UKRAINIAN JOURNAL OF PHYSICS

NATIONAL ACADEMY OF SCIENCES OF UKRAINE BOGOLYUBOV INSTITUTE FOR THEORETICAL PHYSICS

S VOLUME 63 2018

SCIENTIFIC JOURNAL 12 TIMES PER YEAR ISSUED SINCE APRIL 1956 KYIV



CONTENTS

Fields and Elementary Particles	Plasma Physics
Kamarpour M., Sobol O. Magnetogenesis in Natural Inflation Model	Novak O., Kholodov R., Fomina A. Role of Double Layers in the Formation of Conditions for a Polarization Phase Transition to the Superradiance State in the Io Flux Tube 740
•	
Serdeha I.V., Grygoruk V.I., Felinskyi G.S. Spectroscopic Features of Raman Gain Profiles in Single-Mode Fibers	Physics of Liquids and Liquid Systems, Biophysics and Medical Physics
Based on Silica Glass	Bulavin L.A., Tkachenko V.I. Dissipative Rayleigh-Taylor
Dorohoi D.O. Excited State Molecular Parameters Determined by Spectral Means	Instability and its Contribution to the Formation of an Interface between Biomaterials at Their Electric Welding 747
Kutovyy S.Yu., Savchuk R.S., Bashmakova N.V., Hovo- run D.M., Zaika L.A. Mechanisms and Parameters of the	Surface Physics
Binding of Amitozinoberamid to DNA in the Aqueous Solution	Hashim A., Hadi A. Novel Pressure Sensors Made from Nanocomposites (Biodegradable Polymers–Metal Oxide
Rajaramakrishna R., Ruangtawee Y., Kaewkhao J. Sm ³⁺ -Doped Molybdenum Gadolinium Borate Glasses for Or-	Nanoparticles): Fabrication and Characterization
ange Emission Laser Active Medium	Structure of Materials
Abebe T. Enhancement of Squeezing and Entanglement in a Non-Degenerate Three-Level Cascade Laser with Coherently Driven Cavity	Ovsiienko I., Len T., Matzui L., Lazarenko O., Le Normand F., Shames A. Features of Microstructure of Chemically Obtained Graphene-Like Particles