Sensors, Actuators, and Microsystems (General) – 215th ECS Meeting

Editors:

G. Hunter NASA Glenn Research Center Cleveland, Ohio, USA

S. Bhansali University of South Florida Tampa, Florida, USA

S. Krishnan University of South Florida Tampa, Florida, USA

M. Carter Denver, Colorado, USA

Sponsoring Division:





Published by
The Electrochemical Society

65 South Main Street, Building D Pennington, NJ 08534-2839, USA tel 609 737 1902 fax 609 737 2743 www.electrochem.org

Hesitransactions

Vol. 19 No. 22

Copyright 2009 by The Electrochemical Society. All rights reserved.

This book has been registered with Copyright Clearance Center. For further information, please contact the Copyright Clearance Center, Salem, Massachusetts.

Published by:

The Electrochemical Society 65 South Main Street Pennington, New Jersey 08534-2839, USA

> Telephone 609.737.1902 Fax 609.737.2743 e-mail: ecs@electrochem.org Web: www.electrochem.org

ISSN 1938-6737 (online) ISSN 1938-5862 (print)

Printed in the United States of America.

ECS Transactions, Volume 19, Issue 22 Sensors, Actuators, and Microsystems (General) - 215th ECS Meeting

Table of Contents

Preface	iii
Luminescence of ZnS:Cu,Cl Phosphor Powder Excited by Photons, an Electric Field and Cathode Rays <i>Y. Nien and I. Chen</i>	1
Identification and Validation of Analytical Chemistry Methods for Detecting Composite Surface Contamination and Moisture - Solid-State Electrochemical Sensor Study X. Zhou, J. Zhou, Z. Wang, D. McDaniel, W. Zhang and R. Burton	7
Some Miniaturized Impedance Sensors, Their Application to Flow Measurements and Hyphenation with High-Performance Separations <i>F. Opekar, P. Tuma and K. Stulik</i>	19
 Surface Potential Changes Induced by Physisorption of Si-tagged Protein A on HF-last Si(100) and Thermally Grown SiO₂ surfaces S. Mahboob, K. Makihara, A. Ohta, S. Higashi, Y. Hata, A. Kuroda and S. Miyazaki 	35
Application of Commercial Automotive Sensor Manufacturing Methods for NO _x /NH ₃ Mixed Potential Sensors for Vehicle On-board Emissions Control <i>P. K. Sekhar, E. L. Brosha, R. Mukundan, M. A. Nelson and F. Garzon</i>	45
Mackereth Oxygen Sensor: Measurement Uncertainty L. Nei and M. Lillenberg	55

v

Author Index

65