

## 5. PUBLICATIONS

### The Physics of Condensed Matter

#### Diffraction

1. Aldica A., Mironova G.M., Popa N.C., Stoica A.D., Stoica M.G. Time-Resolved Neutron Diffraction Study of the  $Bi(Pb) - Sr - Ca - Cu - O$  System. *Journal of Supercond.*, 1992, 6, 273.
2. Aksenov V.L., Balagurov A.M., Simkin V.G., Taran Yu.V., Trounov V.A., Kudrjashev V.A., Bulkin A.P., Muratov V.G., Hiismaki P., Tiitta A., Antson O. The New Fourier Diffractometer at the IBR-2 Reactor: Design and First Results. *JINR Communications*, E13-92-456, Dubna, 1992.
3. Balagurov A.M., Mironova G.M. Phase Transformation in Materials Studied by TOF Neutron Thermo-Diffractometry. *Powder Diffraction II*, Enshede, Netherlands, 1992.
4. Balagurov A.M. The Present-Day Structure Neutron Investigations at the Pulsed Neutron Sources. *Particles and Nucleus*, 1992, 23, 1088-1143 (in Russian).
5. Balagurov A.M., Lyubutin I.S. The Atomic and Magnetic Structure of  $YBa_2(Cu_{1-x}Fe_x)_3O_{6+y}$  at  $0.05 \leq x \leq 0.30, y \cong 1$  and  $y \cong 0.5$ . *JINR, E14-92-579*, Dubna, 1992 (in Russian).
6. Balagurov A.M., Bouree F., Lyubutin I.S., Mirebeau I. Atomic and Magnetic Structure of  $YBa_2(Cu_{1-x}Fe_x)_3O_{6+y}$  Studied by Neutron Diffraction on Isotope Enriched Samples. Accepted in *Physica C*.
7. Balagurov A.M., Mironova G.M. Phase Transformations in Materials Studied by TOF Neutron Thermo-Diffractometry. *Materials Science Forum*, 1993, 133-136, 397-402.
8. Balagurov A.M., Simkin V.G., Taran Yu.V., Trounov V.A., Kudrjashev V.A., Bulkin A.P. Possible Utilization of High Resolution Fourier Diffractometer at Reactor IBR-2 for Strain Measurements. *JINR Communications*, E14-93-333, Dubna, 1993.
9. Balagurov A.M., Piechota J. Neutron Powder Diffraction Studies of  $YBa_2(Cu_{1-x}M_x)_3O_{7-\delta}$  with  $M = {}^{57}Fe, {}^{58}Ni$ . Ed. by R.Kossowsky, B.Raveau, Wohlleben D., Patapis S.K. *Kluwer Academic Publishers*, 1992.
10. Beskrovnyi A.I., Jirak Z., Nevrila M., Shelkova I.G. Neutron Diffraction Study of the Modulated Structure of  $Bi_2Sr_{3-x}Y_xCu_2O_{8+\gamma}$  ( $x \approx 0.6$ ). *Physica C*, 1993, 206, 27-32.
11. Georgiev D., Nietz V.V., Yakovlev A.A. The "Coherent" Spin-Flop Transition in a Single Antiferromagnetic. *JINR Comm.*, P14-92-399, Dubna, 1992 (in Russian).
12. Georgiev D., Nietz V.V., Sirotin A.P., Yakovlev A.A. The Neutron Scattering Intensity Dependence on the Field and Temperature at the Coherent Spin-Flop Transition in  $Cr_2O_3$ . *JINR Comm.*, P14-92-400, Dubna, 1992 (in Russian).

13. Georgiev D., Nietz V.V., Sirotin A.P. Hysteresis Phenomena at the Spin-Flop Transition Induced by the Pulsed Magnetic Field. JINR Comm., P14-92-401, Dubna, 1992 (in Russian).
14. Gordeliy V.I., Islamov A.Kh., Syrykh A.G. Determining the Fluctuations of the Lipid and Biological Membranes Repeting Period by the Neutron Diffraction Method. Biol. membr., 1992, 9, 193 (in Russian).
15. Gordeliy V.I. The Study of Lateral Structure of Biological and Model Membranes by Neutron Scattering. Physica B, 1992, 180-181, 750-752.
16. Gordeliy V.I., Golubchikova L.V., Kuklin A., Syrykh A.G., Watts A. The Study of Single Biological and Model Membranes via Small-Angle Neutron Scattering. Progress in Colloid & Polymer Science, 1993, 93, 38-43.
17. Helming K., Voitus W., Walther K. Progress in Texture Investigation at the Pulsed Reactor IBR-2. Physica B, 1992 180-181, 1025-1028.
18. Ivankina T.I., Kovalyov L.A., Kovalyova Ye.V., Nikitin A.N. The Influence of the Texture Transitions within an Inclusion on the Stressed Elastic Medium. Fiz. Zemli, 1993, 6, 95-103 (in Russian).
19. Ivankina T.I., Nikitin A.N., Heinitz J., Kovalev L.A. Influence of Texture Transformations within Inclusions on the Stress State of an Elastic Medium. Materials of the XXIII General Assembly of the European Seismological Commission, 7.9-12.9, 1992, Prague, Czechoslovakia.
20. Lyubutin I.S., Terziev V.G., Dmitrieva T.V., Balagurov A.M., Nasu S. Magnetic Ordering of Fe Atoms in Oxygen-Saturated and Oxygen-Reduced  $YBa_2(Cu_{1-x}Fe_x)_3O_y$ . Physica C, 1992, 195, 383-389.
21. Lyubutin I.S., Terziev V.G., Luchko S.V., Shapiro A.Ya., Balagurov A.M., Bonch-Osmolovsky G.A. Magnetic Ordered States in the Oxygen Deficient  $YBa_2(Cu_{1-x}Fe_x)_3O_{y<6.5}$  System. Physica C, 1992, 199, 296-304.
22. Lyubutin I.S., Terziyev V.G., Balagurov A.M., Luchko S.V., Shapiro A.Ya., Bonch-Osmolovskiy G.A. Transformation of the Mössbauer Spectra in the  $YBa_2(Cu_{1-x}Fe_x)_3O_y$  System at the Oxygen Distillation and the Magnetically Ordered States of the Iron Ions. Superconductivity: Phys., Chem., Techn., 1992, 5, 1842-1854 (in Russian).
23. Lyubutin I.S., Terziyev V.G., Dmitriyeva T.V., Balagurov A.M. Structure Positions and Magnetic Order of the Fe Atoms in the  $YBa_2(Cu_{1-x}Fe_x)_3O_y$  System Enriched by and Depleted of Oxygen. Fiz. Tv. Tela, 1992, 34, 3212-3219 (in Russian).
24. Mironova G.M. Time-Resolved Diffraction and SANS Study of Thermal Behaviour of  $YBa_2Cu_3O_{7-x}$  Compound over a Temperature Range 900-1470 K. Materials Science Forum, 1993, 133-136, 847-852.

