lapis tipis $CuInS_2$ dan $Cu(In,Ga)S_2$ yang dibuat dari metoda spray pirolisis. Pembahasannya cukup mendalam dengan menggunakan instrumentasi pengujian yg sangat baik XRD, EDX, dan sifat fotoelektrokimianya diuji dengan mengamati kurva J-V yang diperoleh.
   <u>Kecukupan dan kemutakhiran data/informasi dan metodologi:</u>
   Data/informasi yang disampaikan cukup baik dan mutakhir dan metodologinya disampaikan secara detil sehingga peneliti lain bisa mengacu penelitian ini. Referensi yang digunakan up to date (16% referensi kurang dari 5 th artikel terbit dari 18 jurnal referensi)
3. **<u>Kelengkapan unsur dan kualitas terbitan:</u>**
   Unsur artikel lengkap, kualitas jurnal Kualitas jurnal Advanced Materials Research yang diterbitkan Trans Tech Publications Ltd terindex di scimago dengan SJR 0,14 (2014), h index 33, namun jurnal ini telah diskontinyu dari scopus
   Artikel ini terbit waktu pengusul masih S3 (2012-2015).

Semarang, 25 Juli 2021
Reviewer I

Prof. Dr. Dra. Meiny Suzery, M.S.
NIP. 196005101989032001
Unit Kerja :FSM Universitas Diponegoro
Bidang Ilmu: Kimia Organik

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		Alamat Artikel	:	https://www.scientific.net/AMR.894.427
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Kategori Publikasi Makalah (beri ✓pada kategori yang tepat) : [√] *Prosiding* Forum Ilmiah Internasional
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Hasil Penilaian *Peer Review* :

Komponen Yang Dinilai	Nilai Maksimal Prosiding		Nilai Akhir Yang Diperoleh
	Internasional [30]	Nasional [ ]	
a. Kelengkapan unsur isi prosiding (10%)	3		3
b. Ruang lingkup dan kedalaman pembahasan (30%)	9		9
c. Kecukupan dan kemutahiran data/informasi dan metodologi (30%)	9		8
d. Kelengkapan unsur dan kualitas terbitan /prosiding (30%)	9		7,5
Total = (100%)	**30**		**27,5**
Nilai Pengusul = 0,4/5x27,5=2,2			

1. Kesesuaian dan kelengkapan unsur isi jurnal:
Artikel sesuai dengan kepakaran penulis, lengkap unsur dalam isi jurnal (4) yaitu judul, abstrak (berisi latar belakang, metode dan hasil),Grafik dan tabel disitasi dan dibahas, penulisan sesuai dengan panduan Advanced Materials Research. Kelengkapan jurnal meliputi editor, anggota, reviewer, petunjuk penulisan juga ada. Tata penulisan terjadi cukup baik (3)

2. Ruang lingkup dan kedalaman pembahasan:
Ruang lingkup artikel terkait untuk meneliti penelitian karakterisasi Fotoelektrokimia **lapis tipis $CuInS_2$ dan $Cu(In,Ga)S_2$ yang difabrikasi dengan Metode Spray Pyrolysis,** pembahasan penelitian sudah dilakukan dengan cukup mendalam dalam membahas nya, melibatkan instrumen XRD, EDX untuk menguji telah suksesnya inseting logam In, Ga, dengan menguji karakterisasi sifat elektrokimia LSV dan EQE spektra, Peneleiti juga berupaya untuk menjelaskan anomali dengan eksperimen (9)

3. Kecukupan dan kemutakhiran data/informasi dan metodologi:
Referensi yang digunakan menunjang pembahasan dan metodologi yang digunakan uptodate (16% referensi dengan tahun terbit sebelum 5 tahun artikel ini terbit (2014) dari 18 jurnal. Metodologi singkat telah ditulis dan dibahas (8)

