

Author index

Volume 52, 2009

- Aksenov V L** Pulsed nuclear reactors in neutron physics 406
- Aleksandrov E B, Vershovskii A K** Modern radio-optical methods in quantum magnetometry 573
- Alshits V I, Lyubimov V N** Generalization of the Leontovich approximation for electromagnetic fields on a dielectric–metal interface 815
- Andrievski R A, Glezer A M** Strength of nanostructures 315
- Armand N A** see **Zelenyi L M** 190
- Askerzade I N** Study of layered superconductors in the theory of an electron–phonon coupling mechanism 977
- Azarenkov N A** see **Pogrebnyak A D** 29
- Balykin V I** Atom optics and nanotechnology 275
- Barabanenkov Yu N** Asymptotic limit of the radiative transfer theory in problems of multiple wave scattering in randomly inhomogeneous media 502
- Basko M M** see **Marchuk G I** 267
- Batyev E G** Pauli paramagnetism and Landau diamagnetism 1245
- Belenkaya E S** Magnetospheres of planets with an intrinsic magnetic field 765
- Benetskii B A I M** Frank: founder and leader of FIAN's Laboratory of Atomic Nucleus 394
- Beresnev V M** see **Pogrebnyak A D** 29
- Berry R S, Smirnov B M** Phase transitions in various kinds of clusters 137
- Beskin V S** School of Modern Astrophysics — 2009 1185
- Bolotovskii B M I M** Frank's papers on the radiation of sources moving in refractive media (the 'optics of moving sources') 379
- Bolotovskii B M, Serov A V** Features of the transition radiation field 487
- Bolotovskii B M** Vavilov–Cherenkov radiation: its discovery and application 1099
- Bof'shov M A, Makarov A A, Mironenko V P** On the observation of molecular rotational spectra in condensed media 1279
- Borisov S V** see **Voronov S A** 879
- Brazhkin V V** see **Smylie D E** 79
- Brazhkin V V** see **Smylie D E** 96
- Brazhkin V V** Interparticle interaction in condensed media: some elements are 'more equal than others' 369
- Bunkin A F, Pershin S M** Once again, on the observation of molecular rotational spectra in condensed media 1283
- Cherepashchuk A M** Exotic aspects of black holes: an astronaut near the horizon 861
- Chubenko A P** see **Gurevich A V** 735
- Chulkov E V** see **Zhukov V P** 105
- Churilov S S** see **Ryabtsev A N** 282
- Dagkesamanskii R D** The Pushchino Radio Astronomy Observatory of the P N Lebedev Physical Institute
- Astro Space Center: yesterday, today, and tomorrow 1159
- Davidovich M V** On the Hartman paradox, electromagnetic wave tunneling, and supraluminal velocities 415
- Dolgolenko D A, Muromkin Yu A** Plasma isotope separation based on ion cyclotron resonance 345
- Dolin L S** Development of the radiative transfer theory as applied to instrumental imaging in turbid media 519
- Dorofeyev I A** see **Vinogradov E A** 425
- Dremin I M** Physics at the Large Hadron Collider 541
- Dumesh B S, Potapov A V, Surin L A** Spectroscopy of small helium clusters and 'nanoscopic' superfluidity: $\text{He}_N\text{-CO}$, $N = 2\text{--}20 \dots$ 294
- Eletsksii A V** Transport properties of carbon nanotubes 209
- Epshtein E M** see **Gulyaev Yu V** 335
- Eremin I M** see **Ivanova N B** 789
- Eroshenko Yu N** Physics news on the Internet 103, 207, 313, 423, 527, 657, 763, 867, 975, 1081, 1189, 1287
- Fortov V E** Extreme states of matter on Earth and in space 615
- Fortov V E, Makarov A A** Avenues for the innovative development of energetics in the world and in Russia 1249
- Frank A I I M** Frank and the optics of ultracold neutrons 397
- Fridman A M** Lev Andreevich Artsimovich and extremely strong hydrodynamic instabilities 1265
- Fritzsche H** The fundamental constants in physics 359
- Ganeev R A** Generation of high-order harmonics of high-power lasers in plasmas produced under irradiation of solid target surfaces by a prepulse 55
- Gavriliuk A G** see **Lyubutin I S** 989
- Ginzburg I F** Unsolved problems in fundamental physics 495
- Ginzburg V L** On the history of *Uspekhi Fizicheskikh Nauk* (Opening address) 530
- Gippius N A** see **Tikhodeev S G** 945
- Gippius N A, Tikhodeev S G** Application of the scattering matrix method for calculating the optical properties of metamaterials 967
- Glezer A M** see **Andrievski R A** 315
- Golovko Yu I** see **Mukhortov V M** 856
- Gorbatsevich A A, Omel'yanovskii O E, Tsebroy V I** Toroidal ordering in crystals and nanostructures 835
- Grib A A, Pavlov Yu V** Is it possible to see the infinite future of the Universe when falling into a black hole? 257
- Gritsenko V A** Structure of silicon/oxide and nitride/oxide interfaces 869
- Gubin M A** see **Velichansky V L** 1153

