

International Virtual Conference on Recent Trends in Materials Science (ICRTMS 2021)

IOP Conference Series: Materials Science and Engineering
Volume 1233

Online
22 October 2021

Editors:

**Augustine George
A. Sevuga Pandian**

**M. Ambrose Rajkumar
Ajith S. Kumar**

ISBN: 978-1-7138-5436-4
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. (2022)

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

Proceedings of the International Virtual Conference on Recent Trends in Materials Science
ICRTMS 2021

Peer Review Statement

Dosage optimisation of magnetically retrievable zinc ferrite nanoparticles for photodegradation of methylene blue	1
<i>Minu Pius, Santhi Ani Joseph</i>	
Thermal and structural studies of Bismuth Borate glasses modified with Gadolinium Oxide for solid state lighting applications	9
<i>M Prasanth, N Ravi, K Thyagarajan, K Venkata Krishnaiah</i>	
Temperature dependent magnetic studies of Ba _{0.5} Sr _{0.5} Co _{0.2} Fe _{11.8} O ₁₉ prepared by solid state reaction method	14
<i>V Argish, M G Shalini, Subasa C Sahoo</i>	
Crossover from intrinsic to extrinsic magneto transport in La _{1-x} Pb _x MnO ₃ perovskite systems	20
<i>M Sravan Kumar, P Bala Bhaskar, G Narsinga Rao, D. Suresh Babu</i>	
Study of the utility of Fe ₂ O ₃ -Au nanocomposite in photodynamic therapy	28
<i>Divya Rajan, Frincy Francis, Daniya Thomas, Meenakshi Ramankutty, Santhi Ani Joseph</i>	
Amplified spontaneous emission from ZnO nanostructures as scatterers in rhodamine 6G.....	37
<i>K R Devika, Merin Joby, Frincy Francis, C P Jinsi, Riju C Issac, Santhi Ani Joseph</i>	
Facile one pot hydrothermal synthesis of reduced graphene oxide-tin disulfide (rGO-SnS ₂) nanohybrid material and their optical and structural investigation.....	46
<i>N S Das, A Chowdhury, A Roy</i>	
Study of the influence of wire metals on dissimilar welds	52
<i>M.F. Benlammouar, N. Bensaid, R. Badji, T. Saadi, M. Zidani, M.A. Soualili</i>	
Iron oxide nanoparticles mediated hyperthermia on cancer cell lines	60
<i>T Samuel Reinhard, Umme Hani Khanum, Elcey C Daniel</i>	
Al ³⁺ and Cr ³⁺ co-substituted NiZnCo nano ferrites: synthesis and structural properties	72
<i>G. Vishnu Priya, N. Murali, J. Madhuri Sailaja, Vemuri Ragavendra, D. Parajuli, P.V. Lakshmi Narayana</i>	
Giant dielectric behavior in NdCrO ₃ perovskite nanoparticles	78
<i>Jada Shanker, J Ananthaiah, N Pavan Kumar, Kasarapu Venkataramana, M Anand Pandarinath, U P Ujwal, P. Raju, E Meher Abhinav, D Suresh babu</i>	
Microstructural and mechanical characterization of HSLA X70 Welded joints using eddy current testing (ECT)	86
<i>N. Bensaid, M. F. Benlammouar, R. Badji, T. Saadi, M. Zidani, M. Gousmine</i>	

Author Index