25. Mironova G.M. New Scope for the Condensed Matters Offered by the Single and Combined Pulsed Neutron Source and the Projection Geometry of an Experiment. In: Proc. of the Int. Workshop on Advanced Pulsed Neutron Sources. JINR, D3-92-76, Dubna, 1992, p.25 (in Russian).
26. Nikitin A.N., Archipov I.K., Kurtasov S.F., Walther K. The Model of Induced Anisotropy in Crystalline Rocks. Materials of the XXIII General Assembly of the European Seismological Commission, 7.9-12.9, 1992, Prague, Czechoslovakia.
27. Nikitin A.N., Arkhipov I.K. Modeling the Texture Formation in the Quartz-Containing Rocks at the Phase Transitions. *Fiz. Zemli*, 1992, 12, 29-40 (in Russian).
28. Nikitin A.N. Piezoelectric Textures of the Mountain Rocks and Mechanisms of their Formation in the Earth. Theses of the Report to the XVIII General Assembly of the European Geophysics Society. Wiesbaden, Germany.
29. Nikitin A.N. Texture Analysis of the Geological Matters and Geophysics Problems. Theses of the Report to the X international conference on texture of materials (ICOTOM 10). Clausthal-Zellerfeld, Germany.
30. Nikolayev D.I. Computational Optimization of the Bunge-Row Method. *Fiz. Zemli*, 1993, 6, 68-72 (in Russian).
31. Nietz V.V. Kinetics of the "Coherent" Spin-Flop Transition in the Antiferromagnetic with the Single-Axis Anisotropy. JINR Comm., P14-92-402, Dubna, 1992 (in Russian).
32. Prokert F., Savenko B.N., Balagurov A.M. Accurate Determination of IC Modulation Parameter in  $Sr_xBa_{1-x}Nb_2O_6$  from Second-Order Satellites of Neutron Diffraction TOF Spectra. JINR Communication E14-93-279, Dubna, 1993.
33. Savenko B.N., Keen D.A., Mroz B., Sangaa D., Wilson C.C. Neutron Diffraction Study of the Low Temperature Domain Structure in  $LiKSO_4$ . *Physica B*, 1992, 180-181, 309-311.
34. Stark P., Nikolayev D.I. Toward Tabular Tomography. *J.Geophysical Research*, 1993, 98, 8095-8106.
35. Tatulian S.A., Ermakov Yu.A., Gordeliy V.I., Sokolova A.B., Syrykh A.G. The Influence of  $Ca^{2+}$  and Some Chaotropic Ions on Inter Membrane Interaction. *Biological Membranes*, 1993, 6, 983-1008.
36. Trounov V.A., Kaganovich T.Yu., Kurbakov A.I., Matveev A.V., Balagurov A.M., Hewat A.W., Fischer P., Antson O., Maayouf R.M. Neutron Diffraction Studies of Isotope-Substituted Tetragonal Superconductors  $RBa_{2.76}Cu_{2.76}Fe_{0.24}O_{7+y}$  ( $R = Sm, Y$ ). *Physica C*, 1992, 197, 123-130.
37. Uhrikova D., Cherezov V., Yaradaikin S., Balgavy P. Mathematical Model of the Cut-Off Effect in the Homologous Series of Tertiary Amine Local Anesthetics. *Pharmazie*, 1993, 48, 450-466.

38. Ullemeier K., Weber K. Preferable Orientation of the Sheet Silicates in the Milonite Rocks and their Significance for the Kinetic Interpretation. *Fiz. Zemli*, 1993, 6, 104-112 (in Russian).
39. Voitus W., Heinitz J., Walther K., Isakov N.N. Neutronographische Bestimmung von Polfiguren am Diffraktometer NSWR in VIK Dubna. Materialien zum Arbeitstreffen des Verbundes Forschung mit Neutronen, 29.3-1.4., 1992, Bad Schandau, BRD.
40. Vladimirov V.A., Georgiyev D. et al. Handling Some Final-Control Mechanisms of the TEXT and DVR Experimental Facilities at the IBR-2 and IBR-30 Reactors. *JINR Comm.*, 13-92-123, Dubna, 1992 (in Russian).
41. Walther K., Isakov N.N., Nikitin A.N., Ullemeier K., Heinitz J. Investigation of the Texture Structure of the Geological Materials by the Diffraction Method with the Help of the High-Resolution Neutron Spectrometer at the Frank Laboratory of Neutron Physics of the Joint Institute for Nuclear Research. *Fiz. Zemli*, 1993, 6, 37-44 (in Russian).
42. Walther K., Kurtasov S.F., Nikitin A.N., Torina Ye.G. Modeling the Deformation Textures in the High-Temperature Quartz. *Fiz. Zemli*, 1993, 6, 45-48 (in Russian).
43. Walther K., Nikitin A.N., Shermergor T.D., Yakovlev V.B. Determining the Effective Electroelastic Constants of the Polycrystalline Textured Mountain Rocks. *Fiz. Zemli*, 1993, 6, 83-88 (in Russian).

### **Small-Angle Scattering**

1. Bezzabotnov V.Yu., Cher L., Grosz T., Jancso G., Ostanevich Yu.M. Small-Angle Neutron Scattering in Aqueous Solutions of Tetramethylurea. *Journ.Phys.Chem.*, 1992, 96, 976-982.
2. Birkholz W., Häußler F., Stetsenko S.G. Proc. II Int. Workshop "Solid State Nuclear Track Detectors and their Applications". JINR, E7-93-61, Dubna, 1993, p.29.
3. Cher L., Farago B., Grosz T., Jancso G., Ostanevich Yu.M. Structure and Dynamics of Aqueous Solutions of Tetramethylurea. *Physica B*, 1992, 180-181, 848-850.
4. Eichhorn F., Häußler F., Baumbach H. Development of Structures in Hydrating Cement Paste. Annual Report 1991 of the Research Centre Rossendorf Inc., FZR 92-06, p.64.
5. Eichhorn F., Häußler F., Baumbach H. Study of Hardening of Portland Cement Paste by Small-Angle Neutron Scattering. Annual Report 1992 of the Research Centre Rossendorf Inc., FZR 93-06, 1993, p.72.
6. Eichhorn F., Häußler F., Baumbach H. Structural Studies on Hydrating Cement Pastes. Accepted for publication in *Journal de Physique* (Proc. of the IX Int. Conf. on Small-Angle Scattering).