3. Kelengkapan unsur dan kualitas terbitan:
Secara umum kelengkapan unsur artikel lengkap. Kualitas jurnal Advanced Materials Research yang diterbitkan Trans Tech Publications Ltd terindex di scimago dengan SJR 0,14 (2014), h index 33, namun jurnal ini telah diskontinyu dari scopus, dan termasuk quistionable journal oleh Beal's (7,5)
Catatan: Turnitin 14% dengan exclude quote On. Karya Ilmiah ini terbit ketika penulis masih sekolah S3 (2010-2015)

Semarang, 2 Februari 2021

Reviewer II
Prof. Dr. M. Cholid Djunaidi, S.Si, M.Si
NIP. 197007021996031004
Unit Kerja :FSM Universitas Diponegoro
Bidang Ilmu: Kimia Analitik

LEMBAR
HASIL PENILAIAN SEJAWAT SEBIDANG ATAU *PEER REVIEW*
KARYA ILMIAH : PROSIDING

Judul Jurnal Ilmiah (Artikel)	:	**Photoelectrochemical Characterizations of $CuInS_2$ and $Cu(In,Ga)S_2$ Thin Films Fabricated by A Spray Pyrolysis Method**		
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		f. Terindeks di (jika ada)	:	SJR (Scimago Journal & Country Rank)

Kategori Publikasi Jurnal Ilmiah (beri ✓pada kategori yang tepat) : [√] *Prosiding* Forum Ilmiah Internasional
[ ] *Prosiding* Forum Ilmiah Nasional

Hasil Penilaian *Peer Review* :

Komponen Yang Dinilai	Nilai Reviewer		Nilai Rata-rata
	Reviewer I	Reviewer II	
a. Kelengkapan unsur isi prosiding (10%)	3	3	3
b. Ruang lingkup dan kedalaman pembahasan (30%)	9	9	9
c. Kecukupan dan kemutahiran data/informasi dan metodologi (30%)	8	8	8
d. Kelengkapan unsur dan kualitas penerbit (30%)	9	7.5	8.25
Total = (100%)	29	27.5	28.25
Nilai untuk Pengusul : 0.4/5x28.25=2.26			

Semarang,

Reviewer 1

Prof. Dr. Dra. Meiny Suzery, M.S.
NIP. 196005101989032001
Unit Kerja :FSM Universitas Diponegoro
Bidang Ilmu: Kimia Organik

Reviewer 2

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Bidang Ilmu: Kimia Analitik

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Photoelectrochemical characterizations of $CuInS_2$ and $Cu(In,Ga)S_2$ thin films fabricated by a spray pyrolysis method

Ikeda S. , Nonogaki M., Septina W., Gunawan G., Harada T., Matsumura M.

Save all to author list

Research Center for Solar Energy Chemistry, Osaka University, Toyonaka 560-8531, 1-3 Machikaneyama, Japan

Abstract

Polycrystalline $CuInS_2$ chalcopyrite thin films were formed on a Mo-coated glass substrate by annealing of a spray deposited precursor film in a sulfur atmosphere at 600 °C. Partial incorporation of Ga in the $CuInS_2$ film with a Ga/In ratio of ca. 0.2 to form a $Cu(In,Ga)S_2$ mixed crystal was also prepared. Photoelectrochemical (PEC) analyses revealed that the Ga incorporation was effective to modulate

electric and semiconductive properties of the chalcopyrite film. As a result, relatively large cathodic photocurrent responses in PEC analyses as well as high photovoltaic properties of a solar cell based on the Cu(In,Ga)S_2 film were obtained. © (2014) Trans Tech Publications, Switzerland.

