2017 Joint IEEE-International Symposium on the Applications of Ferroelectric (ISAF 2017) /International Workshop on Acoustic Transduction Materials and Devices (IWATMD 2017) /Piezoresponse Force Microscopy (PFM 2017)

Atlanta, Georgia, USA 7-11 May 2017



IEEE Catalog Number:

ISBN:

CFP17ISA-POD 978-1-5090-4738-3

Copyright \odot 2017 by the Institute of Electrical and Electronics Engineers, Inc. All Rights Reserved

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

*** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.

 IEEE Catalog Number:
 CFP17ISA-POD

 ISBN (Print-On-Demand):
 978-1-5090-4738-3

 ISBN (Online):
 978-1-5090-4737-6

ISSN: 1099-4734

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) 758-2633

E-mail: curran@proceedings.com Web: www.proceedings.com



Table of content	3
Step Up Switching Capacitor DC -to- DC Converter Using Ferroelectric Capacitor, Abdulaziz Jarallah Alateeq and T.S. Kalkur	5
A Novel Compact Dual-Band Bandstop Filter (DBBSF) Using Spurline & Stepped-Impedance Resonator with A Tunable BST Capacitors, Hamad.G. Alrwuili and T.S.Kalkur,	r 9
$FEM\ Based\ Modeling\ of\ Tunable\ BAW\ Resonators\ With\ Ba_{0.8}Sr_{0.2}TiO_3,\ Daw\ Asderah\ and\ T.\ S.\ Kalkur$	15
Mechanical Pre-Stressing a Transducer through a Negative DC Biasing Field, Stephen C. Butler	19
Bismuth Nickel Niobate with Small Negative Temperature Coefficients of Dielectric Constant, Xiukai C Xiaobo Sun, and Lufeng Pang	Cai, 24
Interface Diffusion of Silver Electrode into Bismuth-based Ceramics and Its Effects on the Dielectric Properties, Xiukai Cai, Xiaobo Sun, and Lufeng Pang	27
The Structure and Dielectric Properties of Bismuth-Nickel-Niobium Oxide Based Ceramics, Xiukai Cai, Xiaobo Sun, and Lufeng Pang	30
Highly (100)-Oriented Metallic LaNiO3 Grown by RF Magnetron Sputtering, Xiao Di and Paul Muralt	33
On the Optimal Electric Loads for Ultrasound Energy Receivers, M. Gorostiaga, M. C. Wapler and U. Wallrabe	37
EMAT Phased Array Probe for Detecting Surface Cracks, Julio Isla, Frederic Cegla	41
Effect of Parameter Variation in UTBB FDSOI-NCFET, P N Kondekar, Bhaskar Awadhiya	45
PVDF/PPy nanofibrous membranes for peripheral nerve lesion treatments, Liangxi Li, Jonathan E Coo Zhongyang Cheng, Xinyu Zhang	k, 48
RF Reactive Sputtering AIN Thin Film at Room Temperature for CMOS-compatible MEMS Application, Wenjuan Liu, Weijiang Xu, Weizhen Wang, Leming He, Jia Zhou, K Radhakrishnan, Hao Yu and Junyan Ren	
Effects of SiO ₂ coating on the dielectric and ferroelectric properties of BaTiO ₃ -SiO ₂ composites, Xu Lu, Yang Tong, Hossein Talebinezhad, Jiachen Liu, Yancen Cai, ZY. Cheng, Xu Lu, Liang Wang	, 56
Reduced hysteresis model and temperature dependency of multilayer piezo actuators, Charles Mangeot	59
Structure, ferroelectric and mechanical performance of polycrystalline gadolinium-doped lead lanthanum zirconate titanate ceramics, S.F. Mansour, A.M. Eid, L. Abd El-Latif, M.M. Rashad, Stephen Ducharme, M. Afifi, J.A. Turner	n 63
Nonlinear electric field dependence of electrocaloric effect in (001)-epitaxial (Ba,Sr)TiO₃ thin films, S. Matsuo, T. Yamada, M. Yoshino, T. Nagasaki, T. Kamo and H. Funakubo	68

Modeling Losses of a Piezoelectric Resonator: Analytical vs Finite Elements Analysis, Thibaut Meurisse and Dragan Damjanovic	e 71
Influence of KCl additives on ferroelectric peroperties of NBT-based ceramics, E.D. Politova, N.V. Golubko, G.M. Kaleva, A.V. Mosunov, N.V. Sadovskaya, D.A. Belkova, S. Yu. Stefanovich	75
Finite element modelling of bilayer porous PZT structures with improved hydrostatic figures of merit, James I. Roscow, Rhodri W.C. Lewis, John Taylor, and Chris R. Bowen	, 78
Control of PbO loss during sintering of PZT: laboratory vs industry, Martin Safar, Tim W. Button, Mare Zabcik	ek 83
Fabrication and characterization of mechanical resonators integrating microcontact printed PZT films Daisuke Saya, Denis Dezest, Thierry Leïchlé, Fabrice Mathieu, Liviu Nicu, Olivier Thomas, Aaron J. Wel Susan Trolier-McKinstry	-
Precise Understanding of Ferroelectric Properties in Metal/Ferroelectric/Insulator/Semiconductor FE with (Ca,Sr)Bi ₂ Ta ₂ O ₉ , Mitsue Takahashi, Wei Zhang, and Shigeki Sakai	Ts 93
Dielectric behavior and non-ohmic behavior of CCTO/SiO $_2$ composites, H. Talebinezhad, Y. Tong, X. Lu and Z. Cheng	ı, 96
Process and Microstructure to Achieve High Dielectric Constant in Ceramic-Glass Composites for Ener Storage Applications, Yang Tong, Hossein Talebinezhad, Xu Lu, Zhongyang Cheng	rgy 101
Embedded Nanotransducer for Ultrahigh-frequency SAW Utilizing AIN/Diamond Layered Structure, L. Wang, S.M. Chen, X. Ning, Z. Chen, J.T. Liu, J.Y. Zhang	106
Evaluation of a Novel Piezoelectric Bridge Transducer, G. Yesner and A. Safari, A. Jasim, H. Wang, B. Basily, and A. Maher	110
Improved Resistivity in Bismuth Deficient Morphotropic Phase Boundary 0.88BNT-0.08BKT-0.04BT Ceramics, G. Yesner and A. Safari	113
Modeling of Lamb Waves Excited by Inter-digital Transducers Deposited on Piezoelectric Plates, Tai-H Yu	Но 116