

3rd International Conference on Materials and Intelligent Manufacturing (ICMIM 2019)

IOP Conference Series: Materials Science and Engineering
Volume 654

Incheon, South Korea
19 - 22 August 2019

ISBN: 978-1-5108-9849-1
ISSN: 1757-8981

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.

This work is licensed under a Creative Commons Attribution 3.0 International Licence.
Licence details: <http://creativecommons.org/licenses/by/3.0/>.

No changes have been made to the content of these proceedings. There may be changes to pagination and minor adjustments for aesthetics.

Printed with permission by Curran Associates, Inc. (2020)

For permission requests, please contact the Institute of Physics
at the address below.

Institute of Physics
Dirac House, Temple Back
Bristol BS1 6BE UK

Phone: 44 1 17 929 7481
Fax: 44 1 17 920 0979

techtracking@iop.org

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
Email: curran@proceedings.com
Web: www.proceedings.com

Table of contents

Volume 654

3rd International Conference on Materials and Intelligent Manufacturing (ICMIM)

19–22 August 2019, Incheon, South Korea

Accepted papers received: 19 September 2019

Published online: 28 October 2019

Preface

[Preface](#)

[Conference committee](#)

[Peer review statement](#)

Papers

Mechanical Engineering

[Chatter Identification in End Milling Process Based on Cutting Force Signal Processing](#)

M Q Tran and M K Liu.....1

[Investigation of Aluminium and Copper Wound PMSM for Direct–drive Electric Vehicle Application](#)

Himavarsha Dhulipati, Shruthi Mukundan, Lucas Chauvin, Christina Riczu, Afsaneh Edrisky, Mark Kozdras, Jennifer Bauman, Saeid Habibi, Jimi Tjong and Narayan C. Kar.....8

[Health Condition Evaluation of Servo Turret Based on Time Sequence Signal Feature Map](#)

W Z Chen, F Chen, T Ma and B B Xu.....15

[Performance Analysis of Non–Oriented Electrical Steel with Optimum Texture for High–Speed Traction Motors](#)

Shruthi Mukundan, Mehdi Mehdi, Himavarsha Dhulipati, Lucas Chauvin, Afsaneh Edrisky, Youliang He, Jimi Tjong and Narayan C. Kar.....22

Nanometer Materials

[A Comparison Study of Magnetic Stirrer and Sonicator Technique to Disperse 1% Span20 Treated Layered Double Hydroxides \(LDHs\)](#)

S Teanmetawong, T Chantaramanee, S Lhosupasirirat, A Wongariyakawee and T Sriksirin.....28

[Effect of Reacting Temperature on the Microstructure and Electronic Property of Self-ordered TiO₂ Nanotube Arrays](#)

Jiangyi Yan.....34

[Investigation of Citrate Modified Layered Double Hydroxides by Bead Milling Technique](#)

T Chantaramanee, S Teanmetawong, S Lhosupasirirat, A Wongariyakawee and T Sriksirin.....40

[Soot Oxidation Studies on SrMn_{0.98}B_{0.02}O₃ \(B – Fe, Ni\) Perovskites](#)

Hari Prasad Uppara, Armaan Feroz, Nithin Samuel John, Sunit Kumar Singh, Nitin K Labhsetwar and Harshini Dasari.....46

Nanocomposites

[The Preparation of Highly Transparent Layered Double Hydroxides \(LDHs\)-Poly\(Methyl Methacrylate\) \(PMMA\) Nanocomposites Sheets by Batch Cell Polymerization Method](#)

K Joonlapak, P Wiwattanakul, T Jirathampradhab, T Akhadejdamrong, A Wongariyakawee and T Sriksirin.....52

[The Structure and Properties of Sn/SiSn-nanodisperse Alloy Thin Films](#)

Xiangdong Jiang, Mingcheng Li, Yangzhou Ming, Jimin Wang and Wei Li.....58

[Development of Immunochromatographic Test Strip based on Quantum Dot Nanoparticles \(QDs\)](#)

T Sioloetwong, A Kopwitthaya, N Sathirapongsasuti, K Nawattanapaiboon, C Kitiyakara and T Sriksirin.....65

Material Processing

[Chip Geometry Modelling of 2-Dimension Ultrasonic Vibration Assisted Machining \(2D UVAM\) on Micromilling Machine With End Mill](#)

Gandjar Kiswanto, Y R Johan, Poly and T. J. Ko.....70

[The Effects of Cutting Parameters to the Surface Roughness in Low Speed Machining of Micro-milling of Titanium Alloy Ti-6Al-4V](#)

Gandjar Kiswanto, A Mandala, M Azmi and T. J. Ko.....77

[The Effect of Machining Parameters to the Surface Roughness in Low Speed Machining Micro-milling Inconel 718](#)

Gandjar Kiswanto, M Azmi, A Mandala and T. J. Ko.....84

[Development of Langevin Piezoelectric Transducer-based Two Dimensional Ultrasonic Vibration Assisted Machining \(2D UVAM\) on 5-axis Micro-milling Machine](#)

Gandjar Kiswanto, Poly, Y R Johan, T. J. Ko and R Kurniawan.....91

Material Science

[Investigation of Structure and Tensile Properties of Betel Palm Sheath](#)

C Choonamchai, D Panwised, P Mitsomwang and R Borrisutthekul.....99

[Lithium Salt Doped Poly\(Vinylidene Fluoride\)/Cellulose Acetate Composite Gel Electrolyte Membrane for Lithium Ion Battery](#)

Muhammad Rehman Asghar, Muhammad Tuoqeer Anwar, Tahir Rasheed, Ahmad Naveed, Xiaohui Yan and Junliang Zhang.....105