

## CONTENTS

### Fields and Elementary Particles

*Gakh G.I., Konchatnij M.I., Merenkov N.P.* Model-Independent Radiative Corrections to Elastic Proton-Electron Scattering . . . . . 3

### Nuclei and Nuclear Reactions

*Bari W., Rather N.A.* Sensitivity of Multiplicity Fluctuations to Rapidity in High-Energy Nucleus-Nucleus Interactions . . . . . 12

### Optics, Lasers, and Quantum Electronics

*Havryliuk O.O., Semchuk O.Yu.* Formation of Periodic Structures on the Solid Surface under Laser Irradiation . . . . . 20

### Plasmas and Gases

*Azarenkov N.A., Gapon A.V., Dudin S.V.* Heuristic Solution of Langmuir Problem in Arbitrary Domain . . . . . 33

### Nanosystems

*Bolesta I.M., Vakiv M.M., Haiduchok V.G., Kolych I.I., Kushnir A.A., Rovetsky I.M., Furgala Yu.M.* Plasmon Absorption by Silver Nanoparticles on LiNbO<sub>3</sub> Surface . . . . . 39

*Baymatov P.J., Abdulazizov B.T.* Concentration Dependences of the Electron Effective Mass, Fermi Energy, and Filling of Subbands in Doped InAs/AlSb Quantum Wells . . . . . 46

### Nonlinear Processes

*Guruparan S., Ravichandran V., Chinnathambi V., Raja sekar S.* Coexistence of Multiple Attractors, Hysteresis, and Vibrational Resonance in the Classical Morse Oscillator Driven by an Amplitude Modulated Signal . . . . . 51

### Chronicle, Bibliographic Data, and Personalia

*Tan'shyna A.* "Theoretical Physicists – This is a Profession and a Very Required One" . . . . . 60

*Korsun I.V.* Contribution of Ukrainian Scientists to the Development of Quantum Physics . . . . . 67

*Litovchenko V.G.* On Some Important Results in Semiconductor Surface Science Obtained in Ukraine during the Independence Years (1991–2016) . . . . . 80