

Table of Contents

Preface, Scientific Committee, Sponsors

Synthesis of Zeolite A from Mongolian Coal Fly Ash by Hydrothermal Treatment U. Rentsenorov, B. Davaabal and J. Temuujin	1
Synthesis, Structure and Electronic Properties of $\text{Li}_4\text{Ti}_5\text{O}_{12}$ Anode Material for Lithium Ion Batteries L. Sarantuya, G. Sevjidsuren, P. Altantsog and N. Tsogbadrakh	9
Preparation of Black Phosphorus by the Mechanical Ball Milling Method and its Characterization T.N. Bao, O. Tegus, Hasichaolu, N. Jun and Narengerile	18
Characterization of Glass Ceramics Produced from Natural and Waste Raw Materials U. Bayarzul and J. Temuujin	23
Influence of Mechanical Milling on Microstructure and Electrochemical Properties of Mg_2Ni Hydrogen Storage Alloy Prepared by Low-Temperature Solid-Phase Sintering T. Xiao, J. Yan, R.X. Duan and N. Gerile	28
Preparation and Characterization of Stable Molecular Glasses of Europium(III) Acyl-Alaninate Complexes N. Gerile, H. Alata, T. Xiao, T.N. Bao and O. Tegus	34
A Study of Exfoliated Molybdenum Disulfide (MoS_2) Based on Raman and Photoluminescence Spectroscopy G. Munkhbayar, S. Palleschi, F. Perrozzi, M. Nardone, J. Davaasambuu and L. Ottaviano	40
Computer Modeling of the Formation Process of Core-Shell Nanoparticles $\text{Cu}@\text{Si}$ N.V. Yumozhapova, A.V. Nomoev and Y.Y. Gafner	47
An Overview of Investigation for Ferrite Magnetic Nanomaterial D. Sangaa, B. Khongorzul, E. Uyanga, N. Jargalan, N. Tsogbadrakh and H. Hirazawa	51
Carbon Nanotube Fabrication Based on Animal Red Blood Cells R. Galbadrakh, M. Batpurev, S. Munkhsaikhan, N. Tuvjargal, J. Davaasambuu, S. Enkhtor, L. Enkhtor, O. Tegus and P. Daniel	64
Modification of Materials by Carbon Nanoparticles E.M. Shpilevsky, O. Penyazkov, S. Filatov, G. Shilagardi, P. Tuvshintur, D. Timur-Bator and D. Ulam-Orgikh	70
Reduction of 2,4-Dinitrophenol to 2,4-Diaminophenol Using AuNPs and AgNPs as Catalyst K. Gerelbaatar, A. Tsogoo, R. Dashzeveg, N. Tsedev and E.O. Ganbold	76
Structural and Vibrational Properties of Crystals with a Rare-Earth Sublattice: <i>Ab Initio</i> Calculations V.P. Petrov, V.A. Chernyshev and A.E. Nikiforov	85
Atomic Force Microscopy and EDX Analysis for Investigation Photoconductive LT-GaAs Terahertz Antennas S. Nomoev, I. Vasilevskii and E.C. Khartaeva	92
Short-Range Order and Static Displacements in Polycrystalline Ni-13.1at. %W Alloy L. Enkhtor, R. Galbadrakh and V. Silonov	98
Influence of the Active Layer Thickness on Non-Fullerene Polymer Solar Cell Performance N. Jun, M.M. Bao, L. Hong, Hasichaolu, B. Altan, O. Tegus and A. Hexig	106
Magnetic Properties of $\text{Nd}_3\text{Fe}_{27.7-x}\text{Ni}_x\text{Ti}_{1.3}$ Compounds N. Jun, G. Mandahu, K. Li, H. Chaolu, O. Tegus and F.Q. Bao	112
Mechanical Properties of Viscous Liquids and Nanosuspensions B. Damdinov, T. Dembelova, Y. Baloshin, Y. Barnakov and V. Petranovskii	119
The Different Fractal Structure of Oxide Nanopowders Depending on Method of Production V.V. Syzrantsev, L.S. Vikulina, S.P. Bardakhanov, A.V. Nomoev, N.O. Kopanitsa, Y.A. Abzaev, O.V. Demyanenko and G.D. Kopanitsa	124
Graphene/Ge Schottky Junction Based IR Photodetectors Z. Khurelbaatar and C.J. Choi	133