## The Electrochemical Society

# Science and Technology of Dielectrics for Active and Passive Devices

at the 214th ECS Meeting

ECS Transactions Volume 16 No.21

October 12-17, 2008 Honolulu, Hawaii, USA

Printed from e-media with permission by:

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

ISBN: 978-1-61567-295-0

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

# 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 16, Issue 21
Science and Technology of Dielectrics for Active and Passive Devices

### **Table of Contents**

D C
Pretace
1

Compositional Phase Transition of Amorphous AION S. Yoshida, K. Orita, Y. Hasegawa, A. Mochida and S. Takigawa	1
Interfacial Dipole Measurement of Dielectric/Silicon Interface by X-ray Photoelectron Spectroscopy  K. Kakushima, K. Okamoto, K. Tachi, S. Sato, J. Song, T. Kawanago, P. Ahmet, N. Sugii, K. Tsutsui, T. Hattori and H. Iwai	11
Instability of Chemical Composition in PECVD BPSG film Y. V. Sokolov and Q. Wang	17
The Nonlinear Optical Devices by Using Nano-domain Engineering M. Minakata, H. Awano, M. Ohtsuka, F. Iwata and T. Taniuchi	25
The Effects of Deposition and Processing Parameters on the Electronic Structure and Photoluminescence from Nitride-Passivated Silicon Nanoclusters <i>P. R. Wilson, T. Roschuk, O. Zalloum, J. Wojcik and P. Mascher</i>	33
Author Index	43