

NANOSISTEMI, NANOMATERIALI, NANOTEHNOLOGII

FOUNDED IN OCTOBER, 2003

Volume 20, Issue 2 (2022)

CONTENTS

Editorial Announcements	Information for Subscribers Information for Contributors Publication Ethics	X XIII XVI
	Applications of Nanoporous and Metamaterials: An Unornamented Review <i>N. V. KRISHNA PRASAD, T. ANIL BABU, N. MADHAVI, and S. RAMESH</i>	289
	XPS Investigation of Indium-Saving Indium–Tin Oxide (ITO) Thin Films <i>S. PETROVSKA, B. ILKIV, O. KHYZHUN, M. OHTSUKA, R. SERGIENKO, L. VOISIN, and T. NAKAMURA</i>	305
	Electrical Conductivity of Pure and Cr ³⁺ -Doped β-Ga ₂ O ₃ Thin Films <i>O. M. BORDUN, I. Yo. KUKHARSKYY, I. I. MEDVID, D. M. MAKSYMCHUK, F. O. IVASHCHYSHYN, D. CALUS, and D. S. LEONOV</i>	321
	Investigation of the Optical and Structural Properties of Cr ³⁺ -Doped Al ₂ O ₃ and ZnAl ₂ O ₄ Nanoparticles Synthesized by Sol–Gel Method <i>Ahmed KADARI, Salah Eddine REZAK, Kheira KASSI, and Mostapha CHEHAIRI</i>	331
	Optical Properties of Copper Monosulphide Nanoparticles in Near-Infrared Spectrum Region <i>I. YAREMCHUK, T. BULAVINETS, O. VERNYHOR, I. GNILITSKYI, and R. LESYUK</i>	345
	Mechanochemical Synthesis of Nanodispersed Compositions on the Base of Zn, Ce and Mo Oxides <i>O. SACHUK V. ZAZHIGALOV, S. SHCHERBAKOV, K. WIECZOREK-CIUROWA, and I. BACHERIKOV</i>	359
	Heat-Transfer Processes in Multilayer Nanocomposite Systems During Cutting <i>O. A. GONCHAROV, D. A. BELOUS, A. N. YUNDA,</i>	

A. V. KHOMENKO, E. V. MIRONENKO, L. V. VASILYEVA and C. A. GONCHAROVA	385
Software for Experiment Planning and Modelling in Research of Nanofilled Three-Component Systems	
V. G. REZANOVA, N. M. REZANOVA, and O. O. VILTSANYUK	423
Development and Properties of Cu–CNTs’ Nanocomposites	
I. G. ROSLYK, G. P. STOVPCHENKO, and A. V. NIKOLENKO	437
Humidity Sensor Element Based on Porous Silicon– Graphene Nanosystem	
I. B. OLENYCH, Yu. Yu. HORBENKO, L. S. MONASTYRSKII, O. I. AKSIMENTYEVA, and B. R. TSIZH	449
NiAl ₂ O ₄ Nanocomposite <i>via</i> Combustion Synthesis for Sustainable Environmental Remediation	
Babu NANDANA, Devadathan DEDHILA, V. BAIJU, and G. SAJEEVKUMAR	459
Nature of Lowest Electron Transitions in Anionic Polymethine Dyes with Keto-Containing Terminal Groups	
O. D. KACHKOVSKY, A. P. NAUMENKO, V. I. BORISYUK, N. V. OBERNIKHINA, and Yu. L. SLOMINSKIY	473
Configuration Transformations in Polyvinyl Chloride– Methylene Blue Composites	
T. M. PINCHUK-RUGAL, O. P. DMYTRENKO, M. P. KULISH, M. A. ALIEKSANDROV, O. L. PAVLENKO, T. O. BUSKO, A. P. ONANKO, O. M. ALEKSEEV, A. I. MISIURA, V. V. STRELCHUK, and O. F. KOLOMYS	487
Influence of MnO ₂ Nanoparticles’ Addition on Optical Properties of PVA/PEG Blend	
Yousif Y. MIJBIL and Ahmed HASHIM	497
Novel (Organic Phase-Change Materials–Ceramics) Nanocomposites for Solar Energy Storage and Release	
Ahmed HASHIM and Zinah Sattar HAMAD	507
Improving the Structural and Optical Properties of PVP Doped with TiN Nanoparticles for Industrial and Bioenvironmental Applications	
Ahmed HASHIM, Bahaa H. RABEE, Aseel HADI, and Majeed Ali HABEEB	517
Modification of Ceramic Membranes with Pyrocarbon from Polyisocyanate and Milk	
V. V. GONCHARUK, V. M. OGENKO, L. V. DUBROVINA, O. A. VYSHNEVSKYI, I. V. DUBROVIN, and I. M. KRUCHKO	525
Studies on Characteristics of Polymer/Ceramics Nanocomposites for Biomedical and Industrial Applications	
Abeer Ghalib HADI, Zainab AL-RAMADHAN, and	

<i>Ahmed HASHIM</i>	535
Therapeutic Approach of Watermelon (<i>Citrullus lanatus</i>) Rind: Biosynthesis and Characterization of Selenium Nanoparticles	
<i>Namrata JHA, Sonia JOHRI, Sadhana SHRIVASTAVA, Poonam GUPTA, and Kamini YADAV</i>	549
Ferromagnetic Nanopowder Iron-Based Materials Synthesized from Iron Citrates for Medical Purposes <i>N. V. BOSHICKAYA, A. V. MINITSKYI, N. V. MINITSKA, M. Yu. BARABASH, and N. F. KUSHEVSKAYA</i>	569
Magnetic-Liquid Nanosystems $\text{Fe}_3\text{O}_4/\text{PLA-PEG}$: Potential Applications in Cancer Thermootherapy <i>Quoc Thong PHAN, Chi Thang NGUYEN, and Huu Nguyen LUU</i>	577
Comparative Analysis of the Use for Prophylactic Purposes of an Antibiotic and Colloidal Solution of Silver Nanoparticles to Broiler Chickens <i>M. D. KUCHERUK, D. A. ZASIEKIN, and R. O. DYMKO</i>	591
Comparative Analysis of the Effect of Antioxidants C ₆₀ - Fullerene and N-Acetylcysteine on the Correction of the Retention Time of the Maximum Level of Contraction of Skeletal Muscles of Rats During the Development of Muscle Fatigue <i>D. M. NOZDRENKO, K. I. BOHUTSKA, M. M. OKHRAMOVYCH, I. V. PAMPUKHA, N. Ye. NURYSHCHENKO, O. V. VYHOVSKA, and Yu. I. PRYLUTSKYI</i>	607

Scientific Editor of the Issue—*V. A. Tatarenko*

Executive Managing Editor—*V. V. Lizunov*

Technical Editor—*D. S. Leonov*

Editorial-Publishing Department, G. V. Kurdyumov Institute for Metal Physics, N.A.S. of Ukraine

Editorial Office: 36 Academician Vernadsky Boulevard, UA-03142 Kyyiv, Ukraine

Telephone: +380 44 4229551, +380 44 4249042, +380 44 4241221. Fax: +380 44 4242561

E-mail: tatar@imp.kiev.ua, dsleonov@gmail.com