## UKRAINIAN JOURNAL OF PHYSICS

NATIONAL ACADEMY OF SCIENCES OF UKRAINE BOGOLYUBOV INSTITUTE FOR THEORETICAL PHYSICS

1 VOLUME 61 2016

SCIENTIFIC JOURNAL 12 TIMES PER YEAR ISSUED SINCE APRIL 1956 KYIV

## **CONTENTS**

Atoms and Molecules  Degoda V.Ya., Moroz I.M. Kinetic Model for Spatial Distribution of Electron Excitations in Liquid Phosphors	3	Chornyi V.S., Skripka S.L., Nechyporuk O.Y. Frequency Response of Split-Ring Resonators at Different Types of Excitations in Ka-Band	44
Plasmas and Gases		Photovoltaic Properties of Tetracene Thin Films	50
Kovtun Yu.V. Energy Expenditure for Water Molecule Ionization by Electron Impact in Weakly Ionized Plasma	12	Nanosystems	
Soft Matter		Kulish V.V. Spin Waves in a Ferromagnetic Nanotube. Ac-	
Odinaev S., Abdurasulov A. Calculation of the Sound Ve-		count of Dissipation and Spin-Polarized Current	59
locity and the Absorption Factor in Liquids with Quasi-		Boyko I.V. Role of Two-Photon Electronic	
Spherical Molecules	22	Transitions in the Formation of Active Dynamic Conduc-	
Vakarchuk I.O., Hryhorchak O.I., Pastukhov V.S., Prytula R.O. Effective Mass of <sup>4</sup> He Atom in Superfluid and		tivity in a Three-Barrier Resonance Tunneling Structure with an Applied DC Electric Field	66
Normal Phases	29	Goriachko A., Melnik P.V., Nakhodkin M.G. A Suggestion of the Graphene/Ge(111) Structure Based on Ultra-High	
Solid Matter		Vacuum Scanning Tunneling Microscopy Investigation	75
Il'chenko V.V., Kostiukevych O.M., Lendiel V.V., Rad-			
ko V.I., Goloborodko N.S. Effect of Gas Environment on Electrophysical Parameters of Heterojunctions on the Basis		Chronicle, Bibliographic Data, and Personalia	
of Schottky Barrier with Nano-Structured (95% In <sub>2</sub> O <sub>3</sub> +	38	The 50-th anniversary of the M.M. Bogolyubov Institute for Theoretical Physics of the NAS of Ukraine	88