7. Gorsky N., Pstanevich Yu.M., Klose G. From und grosse von C12E4-D20-losung an hand der SANS-untersuchungen. Forschung mit Neutronen. Bad Schandau, 29.3-1.4.92, Conf. Proceedings.
8. Häußler F., Eichhorn F., Baumbach H., Birkholz W. Strukturbildung in hydratisierendem Zementstein. Forschung mit Neutronen, Bad Schandau, 29.3-1.4.92, Conf. Proceedings.
9. Häußler F., Eichhorn, Baumbach H., Röhling S. Untersuchungen zur Mikrostruktur ausgewählter Zementklinkerphasen und deren Hydrationsprodukten mittels Neutronenkleinwinkelstreuung. Wiss. Z. Hochsch. Archit. Bauwes. B, Weimar, 1991. 3, 123-126.
10. Häußler F., Eichhorn F., Baumbach H. Small-Angle Neutron Scattering on Hardened Cement Paste and Various Substances for Hydration. Submitted to Cement & Concrete Research, 1993.
11. Häußler F., Eichhorn F., Birkholz W., Baumbach H. SANS Study of Hardening Cement Pastes and Solid State Nuclear Track Detectors. Int. Seminar on Structural Investigations at Pulsed Neutron Sources. Dubna, Sept. 1-4, 1992. Conf.Proc., Dubna, 1993, p.315.
12. Häußler F., Eichhorn F., Baumbach H. SANS Studies of Hydrating Cement Pastes. Accepted for publication in Progress in Colloid and Polymer Science (Proc. of the VI.ECIS Conference).
13. Häußler F., Eichhorn F., Baumbach H. Description of the Structural Evolution of a Hydrating Portland Cement Paste by Small-Angle Neutron Scattering (SANS). Accepted for publication in Physica Scripta (Proc. of the Euroconference 1993, Studsvik, Sweden).
14. Hempel M., Häußler F., Eichhorn F. Vom ungebundenen zum gebundenen Wasser - Hydrationsfortschritt beim Zementstein, gemessen mittels Neutronenkleinwinkelstreuung. Submitted for publication in Proceedings des Feuchtetages der BAM am 21.09.1993, Berlin, P11.
15. Nikitenko Yu.V., Ostanevich Yu.M. Proposal of a Wide-Band Mirror Polarizer of Slow Neutrons at a Pulsed Neutron Source. JINR, E13-92-316, Dubna, 1992.
16. Plestil J., Ilavsky M., Pospisil H., Hlavata D., Ostanevich Yu.M., Degovics G., Laggner P. SAXS, SANS and Photoelasticity of Poly (N,N-diethylacrylamide) Networks. 1. Structure Changes after Temperature Jumps. Polymer, 1992.

### Inelastic Neutron Scattering

- Alekseev P.A., Clementyev E.S., Lazukov V.N., Sadikov I.P., Goremychkin E.A., Sashin I.L. Neutron Scattering and X-Ray Diffraction Study of the Valence-Unstable System  $Ce_{1-x}La_xNiSn$ . Physica B, 1993, 186-188, 416-418.
2. Alenitcheva T.V., Danilkin S.A., Novikov A.G., Pavlov A.F., Puchkov A.V., Semenov V.A., Yadrovskii E.L. Modernization of DIN-2PI, DIN-2Pr-Spectrometers and theirs Parameters. IPPE-2216 Preprint, Obninsk, 1992.

3. Belushkin A.V., Vagov A.V., Zemlyanov M.G., Parshin P.P. Computer Simulation and Neutron Scattering Studies of Lattice Dynamics of  $Ba_{1-x}K_xBiO_3$ . *Physica C*, 1992, 199, 103-111.
4. Blagoveshchenskii N.M., Bogoyavlenskii I.V., Karnatsevich L.V., Kozlov Zh.A., Puchkov A.V. Bose-Condensate Temperature Dependence and the First Measurements on DIN-22PR Spectrometer. IPPE-2241 preprint, Obninsk, 1992.
5. Blagoveshchenskii N.M., Bogoyavlenskii I.V., Karnatsevich L.V., Kozlov Zh.A., Puchkov A.V. Elementary Excitations Spectrum of He II Investigation by 2 meV Incident Neutron Scattering. IPPE-2259 preprint, Obninsk, 1992.
6. Blagoveshchenskii N.M., Bogoyavlenskii I.V., Karnatsevich L.V., Kozlov Zh.A., Kolobrodov V.G., Puchkov A.V., Skomorokhov A.N. The Structure of the Liquid Helium-4 Elementary Excitations Spectrum. *Pisma v zhurn. eksp. i teor. fiz.*, 1993, 57, 414-417 (in Russian).
7. Bobrowicz L., Kartusiak A., Nawrocik W., Wasicki J., Natkaniec I. Neutron Scattering in 1,3-Cyclohexanadione. Int. Seminar on Structural Investigations at Pulsed Neutron Sources, Dubna, Sept.1-4, 1992. JINR, E3-93-65, Dubna, 1993, p.307-314.
8. Bogoyavlenski I.V., Karnatsevich L.V., Kozlov Zh.A., Puchkov A.V. Neutron Scattering Determination of Condensate in Liquid  $^4He$ . *Physica B*, 1992, 176, 151.
9. Danilkin S.A., Minaev V.P., Sumin V.V., Chimit G. The Scope for the Inelastic Neutron Scattering Method in Investigations of the Hydrogen State in the Austenite Steels. Preprint PhEI-2334, Obninsk, 1993, 10 (in Russian).
10. Fedotov V.K., Kolesnikov A.I., Synitsyn V.V., Ponyatovsky E.G., Natkaniec I., Mayer J., Brankovski E., Belushkin A.V. Investigation of Hydrogen in the Superconducting Ceramics by the Inelastic Neutron Scattering Method. *Fiz. tv. tela*, 1993, 35, 189-197 (in Russian).
11. Fedotov V.K., Kolesnikov A.I., Kulakov V.I., Ponyatovsky E.G., Natkaniec I., Mayer J., Kravchik G. Investigation of the Anharmonism of the Copper and Oxygen Atoms Vibrations in the Yttrium Ceramics by the Inelastic Neutron Scattering Method. *Fiz. tv. tela*, 1993, 35, 310-319 (in Russian).
12. Gavriluk V.G., Danilkin S.A., Efimenko S.P., Minaev V.P., Sumin V.V. Slow-Neutron Scattering Study of the Nitrogen Fe-18Cr-10Mn216Ni Austenitic Steel. PhEI-2266 preprint, Obninsk, 1992.
13. Gomankov V.I., Sumin V.V., Fedorov V.G. The Atomic Ordering Energy Increase at the  $L1_2$  Structure Doping. *Fizika metallov i metalloved.*, 1992, 5, 158-160 (in Russian).
14. Gomankov V.I., Gezalyan A., Sosnin V.V., Sumin V.V., Tretyakov B.N., Fedotov V.G. The Structure Transformations and Metastable States in the Alloys of the  $Ni_3Mn - Ni_3Ti$  System. *Fiz. metallov i metalloved.*, 1992, 8, 105-109 (in Russian).

