
Contents

Vol. 19, No. 1, 2011

Distributed worldwide by Springer. *Physics of Wave Phenomena* ISSN 1541-308X.

Quantum Optics

- Non-Markovian Relaxation Models in the Theory of Radiation of Two-Level Atoms
V. V. Semin and A. V. Gorokhov 1
-

Optical Interferometry

- Transformation of the Amplitude Profiles of Coherent Light Beams in a Nonlinear Photorefractive Fabry–Perot Interferometer
A. S. Perin, S. M. Kozlova, and V. M. Shandarov 6
- Phase Visualization in the Study of Cellular Structures by Confocal Microscopy
V. V. Lobyntseva and Yu. N. Zakharov 10
-

Optical Spectroscopy

- Factor Group Theoretical Analysis of Fundamental Vibrations of the H_2AsO_4^- Anion in $(\text{C}_6\text{H}_9\text{N}_2)\text{H}_2\text{AsO}_4$ Single Crystal
M. I. Abd-Elrahman 13
-

Solitons and Chaos

- Formation of Turbulent Electron Beams for Generating Broadband Chaotic Oscillations
Yu. A. Kalinin and A. V. Starodubov 18
- Bright and Dark Solitons of the Rosenau–Kawahara Equation with Power Law Nonlinearity
A. Biswas, H. Triki, and M. Labidi 24
-

Waves in Nanostructures

- Accelerated Alpha Decay under Laser Exposure of Metallic Nanoparticles in Aqueous Solutions of Uranium Salt
A. V. Simakin and G. A. Shafeev 30
- Interaction of Few-Cycle Optical Pulses in Nonmetallic Carbon Nanotubes
M. B. Belonenko, N. G. Lebedev, and E. N. Nelidina 39
- Localization of Electron Density Waves in a System of Carbon Nanotubes and Fullerenes
M. B. Belonenko, N. G. Lebedev, I. V. Sochnev, and E. V. Sochneva 43
- Design of Antireflection Composite Coating Based on Metal Nanoparticles
S. G. Moiseev and S. V. Vinogradov 47
-

Microwave Electronics

- Numerical Model of Electron Injector for a Traveling-Wave Tube Based on a Coupled-Cavity Chain
V. M. Pikunov 52
-

Ultrasonics

Simulation of Thermal Lesions in Biological Tissues Irradiated by High-Intensity Focused
Ultrasound through the Rib Cage

S. A. Ilyin, S. M. Bobkova, V. A. Khokhlova, and L. R. Gavrilov

62

Surface Waves in Liquid

Production of Materials with Periodically Arranged Microparticles by Photopolymerization
of Patterns Formed at Parametric Excitation of Capillary Surface Waves

V. O. Afenchenko, A. B. Ezersky, B. S. Kaverin, S. V. Kiyashko, and S. A. Chesnokov

68

Hydroacoustics

Hydroacoustic Compatibility of Sonars in a Multistatic Underwater Observation System

A. N. Mikhnyuk

74
