UKRAINIAN JOURNAL OF PHYSICS

NATIONAL ACADEMY OF SCIENCES OF UKRAINE BOGOLYUBOV INSTITUTE FOR THEORETICAL PHYSICS

4 VOLUME 61 2016

SCIENTIFIC JOURNAL 12 TIMES PER YEAR ISSUED SINCE APRIL 1956 KYIV

CONTENTS

Nuclei and Nuclear Reactions	sure on the Properties of Aluminum-Doped ZnO Films	
Savrasov A.M. Isomeric Cross-Section Ratios for ^{93,95} Tc and ⁹⁵ Nb Nuclei	Deposited Layer-By-Layer Using Magnetron Sputtering	325
200	General Problems of Theoretical Physics	
Atoms and Molecules	Los V.F., Los M.V. An Exact Solution of the Time-De-	
Demesh Sh.Sh., Kelemen V.I., Remeta E.Yu. Potential Electron Scattering by P ₂ and P ₃ Phosphorus Molecules 291	pendent Schrödinger Equation with a Rectangular Potential for Real and Imaginary Times	331
Optics, Lasers, and Quantum Electronics	Astrophysics and Cosmology	
Bugaychuk S.A., Gnatovskyy V.O., Negriyko A.M., Pryad- ko I.I. Multiplexing and Switching of Laser Beams Based on Cross-Correlation Interaction of Periodic Fields 301	Ovcherenko S.S., Silagadze Z.K. Comment on Perihelion Advance Due to Cosmological Constant	342
Romanenko V.I., Romanenko A.V., Yatsenko L.P. An Op-	Physics Experiment Techniques	
tical Trap for Atoms on the Basis of Counter-Propagating Bichromatic Light Waves	Rode G.G. Propagation of Measurement Errors and Measured Means of a Physical Quantity for the Elemen-	
Solid Matter	tary Functions $\cos x$ and $\arccos x$	345
Popovych V.I., Ievtushenko A.I., Lytvyn O.S., Romanjuk V.R., Tkach V.M., Baturyn V.A., Karpenko O.Y.,	Chronicle, Bibliographic Data, and Personalia	
Dranchuk M.V., Klochkov L.O., Dushejko M.G., Karpy- na V.A., Lashkarov G.V. Effect of Argon Deposition Pres-	Bar'yakhtar V.G., Bar'yakhtar I.V., Bykovskii Ya.T. Problems of Nuclear Power Engineering: History and Present	353