- Gulyaev Yu V** Creative career of Vladimir Aleksandrovich Kotel'nikov (opening address) 183
- Gulyaev Yu V, Zilberman P E, Panas A I, Epshtein E M** Spintronics: exchange switching of ferromagnetic metallic junctions at a low current density 335
- Gulyaev Yu V** Sergei Mikhailovich Rytov (Opening address) 499
- Gurevich A V, Karashtin A N, Ryabov V A, Chubenko A P, Shepetov A L** Nonlinear phenomena in the ionospheric plasma. Effects of cosmic rays and runaway breakdown on thunderstorm discharges 735
- Gurovich B A, Prikhod'ko K E** Physical mechanisms underlying the selective removal of atoms 165
- Gusev V A** see **Landa P S** 235
- Hramov A E** see **Koronovskii A A** 1213
- Ilgisonis V I B B** Kadomtsev's classical results and the plasma rotation in modern tokamaks 746
- Imshennik V S** see **Marchuk G I** 267
- Itkis M G** see **Sissakian A N** 388
- Ivanov S V** see **Shubina T V** 949
- Ivanov V Yu** see **Mukhin A A** 851
- Ivanova N B, Ovchinnikov S G, Korshunov M M, Eremin I M, Kazak N V** Specific features of spin, charge, and orbital ordering in cobaltites 789
- Kaevitser V I, Razmanov V M** Remote sensing of sea bottom by hydroacoustic systems with complex signals 199
- Kaplan A E, Volkov S N** Local fields in nanolattices of strongly interacting atoms: nanostrata, giant resonances, 'magic numbers,' and optical bistability 506
- Karashtin A N** see **Gurevich A V** 735
- Kardashev N S** Radioastron: a radio telescope many times the size of Earth. Research program 1127
- Karelin A V** see **Voronov S A** 879
- Kazak N V** see **Ivanova N B** 789
- Kessenikh A V** Magnetic resonance: discovery, investigations, and applications 695
- Khalatnikov I M** Nonaccidental coincidences (Lev Andreevich Artsimovich) 1248
- Kissel V N** see **Lagarkov A N** 959
- Klyatskin V I** Modern methods for the statistical description of dynamical stochastic systems 514
- Kompanets O N, Yevdokimov Yu M** Optical biosensors of genotoxicants based on DNA nanoconstructions and portable dichrometers 304
- Kopaev Yu V** Toroidal ordering in crystals 1111
- Kop'ev P S** see **Shubina T V** 949
- Koronovskii A A, Moskalenko O I, Hramov A E** On the use of chaotic synchronization for secure communication 1213
- Korshunov M M** see **Ivanova N B** 789
- Kotel'nikov V A** Model Nonrelativistic Quantum Mechanics. Considerations 185
- Kovrizhnykh L M** The current status of the stellarator program 730
- Krasil'nikov O M** see **Vekilov Yu Kh** 831
- Krivoruchenko M I** Rotation of the swing plane of Foucault's pendulum and Thomas spin precession: two sides of one coin 821
- Krupnov A F, Tretyakov M Yu** Comments on the paper "Coherent four-photon spectroscopy of low-frequency molecular librations in a liquid" by A F Bunkin, A A Nurmatov, and S M Pershin 1273
- Ksanfomality L V** see **Zelenyi L M** 1056
- Kukushkin A V** On the existence and physical meaning of the Zenneck wave 755
- Kurin V V** Resonance scattering of light in nanostructured metallic and ferromagnetic films 953
- Kuznetsov N A, Sinitsyn I N** Development of Kotel'nikov's sampling theorem 197
- Lagarkov A N, Sarychev A K, Kissel V N, Tartakovsky G** Superresolution and enhancement in metamaterials 959
- Landa P S, Trubetskov D I, Gusev V A** Delusions versus reality in some physics problems: theory and experiment 235
- Lavrova A I, Postnikov E B, Romanovsky Yu M** Brusselator: an abstract chemical reaction? 1239
- Loydl A** see **Mukhin A A** 851
- Lozovik Yu E** Strong correlations and new phases in a system of excitons and polaritons. A polariton laser 286
- Lyubimov V N** see **Alshits V I** 815
- Lyubutin I S, Gavriiliuk A G** Research on phase transformations in 3d-metal oxides at high and ultrahigh pressure: state of the art 989
- Makarov A A** see **Fortov V E** 1249
- Makarov A A** see **Bol'shov M A** 1279
- Makarov G N** The spectroscopy of clusters by intense pulses of VUV radiation from free electron lasers 461
- Makarov V P, Rukhadze A A** Force acting on a substance in an electromagnetic field 937
- Maksimov E G** Theoretical investigations of the ferroelectric transition 603
- Malykin G B** Para-Lorentz transformations 263
- Marchuk G I, Imshennik V S, Basko M M** The physics of a thermonuclear explosion of a normal-density liquefied deuterium sphere 267
- Martynenko Yu V** Electromagnetic isotope separation method and its heritage 1266
- Masalov A V** Spectroscopy: from atoms to cosmic objects 1147
- Mavrin B N** see **Vinogradov E A** 290
- Mesnyankin S Yu, Vikulov A G, Vikulov D G** Solid-solid thermal contact problems: current understanding 891
- Mesyats G A** Il'ya Mikhailovich Frank (opening address) 377
- Mesyats G A P N** Lebedev Physical Institute RAS: past, present, and future 1084
- Mirnov S V** Academician B B Kadomtsev and the International Thermonuclear Experimental Reactor (ITER) 725
- Mironenko V P** see **Bol'shov M A** 1279
- Mishchenko A S** Electron-phonon coupling in underdoped high-temperature superconductors 1193
- Moskalenko O I** see **Koronovskii A A** 1213
- Mukhin A A, Ivanov V Yu, Travkin V D, Prokhorov A S, Volkov A A, Pimenov A V, Shuvaev A M, Loydl A** Terahertz spectroscopy and the magnetoelectric properties of manganite-based multiferroics 851
- Mukhortov V M, Golovko Yu I, Yuzyuk Yu I** Heteroepitaxial films of a bismuth ferrite multiferroic doped with neodymium 856
- Muromkin Yu A** see **Dolgolenko D A** 345

