

---



---

**CONTENTS**


---



---

**METHODS AND MEASUREMENT TECHNIQUES**

- Isolation and identification of toxin with insecticidal activity from fungus *Lecanicillium Muscarium*  
*G. V. Mitina, O. S. Yuzikhin, F. Sh. Isangalin, A. P. Yakimov* 3
- Dependence of discrimination on masses in the quadrupole mass-analyzer with prefilters on ion initial energy  
*N. V. Krasnov, A. F. Kuzmin* 11
- Combined mass and electron spectrometers for the study of solids  
*Z. Z. Latypov* 17
- Allocation of information attributes in the mass spectrometric signals of air  
*Yu. A. Titov, V. V. Manoilov, A. G. Kuzmin* 21

**DEVICES OF MICRO AND NANO RESEARCHES**

- Microfluidic chips of glass materials  
*A. A. Evstrapov, T. A. Lukashenko, G. E. Rudnitskaya, A. L. Bulyanitsa, V. E. Kurochkin, V. S. Gusev, O. G. Ivanov, I. F. Berkutova, A. A. Savitskaya* 27
- Gas-discharge devices forming directed flows of the off-electrode plasma. Part II. Results of updating. New devices  
*N. L. Kazansky, V. A. Kolpakov, A. I. Kolpakov, S. V. Krichevsky, V. V. Podlipnov* 44
- The optical nanodevice for acceleration measurement  
*S. V. Sokolov, V. V. Kamensky* 51
- Modelling of a micro-XRF spectrometer, estimation of the analytical and metrological characteristics  
*E. V. Chizhova* 55

**MATHEMATICAL MODELS OF PHYSICOTECHNICAL SYSTEMS**

- Bipolar projectivity of gaussian points in optical systems with curvilinear axis  
*V. D. Sachenko* 66
- Mathematical model of the device for surface contamination control on substrate by speed spreading of the drop liquid  
*V. V. Podlipnov, A. S. Dubovik* 74
- To the problem of scattering amplitude evaluation on radially-symmetric elastic inserts in perfect fluid  
*B. P. Sharfarets* 82
- Scattering amplitude of the elastic ball in a viscous isotropic fluid  
*B. P. Sharfarets* 90
- Estimation of digital regulation parameters in scanning probe microscope "nano educator" on the basis of physical-mathematical model  
*M. A. Michailov, V. V. Manoilov* 98
- Time-dependent pseudopotential and its application for description of the averaged motion of the charged particles. Part 5. Comments to a general expression for time-dependent pseudopotentials  
*A. S. Berdnikov* 105
- Methods of the estimation of spectral and temporary parameter signal on the basis of the theories of spline algebraic harmonic analysis  
*S. N. Agievich* 112