15. Gomankov V.I., Fedotov V.G., Sosnin V.V., Sumin V.V., Zhigalina O.M., Makarov V.A. The Atomic Ordering in the Micro- and Nanocrystal Alloys. *Fiz. metallov i metalloved.*, 1993, 2, 75-79 (in Russian).
16. Goremychkin E.A., Muzychka A.Yu., Osborn R. Crystal Field Potential of  $NdCu_2Si_2$ : A Comparison with  $CeCu_2Si_2$ . *Physica B*, 1992, 179, 184.
17. Goremychkin E.A., Osborn R. Crystal Field Excitations in  $CeCu_2Si_2$ . *Phys.Rev.*, B47, 1993, 14280.
18. Holderna-Natkaniec K., Natkaniec I. Study of Internal Vibrations of dl-camphene by IINS Method. XX International Conference on Low Temperature Physics. Eugene, Oregon, 1993, *Physica B* (in press).
19. Holderna-Natkaniec I., Habrylo S., Mayer J. Comparative Neutron Scattering Study of Molecular Ordering in d-Camphor and dl-Borneole. XX International Conf. on Low Temp.Phys. Eugene, Oregon, 1993, *Physica B* (in press).
20. Janik J.A., Mayer J., Habrylo S., Natkaniec I., Zajac W., Janik J.M., Stanck T. Phase Diagram of 4,4'-di-n-butyloxyazoxybenzene: Neutron Diffraction Measurements at Higher Pressures. *Phase Transitions*, 1992, 37, 239-251.
21. Kalus J., Wolfrum J., Worlen F., Holderna-Natkaniec K., Natkaniec I., Monkenbush M., Prager M. Internal Rotation-Phonon Coupling in Lattice Dynamics of p-Xylene. *Phonon Scattering in Condensed Matter VII*. Ed. by M.Meissner and R.O.Pohl. Springer Series in Solid State Sciences, vol.112, 1993, 521-523.
22. Kozlov Zh.A., Pedureanu I., Razhanu S., Rotarescu G., Semenov V.A. Functions of the Vibration Frequency Distribution of Atoms in  $ThO_2$   $UO_2$ . *Fiz. tv. tela*, 35, 1993, 1988-1995 (in Russian).
23. Markichev I.V., Natkaniec I., Sheka E.F. The Method of Constructing the Basis Spectra of the Multicomponent System: the Criterium of the Zero Correlation Coefficient. *JINR Comm.*, P14-92-85, Dubna, 1992. *Zhurn. strukt. khimii*, 34(1), 1993, 44-53 (in Russian).
24. Markichev I.V., Natkaniec I., Sheka E.F. Constructing the Basis Spectra of the Multicomponent System Oscillations. 1. Aerosil. *JINR Comm.*, P14-92-86, Dubna, 1992. *Zhurn. strukt. khimii*, 34, 1993, 54-63 (in Russian).
25. Markichev I.V., Natkaniec I., Sheka E.F. Constructing the Basis Spectra of the Multicomponent System Oscillations. 2. Silicagel. *JINR Comm.*, P14-92-87, Dubna, 1992. *Zhurn. strukt. khimii*, 34(1), 1993, 64-76 (in Russian).
26. Markichev I.V., Muzychka A.Yu., Natkaniec I., Sheka E.F. Constructing the Basis Spectra of the Multicomponent System oscillations. 3. Aerogel. *Zhurn. strukt. khimii*, 34(4), 1993, 29-37.
27. Morozov S.I., Kazarnikov V.V., Sumin V.V. Impurity Vibrations in Interstitial Phases. PhEI-2273 preprint, Obninsk, 1992.