Author keywords

Cu chalcopyrite; Photoelectrochemical properties; Solar cell; Spray pyrolysis

Indexed keywords

SciVal Topics

Metrics

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ICAMR 2014
Macau | January 22-23, 2014

Group Photo

ICAMR 2014 was held in Macau during January 22-23, 2014. Conference proceeding would be published by **Advanced Materials Research Journal (ISSN: 1022-6680)**, ISBN: 978-3-03835-032-3, Vol.894 (online (https://www.scientific.net/AMR.894)) index (Ei, Scopus (file:///C:/Users/RENNE/Desktop/2019-09-25-ICAMR-Celine/assets/images/history/ICAMR2014index.jpg))

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Mon - Fri 9:30am-18:00pm

Previous Speakers

Keynote Speaker I

Prof. Alan Lau
Swinburne University of Technology, Australia
(Fellow of EAS&EASA, H-Index 67)

Biodata: In 1987, Dr Lau joined the Hong Kong Aircraft Engineering Company Ltd (HAECO) where he was employed as a craft apprentice in the aircraft maintenance division for 4 years. He received his Bachelor and Master degrees of Engineering in Aerospace Engineering from the Royal Melbourne Institute of Technology (RMIT University, Australia) in 1996 and 1997, respectively. Within that period, he also worked for General Aviation Maintenance Pty Ltd, Australia, as an Engineer Trainee, and for the Corporative Research Centre for Advanced Composite Structures (CRC-ACS) Australia, as a Research Assistant designing a repair scheme for composite performs. He received his Doctor of Philosophy (PhD) from The Hong Kong Polytechnic University in 2001. Thereafter, he was appointed Assistant Professor in 2002 and promoted to Associate Professor and Full Professor in 2005 and 2010, respectively. In 2013, he was appointed as Associate Dean (Industrial Relations) of the Faculty of Engineering and Alex Wong/Gigi Wong Endowed Professor in Product Design Engineering.

Based on his outstanding research performance in the fields of advanced composites, FRP for infrastructure applications, smart structures and nano-materials, he has received numerous awards (for

both research and teaching) including: The Best Paper Awards on Materials (1998), The Sir Edward Youde Memorial Fellowship Award (2000), Young Scientist Award (2002), Young Engineer of the Year Award (2004), Faculty Outstanding Award for Research and Scholarly Activities (2005), Award for Outstanding Research in Nanocomposites for Space Applications, USA (2006), Chemical Physics Letters, Most Cited Paper 2003- 2007 Award, President Award in Teaching 2008, Award for Innovative Excellence in Teaching, Learning and Technology at the 20th International Conference on College Teaching and Learning, USA (2009). He is also the Winner of the Ernest L. Boyer International Award for Excellence in Teaching, Learning, and Technology, in the same Conference (the first scholar outside the United States to receive this honour) and the Most Cited Paper Awards in Composites Part B: Engineering (issued by Elsevier Science). In 2011, Dr. Lau received the Outstanding International Researcher Award and the Outstanding International Research Leader Award from the International Association of Multidisciplinary Research (IAMR). This marks the first time that anyone has received both the awards making his achievement quite exceptional. In 2013, he was also awarded The University Grant Committee (UGC) Award for Teaching Excellence.

Due to his significant contribution to the field of science and engineering, he was elected as a Fellow of the European Academy of Sciences in 2007, with the citation “For profound contributions to materials science and fundamental developments in the field of composite materials”, and was the first scholar in Hong Kong to receive this honor. In 2016, he was also elected as a Fellow of European Academy of Sciences and Arts. Three of his articles published in Composites Part B: Engineering; Composites Science and Technology; and Chemical Physics Letters were ranked in the TOP 1% MOST CITED ARTICLES within their field in 2006 and 2007, according to Essential Science IndicatorsSM. Six of his papers have been ranked among the top 25 hottest articles in Composites Part B: Engineering, issued by ScienceDirect, Elsevier (two of them were ranked No. 1 in 2007). Since 2002, Dr Lau has edited 7 books and published over 260 scientific and engineering articles and his publications have been cited over 21,000 with the h-index of 69. He was named Australia Research Theme Leader in Composite Materials in 2019. Dr. Lau has also actively participated in many consultancy works with the industry. The scope of his works have mainly focused on failure analyses on different engineering systems.