- Naumov A V, Vainer Yu G** Single molecules as spectral nanoprobe for the diagnostics of dynamic processes in solid media 298
- Novikova N N** see **Vinogradov E A** 290
- Omel'yanovskii O E** see **Gorbatsevich A A** 835
- Ovchinnikov S G** see **Ivanova N B** 789
- Palmer A** see **Smylie D E** 79
- Palmer A** see **Smylie D E** 96
- Panas A I** see **Gulyaev Yu V** 335
- Pavlov Yu V** see **Grib A A** 257
- Peigné S, Smilga A V** Energy losses in relativistic plasmas: QCD versus QED 659
- Pershin S M** see **Bunkin A F** 1283
- Pimenov A V** see **Mukhin A A** 851
- Pogrebnyak A D, Shpak A P, Azarenkov N A, Beresnev V M** Structures and properties of hard and superhard nanocomposite coatings 29
- Pokrovsky V L** Landau and modern physics 1169
- Postnikov E B** see **Lavrova A I** 1239
- Potapov A V** see **Dumesh B S** 294
- Prikhod'ko K E** see **Gurovich B A** 165
- Prokhorov A S** see **Mukhin A A** 851
- Pyatakov A P** see **Zvezdin A K** 845
- Ragulsky V V** "The most remarkable man among the scientists": on the occasion of the 130th birthday of L I Mandelstam 1177
- Razmanov V M** see **Kaevitser V I** 199
- Roganova T M** see **Zatsepin G T** 1139
- Romanovsky Yu M** see **Lavrova A I** 1239
- Rukhadze A A** see **Makarov V P** 937
- Ryabov V A** see **Gurevich A V** 735
- Ryabtsev A N, Churilov S S** Spectroscopy of ionized atoms for astrophysics and nanotechnology 282
- Sarychev A K** see **Lagarkov A N** 959
- Schimpf M E** see **Semenov S N** 1045
- [Sedov V L]** Positronium in a cavity in a high- T_c superconductor 687
- Semenov S N, Schimpf M E** Mass transport thermodynamics in nonisothermal molecular liquid mixture 1045
- Serov A V** see **Bolotovskii B M** 487
- Shalybkov D A** Hydrodynamic and hydromagnetic stability of the Couette flow 915
- Shatskii A A** The sky of a universe as seen through a wormhole 811
- Shepetov A L** see **Gurevich A V** 735
- Shirkov D V** Sixty years of broken symmetries in quantum physics (from the Bogoliubov theory of superfluidity to the Standard Model) 549
- Shpak A P** see **Pogrebnyak A D** 29
- Shubina T V, Ivanov S V, Toropov A A, Kop'ev P S** Plasmon effects in In(Ga)N-based nanostructures 949
- Shuvaev A M** see **Mukhin A A** 851
- Sibatov R T, Uchaikin V V** Fractional differential approach to dispersive transport in semiconductors 1019
- Sinitsyn I N** see **Kuznetsov N A** 197
- Sissakian A N, Itkis M G I M** Frank and the development of the Joint Institute for Nuclear Research 388
- Smilga A V** see **Peigné S** 659
- Smirnov B M** see **Berry R S** 137
- Smirnov B M** Modeling of gas discharge plasma 559
- Smirnov V P** Commemorating the 80th anniversary of the birth of Boris Borisovich Kadomtsev (opening address) 723
- Smylie D E, Brazhkin V V, Palmer A** Direct observations of the viscosity of Earth's outer core and extrapolation of measurements of the viscosity of liquid iron 79
- Smylie D E, Brazhkin V V, Palmer A** Reply to comment by V N Zharkov "On estimating the molecular viscosity of the Earth's outer core" 96