28. Muzychka A.Yu., Goremychkin E.A., Sashin I.L., Divis M., Nekvasil V., Nevrina M., Fillion G. Crystal Field in  $Nd_2CuO_4$ . Sol. St. Comm., 82, 1992, 461-464.
29. Muzychka A.Yu., Goremychkin E.A., Natkaniec I., Sashin I.L., Divis M. The crystal field in the  $Nd_2CuO_4$  compound. SFKhT, 5, 1992, 1417-1422.
30. Natkaniec I., Fricke J., Khavryuchenko V., Markichev I., Muzychka A., Reichenaner G., Sheka E.F. Water on Amorphous Silicas: INS Study. Physica B, 180-181, 1992, 522-524.
31. Natkaniec I., Bragin S.I., Brankowski J., Mayer J. Multicrystal Inverted Geometry Spectrometer NERA-PR at the IBR-2 Pulsed Reactor. Proc. Int. Collaboration on Advanced Neutron Sources ICANS XII, RAL, Abingdon, 1993 (in press).
32. Natkaniec I., Smirnov L.S., Solov'ev A.I., Bragin S.I. Neutron Scattering Studies of Ammonium Dynamics and Phase Transition in  $K(1-x)(NH_4)_xSCN$  at 10K. XX Int. Conf. on Low Temperature Physics. Eugene, Oregon, 1993, Physica B (in press).
33. Sheka E.F., Markichev I.V., Khavryutchenko V.D., Natkaniec I. Comparative Analysis of the Vibration Spectra of the Dispersed Silicas and their Components. Zhurn. strukt. khimii, v.34(4), 1993, 39-51 (in Russian).
34. Sheka E.F., Natkaniec I., Khavryutchenko V.D., Nechitaylov P.B., Muzychka A.Yu., Markichev I.V., Ogenko V.M. Vibration Spectroscopy of the Dispersed Silica: Inelastic Neutron Scattering. Zhurn. fiz. khimii, 67(1), 1993, 38-47 (in Russian).
35. Sheka E.F., Natkaniec E., Khavryutchenko V.D., Markichev I.V. Vibration of Disperse Silicas. Phonon Scattering in Condensed Matter VII. Ed. by M.Meissner and R.O.Pohl. Springer Series in Solid State Sciences, vol.112, 1993, 303-305.
36. Sheka E.F., Natkaniec I., Khavryutchenko V.D., Markichev I.V., Chuyko A., Ogenko V. Vibrations of Dispersed Silicas: A Comparative Study. React.Kinet. Catal. Lett., v.50, 1993, 221-226.
37. Sheka E.F., Natkaniec I., Khavryutchenko V.D., Markichev I.V., Muzychka A.Yu., WangY., Herron N. Density of Vibrational States of Thiol Capped CdS Particles. Inelastic Neutron Scattering. 3rd Int. Conf. on Surface X-Ray and Neutron Scattering, Dubna, 1993. Physica B (in press).
38. Sheka E.F., Natkaniec I., Khavryutchenko V.D., Markichev I.V., Muzychka A., Goncharova N., Chukalin V., Nikitina E. Density of Vibrational State of Silicone Nitride. 3rd Int. Conf. on Surface X-Ray and Neutron Scattering, Dubna, 1993. Physica B (in press).
39. Sheka E.F., Khavryutchenko V.D., Natkaniec I., Markichev V.I., Muzychka A.Yu., Nechitaylov P.B. Vibrational Spectroscopy of Dispersed Silica: Aerosol. Zh. Struct. Khimii, vol.33, No.4, 1992, 66-75 (in Russian).

40. Smirnov L.S., Gorchakova V.A., Gromnitskaya E.L., Il'ina G.G., Natkaniec I., Solov'ev A.I., Stal'gorova O.V. The Acoustic and Neutron Scattering Investigations of NH<sub>4</sub>SCN Phase Diagram. High Pressure Conf., Belfast, 1993 (in press).
41. Tumanov A.A., Zarko V.I. The Influence of Pyrogenic Silica Hydration on Water Diffusion in Surface Layers. In: Int. Conf. of Oxide Surface Chemistry and Reaction Mechanism. Kiev, Ukraine, 1992, v.1, p.139-143.
42. Wojcik G., Jakubowski B., Szostak M.M., Holderna-Natkaniec K., Mayer J., Natkaniec I. Neutron Diffraction and Direct Dilatometric Studies of Two Polymorphs of Meta-Nitrophenol Crystals. phys. stat. sol.(a), 134, 1992, 139-150.
43. Zaetz V.A., Nikitina E.A., Khavryutchenko V.D., Sheka E.F., Natkaniec I., Nechitaylov P.B., Muzychka A.Yu. Vibrational Spectrum of Water Absorbed on High Disperse Ni Particles. Poverhnost: fiz., khim., mekhanika, 9, 1992, 33-46 (In Russian).
44. Zaezzhev M.V., Ivanovskii M.N., Novikov A.G., Savostin V.V., Shimkevich A.L. The Elementary Excitation Spectrum of Liquid Potassium. PhEI-2245 preprint, Odninsk, 1992.
45. Zaezzhev M.V., Novikov A.G., Savostin V.V. The Isotopic Specific Heat and Anharmonic Effect in Liquid Potassium. PhEI-2276 preprint, Odninsk, 1992.

### Reflectometry, Polarized Neutrons

1. Aksenov V.L., Korneev D.A., Chernenko L.P. Time-of-Flight Four-Beam Neutron Reflectometer (REFLEX) at the IBR-2 Pulsed Reactor of JINR, Dubna: Some Applications of Polarized Neutron Reflectometry. Proc. of SPIE's 1992 Int. Symp. on Optical Applied Science and Engineering, 19-24 July, 1992.
2. Aksenov V.L., Korneev D.A., Maayuf R.M.A., Chernenko L.P. Multi-Beam Neutron Reflectometer for a Steady State Reactor. JINR Communications E3-93-430, Dubna, 1993.
3. Aksenov V.L., Korneev D.A., Chernenko L.P. The Time-of-Flight Four-Beam Neutron Reflectometer REFLEX at the High Flux Pulsed Reactor IBR-2 and Some Possible Application. JINR Communications E3-93-215, Dubna, 1993.
4. Aksenov V.L., Dokukin E.B., Nikitenko Yu.V., Petrenko A.V., Sergeenkova S.A. Neutron Polarization Investigations of High Temperature Superconductors. Physica Scripta, 48, 1993.
5. Dokukin E.B., Nikitenko Yu.V. On Variants of the Neutron Adiabatic Spin Flipper. Nucl. Instr. and Meth., A330, 1993, 462-464.
6. Krezhov K., Lilkov L., Korneev D., Konstantinov P. On the Wavelength Dependent Neutron Depolarization Studies of the Domain Structure in Ferromagnetic Amorphous Alloys. Journal of Physics: Condensed Matter, 5, 1993, 9277-9287.
7. Korneev D.A. New Aspect in Employing Magnetic, Anisotropic FeCo Thin Film as Neutron Polarizers. Proc. of SPIE's 1992 Int. Symp. on Optical Applied Science and Engineering, 19-24 July, 1992.