Keynote Speaker II

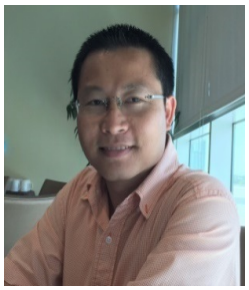
Prof. Ying-Hao Eddie Chu

National Chiao Tung University, Taiwan

(H-Index 68)

Biodata: Professor Ying-Hao Chu received his PhD in the Department of Materials Science & Engineering from National Tsing-Hua University in 2004. Then, he joined University of California, Berkeley as a postdoc. In 2008, he acquired an assistant professorship in the Department of Materials Science & Engineering at National Chiao Tung University. He was promoted to an associate professor in 2015, and then he was promoted to a professor in 2018. From 2019, he was appointed as a distinguished professor. Since 2013, he has an adjunct position in institute of physics, Academia Sinica. In 2014 he started an adjunct position in the Department of Electrophysics, National Chiao Tung University. From 2016 to 2018, he had the adjunct position in the Material and Chemical Research Laboratories, Industrial Technology Research Institute and the International College of Semiconductor Technology at National Chiao Tung university. From 2019, he has an appointment with ACS Applied Electronic Materials to be an associate editor. His research is highly focused on complex functional oxides and strongly correlated electron systems. He has extensive experience in the use of advanced characterization techniques to understand and manipulate functional oxide heterostructures, nanostructures, and interfaces. His current goal is try to create a pathway to use high quality oxide heteroepitaxy for soft transparent technology. Now, he is a pioneer with the most publication along this research direction. He has published more than 280 papers (Web of Science: >15000 citations, h-index=58; Google Scholar: >19000 citations, h-index=68) in academic journals, including Science series (2), Nature series (~25), PNAS (2), ACS Nano & Nano Letters (>25), Advanced (Energy or Functional) Materials (>20), Nano Energy (>5), Physical Review series (>25), Applied Physics Letters (~40).

Keynote Speaker III



Prof. Manh-Huong Phan

University of South Florida, USA

(H-Index 49)

Speech Title: Atomically Thin van der Waals Magnetic Semiconductors Could Revolutionize Spintronics and Quantum Computing

Abstract: Atomically thin magnetic materials are being tapped as the primary components of a new

generation of computing devices based on spintronics (spin + electronics) and quantum computing. In addition to their miniaturization, these two-dimensional magnets enable faster processing speeds, lower energy consumption, and even increased storage capacity. To fully exploit their impressive potential, atomically thin magnetic materials should not require cryogenic temperatures or other special protections in order to function. Therefore, it is essential to have control over their unique atomic-level magnetism at temperatures close to room temperature.

Following our previous discoveries of the strong room temperature ferromagnetism in metallic monolayers of VSe2 [1] and the giant spin Seebeck effect through an interface organic semiconductor [2], the new discoveries of the tunable ferromagnetism and the thermally induced spin flipping effect at room temperature in the semiconducting V-WS2 and V-WSe2 monolayers could revolutionize the spintronics and quantum computing technologies [3,4]. In this talk, I will discuss the latest advances, new challenges and opportunities in the development of atomically thin van der Waals magnetic semiconductors. I will show that exploring two-dimensional magnetism in these semiconductors and their heterostructures will not only advance the field of quantum spintronics, but also enable the exploration of new and exciting dimensionality-driven magnetic phenomena.

