

## CONTENTS

### Nuclei and Nuclear Reactions

- Zhaba V.I.* Approximation of the Deuteron Wave Function with the Use of Nijmegen Potentials and Deuteron Polarization Characteristics ..... 943

### Atoms and Molecules

- Simulik V.M., Zajac T.M., Tymchuk R.V.* Choice of the Wave Function for the Helium Ground State for Precision Calculations of Quasistationary State Parameters ..... 950

### Plasmas and Gases

- Virko V.F., Slobodyan V.M., Virko Yu.V.* Coupling of Helicon Antennas to Plasma near the Electron Cyclotron Resonance ..... 956
- Solomenko O.V., Prysiazhna O.V., Chernyak V.Ya., Lendiel V.V., Hamazin D.K., Martysh Eu.V., Kalustova D.O., Prysiazhnevych I.V.* Investigation of a Microdischarge System with the Vortex Gas Supply ..... 960

### Soft Matter

- Klishevich G.V., Curmei N.D., Lebovka N.I., Melnyk V.I.* Conformational Effects and Photoluminescence Spectra of Nanocomposites 5CB Liquid Crystals–Carbon Nanotubes ..... 968
- Romanyuk B., Melnik V., Popov V.* Stationary Multistar-Shape Patterns of Water Drops in the Presence of a Temperature Gradient ..... 973

### Solid Matter

- Voitovych V.V., Rudenko R.M., Yuchymchuk V.O., Voitovych M.V., Krasko M.M., Kolosiuk A.G., Povarchuk V.Yu., Khachevich I.M., Rudenko M.P.* Effect of Tin on Structural Transformations in the Thin-Film Silicon Suboxide Matrix ..... 980
- Rasulov V.R.* Polarization-Dependent Photocurrent in *p*-GaAs ..... 987
- Horichok I.V., Hurhula H.Ya., Prokopiv V.V., Pylyponiuk M.A.* Semiempirical Energies of Vacancy Formation in Semiconductors ..... 992
- Tonkoshkur A.S., Lyashkov A.Yu., Degtyaryov A.V.* Size Effects in Electrical Properties of Carbon-Polypropylene Composites ..... 1008

### Nanosystems

- Moklyak V.V., Kotsyubynsky V.O., Yaremiy I.P., Kolkovskyy P.I., Hrubyak A.B., Zbihley L.Z.* Morphological Characteristics of Hydrothermally Synthesized Iron Trifluorides with Various Hydration Degrees ..... 1017

### Chronicle, Bibliographic Data, and Personalia

- Academician of the National Academy of Sciences of Ukraine Marat Terentiyovych Shpak (to the 90-th anniversary of his birthday) ..... 1026
- In memory of Yurii Oleksandrovych Reznikov (1953–2016) ..... 1029