8. Korneev D.A., Chernenko L.P., Petrenko A.V., Balalykin N.I., Skrypnik A.V. Measurement of Magnetic Field Depth Profile in Superconducting Niobium Films by Polarized Neutron. Proc. of SPIE's 1992 Int. Symp. on Optical Applied Science and Engineering, 19-24 July, 1992.
9. Korneev D.A., Chernenko L.P., Petrenko A.V., Balalykin N.I., Skrypnik A.V. Anomalous Behavior of the Diamagnetic Profile of the Superconducting Niobium at the Boundary with Vacuum. Pisma v zhurn. eksp. i teor. fiz., 55, 1992, 653-656 (in Russian).
10. Korneev D.A., Pasyuk V.V., Petrenko A.V., Jankovski H. Absorbing Sublayers and their Influence on the Polarizing Efficiency of Magnetic Neutron Mirrors. Nucl. Instr. and Meth., B63, 1992, 328-332.
11. Korneev D.A., Chernenko N.V., Chernenko L.P. A New Aspect in the Investigation of the Polarized Neutron Passing Through Ferromagnetics. JINR Comm., P3-92-533, Dubna, 1992.
12. Korneev D.A., Chernenko L.P., Petrenko A.V., Balalykin N.I., Skrypnik A.V. Anomalous Behaviour of the Diamagnetic Profile of Superconducting Niobium near a Vacuum Boundary. Pi'sma Zh. Eksp. Teor. Fiz., 44, No.11, 1992, 653-656 (in Russian).
13. Korneev D.A., Chernenko L.P., Petrenko A.V., Balalykin N.I., Skrypnik A.V. Measurement of Magnetic Field Depth Profile in Superconducting Niobium Film by Polarized Neutron Reflectometry. In: Neutron Optical Devices and Applications. Ed. by C.F.Majkrzak, J.L.Wood. Proc. SPIE 1738, 1992, 254.
14. Nagy D.L., Pasyuk V.V. Calculation of Mossbauer Reflectometry Spectra. Hyperfine Interactions, 71, 1992, 1349-1352.
15. Nikitenko Yu.V., Ostanevich Yu.M. Proposal of a Wide-Land Mirror Polarizer of Slow Neutrons at a Pulsed Neutron Source. Nucl. Instr. and Meth., A325, 1993, 485-488.
16. Pasyuk V.V., Lauter H.J., Bland J.A., Petrenko A.V., Johnson M.T., den Broeder F.J.A. Magnetic Moment in *CoPd* Ultra-Thin Film Studied by Polarized Neutron Specular Reflection. Proc. of Symp. on Surface Science. La Plagne, Savoie, France, 15-21 March 1992.

### Accelerated Ions

Borovik A.S., Epifanov A.A., Korneev D.A., Malyshevsky V.S. The Peculiarities of the Ion Channeling in the  $YBa_2Cu_3O_7$  Single Crystal. JINR Communications P14-92-396, Dubna, 1992 (in Russian).

Borovik A.S., Epifanov A.A., Kobzev A.P., Korneev D.A., Malyshevsky V.S., Potapov C.N. Determining the Thickness of the Disordered Layers at the Twin and the Film/Base Boundaries. A Report to the XXIII International Workshop on the Physics of the Interactions of Charged Particles with Crystals. Moscow State University, May 31-June 2, 1993 (in Russian).

3. Borovik A.S., Kobzev A.P., Korneev D.A., Potapov A.S., Chernenko L.P., Shirokov D.M. Damaging the Crystal Lattice of the  $Y - Ba - Cu - O$  Film Irradiated by the  $^4He$  Ions with the Energy of 3.075 MeV. A Report to the XXIII International Workshop on the Physics of the Interactions of Charged Particles with Crystals. Moscow State University, May 31–June 2, 1993 (in Russian).
4. Borovik A.S., Kobzev A.P., Korneev D.A., Chernenko L.P., Shirokov D.M., Ivanov P.B. Channeling the  $^4He$  Ions in the  $Y - Ba - Cu - O$  Film on the  $SrTiO_3$  Base. A Report to the XXIII International Workshop on the Physics of the Interactions of Charged Particles with Crystals. Moscow State University, May 31–June 2, 1993 (in Russian).
5. Chernenko L.P., Kobzev A.P., Korneev D.A., Shirokov D.M. Backscattering Method Possibilities for Precise Determination of the Oxygen Profile in Oxide Films by the Use of the Elastic Resonance in Reaction  $^{16}O(^4He, ^4He)^{16}O$  at 3.045 MeV of  $^4He$ . Surface and Interface Analysis, 18, 1992, 585-588.
6. Chernenko L.P., Kobzev A.P., Korneev D.A., Shirokov D.M. Damage in  $Y - Ba - Cu - O$  Films Produced by  $^4He$  Ions. 3rd European Workshop on Modern Developments and Applications in Microbeam Analysis. Rimini, Italy, 9-13 May, 1993. Accepted in Microchimica Acta.
7. Chernenko L.P., Kobzev A.P., Korneev D.A., Shirokov D.M. On Mechanism of Damage Production in  $YBaCuO$  Films by  $^4He$  Ions. VI Trilateral German-Russian-Ukrainian Seminar on High-Temperature Superconductivity. Dubna, September 14-18, 1993. To be published in "Superconductivity: Physics, Chemistry, Mechanics".
8. Chernenko N.V., Chernenko L.P., Shirokov D.M. The Program for Calculating the Cross-Section of the  $^{16}O(^4He, ^4He)^{16}O$  Reaction in the Energy Interval of 2.4 to 4.0 MeV. JINR Communications P3-93-11, Dubna, 1993 (in Russian).
9. Duvanov S.M., Kobzev A.P., Tolopa A.M., Shirokov D.M. Investigation of the Metallized Intermingled Layers at the Surface of the Ion-Irradiation Modified Glass. A Report to the XXIII International Workshop on the Physics of the Interactions of Charged Particles with Crystals. Moscow State University, May 31–June 2, 1993 (in Russian).
10. Grubich L., Kobzev A.P., Shandrik R., Shafrankova Ya. Using the Proton Irradiation for Improving the Properties of the  $GaAs$ -based Semiconductor Structures with Shottky Barrier. JINR Communications P14-93-75, Dubna, 1993 (in Russian).
11. Klyuenkov E.B., Churin S.A., Chernenko L.P. Obtaining the  $Nb$  Ultrathin Layers from the Erosion Laser Plasma and Investigation of their Properties. JINR Communications P3-93-174, Dubna, 1993 (In Russian).
12. Kobzev A.P., Korneev D.A., Chernenko L.P., Shirokov D.M. Increasing the Accuracy of the Oxygen Concentration Profile Measurement in the Thin Film Samples. JINR Preprint, P14-93-161, Dubna, 1993 (in Russian).

