

# PHYSICS- USPEKHI

English edition of *Uspekhi Fizicheskikh Nauk*  
October 1999 Volume 169 Number 10

## Contents

**Volume 42**  
**Number 10**  
**1999**  
**Pages 957–1069**

### REVIEWS OF TOPICAL PROBLEMS

- On the relative contributions of precessional and longitudinal oscillations to the dynamics of magnets** 957  
V D Buchel'nikov, N K Dan'shin, L T Tsymbal, V G Shavrov
- Theoretical calculation of equations of state: analytical results** 991  
M F Sarry
- Electron momentum spectroscopy of atoms, molecules, and thin films** 1017  
V G Neudatchin, Yu V Popov, Yu F Smirnov

### METHODOLOGICAL NOTES

- Gravitation, photons, clocks** 1045  
L B Okun', K G Selivanov, V L Telegdi

### CONFERENCES AND SYMPOSIA

- Scientific session of the Division of General Physics and Astronomy of the Russian Academy of Sciences (19 May 1999): Spectroscopy of new SRS-active crystals and solid-state SRS lasers** 1051  
T T Basiev
- Application of laser-driven shock waves in studies of thermal and mechanical material properties** 1056  
I K Krasnyuk
- Transformations in amorphous solids under high pressures** 1059  
A G Lyapin, V V Brazhkin, E L Gromnitskaya,  
O V Stal'gorova, O B Tsiok

*Continued overleaf*

*Contents continued*

**PERSONALIA**

- Vladimir Evgen'evich Zakharov (on his sixtieth birthday)** 1063  
A A Galeev, E A Kuznetsov, A V Mikhaïlov, Yu E Nesterikhin,  
S P Novikov, R Z Sagdeev, Ya G Sinaï, G I Smirnov, V E Fortov,  
I M Khalatnikov, B V Chirikov, A B Shabat

**LETTERS TO THE EDITORS**

- On relaxation times** 1065  
V L Vaks, V V Mityugov

**BIBLIOGRAPHY**

- New books on physics and related sciences** 1067  
E V Zakharova
- Physics news on the Internet** 1069  
Yu N Eroshenko

# Contents

<b>On the relative contributions of precessional and longitudinal oscillations to the dynamics of magnets</b>	957
V D Buchel'nikov, N K Dan'shin, L T Tsymbal, V G Shavrov	
<b>Theoretical calculation of equations of state: analytical results</b>	991
M F Sarry	
<b>Electron momentum spectroscopy of atoms, molecules, and thin films</b>	1017
V G Neudatchin, Yu V Popov, Yu F Smirnov	
<b>Gravitation, photons, clocks</b>	1045
L B Okun', K G Selivanov, V L Telegdi	
<b>Scientific session of the Division of General Physics and Astronomy of the Russian Academy of Sciences (19 May 1999): Spectroscopy of new SRS-active crystals and solid-state SRS lasers</b>	1051
T T Basiev	
<b>Application of laser-driven shock waves in studies of thermal and mechanical material properties</b>	1056
I K Krasnyuk	
<b>Transformations in amorphous solids under high pressures</b>	1059
A G Lyapin, V V Brazhkin, E L Gromnitskaya, O V Stal'gorova, O B Tsiok	
<b>Vladimir Evgen'evich Zakharov (on his sixtieth birthday)</b>	1063
A A Galeev, E A Kuznetsov, A V Mikhaïlov, Yu E Nesterikhin, S P Novikov, R Z Sagdeev, Ya G Sinaï, G I Smirnov, B E Fortov, I M Khalatnikov, B V Chirikov, A B Shabat	
<b>On relaxation times</b>	1065
V L Vaks, V V Mityugov	
<b>New books on physics and related sciences</b>	1067
<b>Physics news on the Internet</b>	1069

◇ ◇ ◇

## In the next issue

### *Radio pulsars*

V S Beskin

### *Infrared and collinear divergences in gauge theories*

L V Prokhorov

### *Hydrogen at high pressure*

E G Maksimov, Yu I Shilov

### *Metal modification by high-power pulsed particle beams*

V I Boïko, A N Valyaev, A D Pogrebnyak

### *Information capacity of condensed systems*

M D Bal'makov

### *Personalia*

### *Bibliography*

*New books on physics and related sciences*

*Physics news on the Internet*