Biodata: Dr. Phan is Full Professor of Physics at the University of South Florida. He received B.S., M.S., and Ph.D. degrees in Physics from Vietnam National University (2000), Chungbuk National University – South Korea (2003), and Bristol University – UK (2006), respectively. His research interests lie in the physics and applications of nanomagnetism and nanomaterials, with an expertise on the development of novel materials exhibiting magnetocaloric and magnetoimpedance effects for energy-efficient magnetic refrigeration and smart sensor technologies. Recently, his group has discovered the room temperature ferromagnetism in atomically thin van der Waals magnets that has the potential to transform the fields of spintronics and quantum computing. He has published more than 270 peer-reviewed journal papers (h-index: 49 from Google Scholar), 4 review papers, 4 book chapters, and 1 text book. Presently, he serves as an Editor for the Journal of Electronic Materials, the Editor for Applied Sciences, the Managing Editor for Journal of Science: Advanced Materials and Devices, and the Editorial Board Member of Nature: Scientific Reports. He is a regular reviewer for more than 150 major journals, and received more than 20 outstanding referee awards. He has received two USF Faculty Outstanding Research Achievement Awards (2019, 2017), The USF Outstanding Graduate Faculty Mentor Award - HM (2018), and The Medal for the Development Cause of Vietnam National University - Hanoi (2018). He has delivered keynote, plenary and invited talks at professional meetings on Magnetism and Magnetic Materials (MMM, ICM, APS, MRS, ISAMMA, IcAUMS) and organized international conferences on Nanomaterials, Energy, and Nanotechnology (HISAMD2019, IcAUMS2018, ISAMMA2017, EMN2014).

Plenary Speaker I

Prof. Serge Zhuiykov

Ghent University Global Campus, South Korea

Biodata: Prof. Serge Zhuiykov received Ph.D. in Materials Science and Engineering in 1991 from the State Technical University of Ukraine. After the USSR disintegration at the end of 1991, he immigrated to Australia under the support of young professionals program. Initially, he was working as a Research Scientist at the leading Australian company for 4 years before joining the research team of RMIT University, Melbourne. In 1998 he received the Australasian Ceramic Society/ Ceramic Society of Japan joint prestigious Award for young distinguished scientist. As a recipient of this Award he travelled to Japan, where he established great research networks among the different Japanese Universities. Consequently, he was appointed as Research Associate at the Kyushu University, Japan in 2000. Professor Zhuiykov's research in Japan was dedicated to the development of new nanostructured semiconductor sensors for environmental monitoring of the most important gaseous pollutants such as CO, NOx, NH3, SO2, H2S, CO2 and hydrocarbons (CxHy).

Subsequently, in 2002 he joined Scientific Services Laboratory, Melbourne, which was amalgamated with the Commonwealth Scientific Industrial Research Organization (CSIRO), Australia in 2004. However, he maintained his scientific co-operation with Kyushu University, Japan in 2003 – 2014. As a result of this cooperation, he was an Invited Visiting Professor in 2004, 2005, 2007, 2009, 2010, 2011 and 2013, respectively.

During his time at CSIRO Prof. Zhuiykov was a Stream Leader of the Sensors and Sensor Networks Transformation Capability Platform (2009-2011). He also led several important co-investment scientific projects. His research capabilities and leadership have resulted in his appointment as a Principal Research Scientist in 2012. In addition to his research activities, as an expert, Professor Zhuiykov was a member of 2 Technical Committees of the Standards Australia International (2003-2015). He was also the Leader of the Australian delegation at the International Standards Organization (ISO) TC-21/SC-8 Technical Committee in 2005-2014.

Prof. Zhuiykov is recipient of 2007, 2011 and 2013 Australian Academy of Science and 2010 Australian Government Endeavour Executive Awards for his work on advanced functional nano-crystals and their

applications.

In 2017 he was selected as one of recipients of very prestigious “100 Talents” Program of the Shanxi Province, P.R. China. He also received a title of Distinguished Expert from the Shanxi Province, P.R. China.

Prof. Zhuiykov is the author and co-author more than 250 scientific publications, including 3 monographs: “Nanostructured semiconductors” (Elsevier Science, UK, 2018), “Nanostructured Semiconductor Oxides for the Next Generation of Electronics and Functional Devices” (Woohead Publishing, UK, 2014) “Electrochemistry of Zirconia Gas Sensors” (CRC Press, USA, 2007), 8 book chapters and 15 international patents.

Since 2015 is s Senior Full Professor at the Gent University Global Campus (GUGC) and a Director of Centre for Energy & Environmental Research. His research interests lie in the area of the development, design and fabrication of new two-dimensional nanomaterials for solid-state environmental sensors and other advanced functional devices.

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