

EMRS Symposium T: Materials for Solar Hydrogen via Photo- Electrochemical Production 2011

Energy Procedia Volume 22

**Nice, France
9-13 May 2011**

Editors:

Michael Grätzel

ISBN: 978-1-62748-431-2

ISSN: 1876-6102

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2011) by Elsevier B.V.
All rights reserved.

Printed by Curran Associates, Inc. (2013)

For permission requests, please contact Elsevier B.V.
at the address below.

Elsevier B.V.
Radarweg 29
Amsterdam 1043 NX
The Netherlands

Phone: +31 20 485 3911
Fax: +31 20 485 2457

<http://www.elsevierpublishingsolutions.com/contact.asp>

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2634
Email: curran@proceedings.com
Web: www.proceedings.com

TABLE OF CONTENTS

Great Expectations for Photoelectrochemical Water Splitting	1
<i>S. David Tilley, Michael Grätzel</i>	
Supposed Versatile β-Ta_xO_yN_z Structures: DFT Studies	3
<i>Luigi Abbondanza, Laura Meda</i>	
Study of Photo-cathode Materials for Tandem Photoelectrochemical Cell for Direct Water Splitting	10
<i>Haixiang Zhang, Shujuan Huang, Gavin Conibeer</i>	
Wet Ammonia Synthesis of Semiconducting N:Ta₂O₅, Ta₃N₅ and β-TaON Films for Photoanode Applications	15
<i>Ali Dabirian, Hans Van 'T Spijker, Roel Van De Krol</i>	
Dynamic Phenomenological Modeling of Pec Cells for Water Splitting Under Outdoor Conditions	23
<i>Luisa Andrade, Tania Lopes, Adelio Mendes</i>	
E-MRS/MRS Bilateral Energy Conference Innovative Technological Configurations of Photoelectrochemical Cells	35
<i>Tania Lopes, Paula Dias, Luisa Andrade, Adelio Mendes</i>	
Synthesis and Characterization of La (Ti,Nb)(O,N)₃ for Photocatalytic Water Oxidation	41
<i>Songhak Yoon, Alexandra E. Maegli, Arnim Eyssler, Matthias Trottmann, Takashi Hisatomi, Céline Marie Leroy, Michael Grätzel, Anke Weidenkaff</i>	
On the Photoelectrochemical Properties of TiS₃ Films	48
<i>I. J. Ferrer, M. D. Maciá, V. Carcelén, J. R. Ares, C. Sánchez</i>	
Photocatalytic Splitting of Water into Hydrogen and Oxygen on Organic Dye Modified KTa(Zr)O₃ Catalyst	53
<i>Hidehisa Hagiwara, Masakiyo Nagatomo, Shintaro Ida, Tatsumi Ishihara</i>	
Perovskite-Type LaTiO₂N Oxynitrides for Solar Water Splitting: Influence of the Synthesis Conditions	61
<i>Alexandra E. Maegli, Eugenio H. Otal, Takashi Hisatomi, Songhak Yoon, Céline M. Leroy, Nina Schäuble, Ye Lu, Michael Grätzel, Anke Weidenkaff</i>	
Fabrication and Photoluminescent Properties of Cylindrical and Conicalshaped Titania Nanotube Photoanodes and it's Application in Hydrogen Generation via Photoelectrochemical Process	67
<i>D. Henry Raja, D. Pathinettam Padiyan</i>	
Water Oxidation Catalysis by Molecular Metal-Oxides	78
<i>Andrea Sartorel, Mauro Carraro, Gianfranco Scorrano, Marcella Bonchio</i>	
Synthesis of Various Generations Titania Nanotube Arrays by Electrochemical Anodization for H₂ Production	88
<i>D. Pathinettam Padiyan, D. Henry Raja</i>	
Testing ZnO based Photoanodes for PEC Applications	101
<i>Mareike Trunk, Agnieszka Gorzkowska-Sobas, Vishnukanthan Venkatachalapathy, Tianchong Zhang, Augustinas Galeckas, Andrej Yu. Kuznetsov</i>	
Preparation and Characterization of GaP Semiconductor Electrodes for Photoelectrochemical Water Splitting	108
<i>Jürgen Ziegler, Dominic Fertig, Bernhard Kaiser, Wolfram Jaegermann, Matthias Blug, Sascha Hoch, Jens Busse</i>	
Properties of Ag₂O-MoO₃ and In₂O₃-MoO₃ Compounds as Visible Light Responsive Photocatalysts	114
<i>Kiyosh Kuribayashi, Hirokazu Harigae, Yuuta Suzuki, Yasutaka Uchida</i>	
TaO_xN_y Sputtered Photoanodes For Solar Water Splitting	119
<i>C. M. Leroy, R. Sanjines, K. Sivula, M. Cornuz, N. Xanthopoulos, V. Laporte, M. Grätzel</i>	
Efficient Anodically Grown WO₃ for Photoelectrochemical Water Splitting	127
<i>S. Caramori, V. Cristino, L. Meda, A. Tacca, R. Argazzi, C. A. Bigozzi</i>	
Enhancement of WO₃ Performance through Resonance Coupling with Ag Nanoparticles	137
<i>R. Solarzka, A. Krolikowska, K. Bienkowski, T. Stefaniuk, J. Augustynski</i>	
Author Index	