- Surin L A** see **Dumesh B S** 294
- Tartakovskiy G** see **Lagarkov A N** 959
- Tikhodeev S G, Gippius N A** Plasmon-polariton effects in nanostructured metal-dielectric photonic crystals and metamaterials 945
- Tikhodeev S G** see **Gippius N A** 967
- Toropov A A** see **Shubina T V** 949
- Travkin V D** see **Mukhin A A** 851
- Tretyakov M Yu** see **Krupnov A F** 1273
- Trubetskov D I** see **Landa P S** 235
- Tsebro V I** see **Gorbatsevich A A** 835
- Turyshev S G** Experimental tests of general relativity: recent progress and future directions 1
- Uchaikin V V** see **Sibatov R T** 1019
- Vainer Yu G** see **Naumov A V** 298
- Vekilov Yu Kh, Krasil'nikov O M** Structural transformations in metals at high compression ratios 831
- Velichansky V L, Gubin M A** Laser frequency standards at the P N Lebedev Physical Institute 1153
- Vershovskii A K** see **Aleksandrov E B** 573
- Veselago V G** Energy, linear momentum, and mass transfer by an electromagnetic wave in a negative-refraction medium 649
- Vikulov A G** see **Mesnyankin S Yu** 891
- Vikulov D G** see **Mesnyankin S Yu** 891
- Vinogradov E A, Mavrin B N, Novikova N N, Yakovlev V A** Inverted optical phonons in ion-covalent crystals 290
- Vinogradov E A, Dorofeyev I A** Thermally stimulated electromagnetic fields of solids 425
- Volkov A A** see **Mukhin A A** 851
- Volkov S N** see **Kaplan A E** 506
- Vorob'eva A I** Fabrication techniques of electrode arrays for carbon nanotubes 225
- Voronov S A, Borisov S V, Karelin A V** Electron-proton separation in calorimetry experiments directly measuring the composition and energy spectrum of cosmic rays 879
- Yakovlev V A** see **Vinogradov E A** 290
- Yevdokimov Yu M** see **Kompanets O N** 304
- Yuzyuk Yu I** see **Mukhortov V M** 856
- Zakharov A V** see **Zelenyi L M** 1056
- Zapasskii V S** On electromagnetically induced transparency in the degenerate Λ -scheme 179
- Zatsepin G T, Roganova T M** Cosmic ray investigations 1139
- Zelenyi L M, Armand N A** Vladimir Aleksandrovich Kotelnikov and Solar System studies 190
- Zelenyi L M, Zakharov A V, Ksanfomality L V** The Solar System: current understanding and future prospects 1056

- Zharkov V N** On estimating the molecular viscosity of the Earth's outer core: comment on the paper by D E Smylie et al. 93
- Zhukov V P, Chulkov E V** The femtosecond dynamics of electrons in metals 105
- Zilberman P E** see **Gulyaev Yu V** 335
- Zvezdin A K, Pyatakov A P** Inhomogeneous magneto-electric interaction in multiferroics and related new physical effects 845

Birthdays

- Fedor Vasil'evich Bunkin** 97
- Semen Solomonovich Gershtein** 759
- Lev Petrovich Gor'kov** 655
- Nikolai Vasil'evich Karlov** 1077
- Isaak Markovich Khalatnikov** 1079
- Andrei Nikolaevich Lagarkov** 865
- Lev Borisovich Okun** 757
- Vladimir Evgen'evich Zakharov** 863

In memoriam

- Vladimir Vladimirovich Bronfman** 1285
- Vitaly Lazarevich Ginzburg** 1191

Book reviews

- Zakharova E V** New books on physics and related sciences 101, 311, 419, 973, 1188