## Theory

1. Aksenov V.L., Kabanov V.V. On the Role of Antiferromagnetic Fluctuations in Temperature Dependence of Linewidth of the Transition Between the Crystal Field Levels in High- $T_c$  Superconductors. JINR Communications E17-93-229, Dubna, 1993.
2. Aksenov V.L., Kabanov V.V. Inelastic Neutron Scattering and Antiferromagnetic Fluctuations in High Temperature Superconductors. JINR Communications E17-93-366, Dubna, 1993.
3. Aksenov V.L., Bugoslavsky Yu.V., Dokukin E.B., Ignatovich V.K., Minakov A.A., Nikitenko Yu.V., Petrenko A.V., Sergeenkova S.A. A Possible Observation of the Depinning Line in  $YBaCo$  Ceramics from Neutron Polarization Studies. Proc. of the VI Trilateral Seminar on HTSC, Dubna, 14-18 September, 1993.
4. Chesca B. On the Theoretical Study of an RF-SQUID Operation Taking into Account the Noise Influence. Accepted in Journ. of Low Temp. Phys.
5. Chesca B. On the Theory of Symmetrical Double
6. Kornilov E.I. An Exact Enumeration of Self-Avoiding Loops on the Square Lattice. Communication ICTP, IC/93/382, Trieste, 1993. SQUID. Accepted in Physica C.
7. Kornilov E.I., Pomjakushin V.Yu. Strong Collision Approach to Calculation of Depolarization Function for Neutron Beam Passing Through Ferromagnetic Bulk Domains. Communication ICTP, IC/93/384, Trieste, 1993.
8. Kornilov E.I. Calculation of Reflectivity from Fractal Multilayers. Proc. of the VI Trilateral Seminar on HTSC, Dubna, 14-18 Sept., 1993. Accepted in Physica B.

## The Neutron Nuclear Physics

## Experiment

1. Alexandrov Yu.A. Comments on the paper by V.G.Nikolenko and A.B.Popov "On the Correctness of Estimates on  $(n, e)$ -Amplitude and Neutron Polarizability from Total Cross Sections of  $Bi$  and  $Pb$ . Z.Phys. A341, 1992, p.365.
2. Alexandrov Yu.A., Koester L., Samosvat G.S., Waschkowski W.  $^{208}Pb$  and the Electric Polarizability of the Neutron. In: Abstracts of the International Seminar on the Interactions of Neutrons with Nuclei. Dubna, April 14-17, 1992. JINR, à3-92-128, Dubna, 1992, p.19.
3. Alexandrov Yu.A. What is the Mean Square Radius of the Neutron Actually Equal to? JINR Preprint, E3-92-441, Dubna, 1992.
4. Alexandrov Yu.A. The Mean Square Radius of Electric Charge Distribution Inside the Neutron. What is it Still Equal to? In: In: Abstracts of the International Seminar on the Interactions of Neutrons with Nuclei. Dubna, April 14-17, 1992. JINR, à3-92-128, Dubna, 1992, p.18.

5. Alexandrov Yu.A. Fundamental Properties of the Neutron. Clarendon Press, Oxford, London, 1992.
6. Alexandrov Yu.A. What is the Mean Square Charge Radius of the Neutron Actually Equal to? In: Abstract Booklet of 8th Int. Symp. on Capture Gamma-Ray Spectroscopy and Related Topics. Fribourg, Switzerland, 20-24 Sept., 1993, p.77.
7. Alexandrov Yu.A. On Discrepancy between the Garching and Dubna Results of Determination of the  $(ne)$ -Scattering Length on Bismuth. JINR, E3-93-35, Dubna, 1993.
8. Alfimenkov V.P., Mareev Yu.D., Novitsky V.V., Pikelner L.B., Skoy V.R. PNC Study with Polarized Target and Spin Property of  $La$ . In: Time Reversal Invariance and Parity Violation in Neutron Reactions. World Scientific, 1993, p.84.
9. Alfimenkov V.P., Mareev Yu.D., Pikelner L.B., Skoy V.R., Shvetsov V.N. Investigation of Parity Violation in Neutron Resonances of  $Rb$  and  $^{113}Cs$ . In: Int. Nucl. Phys. Conf., July 26 - August 1, 1992, Wiesbaden, Germany. Book of Abstracts. Ed. by U.Grundinger, p.4.2.4.
10. Alfimenkov V.P. et al. Method for Calibration of Losses in Neutron Lifetime. Experiments with UCN. Nucl. Instr. and Meth in Phys. Res., 1993, v.A324, p.496-500.
11. Ali M.A., Vasilieva E.V., Vojnov A.V., Kulik V.D., Le Khong Khiem, Popov Yu.P., Sukhovoij A.M., Pham Dinh Khang, Khitrov V.A., Kholnov Yu.V., Shilin V.N. The Decay Scheme of the 7937 keV  $^{158}Gd$  Compound State Induced in the  $(n, \gamma)$  Reaction. In: Nuclear Spectroscopy and atomic Nucleus Structure. Theses of the Reports to the 42nd International Workshop. St. Petersburg, Nauka, 1992, p.81 (in Russian).
12. Ali M.A., Khitrov V.A., Kholnov Yu.V., Kulik V.D., Khiem L.H., Khang P.D., Popov Yu.P., Shilin V.N., Sukhovoij A.M., Vasilieva E.V., Vojnov A.V. Intense Cascades Following  $^{158}Gd$  Compound-State Decay. In: International Nucl.Phys. Conf., Wiesbaden, Germany, 1992. Book of Abstracts. Ed. by U.Grundinger, p.1.3.42.
13. Ananiev V.D., Voronov B.I., Gundorin N.A., Popov A.B. The Way of Measuring the Spatial Distribution of the Primary Neutrons in the Pulsed Booster. JINR, E3-92-350, Dubna, 1992 (in Russian).
14. Andrzejewski J., Gledenov Yu.M., Popov Yu.P., Salatski V.I., Sedyshov P.V., Li Ho Bom., Pshenichnyj V.A. Investigation of the  $^{14}N(n, p)^{14}C$  Reaction by Neutron Filter Technique. In: "Nuclei in the Cosmos". Proc. of the Second Int.Symp. on Nuclear Astrophysics, Karlsruhe, Germany, 6-10 July, 1992. Ed. by F.Kappeler, K.Wisshak. Bristol and Philadelphia, 1993, p.239-242.
15. Barabanov A.L., Sharapov E.I., Skoy V.R. Measurements of T-Odd, P-Even Effects in  $^{113}Cd(n, \gamma)^{114}Cd$  and  $^{117}Sn(n, \gamma)^{118}Sn$  Reactions. In: Abstract Booklet of VIII Int. Symp. on Capture Gamma-Ray Spectroscopy and Related Topics, Fribourg, Switzerland, 20-24 Sept., 1993, p.78.

