

Contents

Vol. 27, No. 1, 2019

High-Precision Laser Spectroscopy

- High-Precision Diode Laser Spectroscopy. Study of a Mixture of Real Gases
A. I. Nadezhdinskii and Ya. Ya. Ponurovskii 1
-

Nonlinear Optical Spectroscopy

- Four-Photon Light Scattering by Mechanical Vibrations of Cylindrical Particles
in Liquid Suspensions
A. F. Bunkin, V. G. Mikhalevich, V. N. Streltsov, and S. M. Pershin 9
-

Spectroscopy of Biological Objects

- Fourier Transform Infrared Spectroscopy Analysis of Pigments in Fresh Tobacco Leaves
E. L. Terpugov, O. V. Degtyareva, and V. V. Savransky 13
-

Solid-State Lasers

- Acousto-Optic *Q*-Switched Lasing in Tm:YbAG Crystal
*A. I. Zagumennyi, Yu. D. Zavartsev, Yu. L. Kalachev, S. A. Kutovoi, V. A. Mikhailov,
and I. A. Shcherbakov* 20
- Statistical Model of a Laser Beam with Random Phase Distortions of the Field Inside
an Unstable Resonator
V. I. Kislov and E. N. Ojtsеров 24
- Propagation of Spontaneous Emission from an Active Laser Medium in an Unstable Resonator
during Resonance Field Formation
V. I. Kislov and E. N. Ojtsеров 33
-

Diffraction of Microwaves

- Selective Excitation of the Microwave Sommerfeld–Zenneck Surface Wave
on a Conductive Strip
K. F. Sergeichev, D. M. Karfidov, and V. I. Zhukov 37
-

Acoustic Methods in Ablation of Micro- and Nanostructures

- Acoustic Detection of Submicron Depth of Ablation Crater Formed on the Metal Surface
under Nanosecond Laser Irradiation
A. A. Samokhin, E. V. Shashkov, N. S. Vorob'ev, and A. E. Zubko 42
- Ultrasound Ablation of a Solid Sample in Water Accompanied by Formation of Nanoparticles
A. P. Brysev, R. V. Klopotov, and D. I. Makalkin 51

On a Two-Dimensional Problem in Thermoelastic Half-Space with Microstructure
Subjected to a Uniform Thermal Shock
S. M. Abo-Dahab and A. E. Abouelregal

56

Electrostatics of Liquid Crystals

Simulation of the Static Electric Field Effect on the Director Orientation of Nematic Liquid
Crystal in the Transition State

*A. A. Ayriyan, E. A. Ayrjan, M. Dencheva-Zarkova, A. A. Egorov, G. B. Hadjichristov,
Y. G. Marinov, I. A. Maslyanitsyn, A. G. Petrov, L. Popova, V. D. Shigorin, and S. I. Torgova*

67

Underwater Acoustics

Measurement Capability of the Interferometric Method of Sound Source Localization
in the Absence of Data on the Waveguide Transfer Function

E. S. Kaznacheeva, G. N. Kuznetsov, V. M. Kuz'kin, G. A. Lyakhov, and S. A. Pereselkov

73