16. Barabanov A.L., Sharapov E.I., Skoy V.R., Frankle C.M. Testing T-Odd, P-Even Interactions with  $\gamma$ -Rays from Neutron p-Wave Resonances. *Phys. Rev. Lett.*, 1993, v.70, p.1216-1219.
17. Beitins M.R., Bondarenko V.A., Kuvaga I.L., Prokofiev P.T., Le Khong Khiem, Popov Yu.P., Sukhovoij A.M., Pham Dinh Khang, Khitrov V.A., Kholnov Yu.V. Investigation of  $^{177}Lu$  in the  $(n, 2\gamma)$  Reaction. In: Nuclear Spectroscopy and Atomic Nucleus Structure. Theses of the Reports to the 42nd International Workshop. St. Petersburg, Nauka, 1992, p.93 (in Russian).
18. Beitins M.R., Bondarenko V.A., Kuvaga I.L., Le Hong Khiem, Popov Yu.P., Prokofiev P.T., Sukhovoij A.M., Pham Dinh Khang, Khitrov V.A., Kholnov Yu.V. Investigation Into the Decay of the  $^{177}Lu$  Nucleus Compound State in the  $(n, 2\gamma)$  Reaction. *Izv. RAN, ser. fiz.*, 57, 1993, 36-46 (in Russian).
19. Beitins M.R., Boneva S.T., Khitrov V.A., Malov L.A., Popov Yu.P., Prokofiev P.T., Rezvaya G.L., Simonova L.I., Sukhovoij A.M., Vasilieva E.V. Study of the  $^{187}W$  States Excited in the  $(n, \gamma)$  Reaction. *Z.Phys. A - Hadrons and Nuclei*, 1992, 341, p.155-170.
20. Bogdzel A.A., Gundorin N.A., Gohs U. et al. Peculiarity of the Fission of  $^{239}Pu$  by Resonance Neutrons. In: Nuclear Data for Science and Technology. Proc. of Int. Cond. Jülich, FRG, 13-17 May, 1991. Springer Verlag, 1992, p.150-152.
21. Bogdzel A.A., Gundorin N.A., Popov A.B. et al. Prompt Gamma-Ray Emission from Fission of  $^{239}Pu$  by Resonance Neutrons. In: Dynamical Aspects of Nuclear Fission. Proc. of Int. Workshop, Smolenice, Czechoslovakia, June 17-21, 1991. JINR E7-92-95, Dubna, 1992, p.305-311.
22. Bogdzel A.A., Gundorin N.A., Popov A.B. et al. Prompt Gamma-Rays Yields at Individual Fission Resonances of  $^{239}Pu$ . In: Dynamical Aspects of Nuclear Fission. Proc. of Int. Workshop, Smolenice, Czechoslovakia, June 17-21, 1991. JINR, E7-92-95, Dubna, 1992, p.312-313.
23. Bondarenko V.A., Kuvaga I.L., Prokofiev P.T., Le Khong Khiem, Popov Yu.P., Sukhovoij A.M., Pham Dinh Khang, Khitrov V.A., Kholnov Yu.V. Gamma-Decay of the  $^{135}Ba$  Compound State. In: Nuclear Spectroscopy and Atomic Nucleus Structure. Theses of the Reports to the 42nd International Workshop. St. Petersburg, Nauka, 1992, p.68 (in Russian).
24. Bondarenko V.A., Kuvaga I.L., Prokofjev P.T., Khitrov V.A., Kholnov Yu.V., Le Hong Khiem, Popov Yu.P., Sukhovoij A.M. Thermal-Neutron Capture Studies on Ba-135. *Nucl.Phys.*, A551 (1993) 54-72.
25. Bondarenko V.A., Kuvaga I.L., Le Khong Khiem, Popov Yu.P., Prokofiev P.T., Sukhovoij A.M., Pham Dinh Khang, Khitrov V.A., Kholnov Yu.V.  $\gamma$ -Transition Cascades of the  $^{143}Nd$  Compound State Decay. *Izv. RAN, ser. fiz.*, 57, 1993, 47-55 (in Russian).
26. Bondarenko V.A., Kuvaga I.L., Le Khong Khiem, Popov Yu.P., Prokofiev P.T., Sukhovoij A.M., Pham Dinh Khang, Khitrov V.A., Kholnov Yu.V.  $\gamma$ -Decay of the  $^{135}Ba$  Compound State. *Izv. RAN, ser. fiz.*, 57, 1993, 56-60 (in Russian).

27. Boneva S.T., Khitrov V.A., Kholnov Yu.V., Le Hong Khiem, Pham Dinh Khang, Popov Yu.P., Sukhovoj A.M., Bondarenko V.A., Kuvaga I.L., Prokofiev P.T., Rezvaya G.L., Simonova L.I. Experimental Estimates on Radiative Strength Function of Low-Energy  $\gamma$ -Quanta Following Even-Odd Heavy Nuclei Decay. JINR E3-92-244, Dubna, 1992. Z.Phys. A - Hadrons and Nuclei, A346 (1993) 35-42.
28. Chelkov G.A., Ignatenko M.A., Kotov S.A., Kravchenko I.V., Krumstein Z.V., Samosvat G.S., Shvetsov V.N., Strelkov A.V., Fadeev V.A. Investigation of Spectral Efficiency of Pressurized Drift Tubes for Detection of Neutrons in the Energy Range between 5 eV and 200 keV. ATLAS Internal Note MUON-NO-031, Nov. 15, 1993.
29. Dermendjiev E., Goverdovski A.A., Furman W.I. et al. Fission Gamma-Ray Multiplicity Measurements in  $^{233}U$ ,  $^{235}U$ ,  $^{237}Np$  and  $^{239}Pu$  Low Energy Fission Resonances. Proc. of the Int. Conf. "Nucl. Data for Science and Technology", Jülich, 13-17 May, 1991, p.147-149, Springer-Verlag, Berlin, 1992.
30. Dermendjiev E. et al. An Experimental Facility for Studying Delayed Neutron-Emission. JINR, E13-93-6, Dubna, 1993.
31. Dermendjiev E., Furman W.I., Zamyatnin Yu.S. A Study of Delayed Neutrons and Nuclear Fission at the Dubna IBR-2 Pulsed Reactor. JINR, E3-93-7, Dubna, 1993.
32. Frank A.I. Microscopy with Ultracold Neutrons. In: Neutron Optical Devices and Applications. Ed. by C.F.Majkrzak, J.L.Wood. SPIE, 1993, v.1738, p.323-334.
33. Frank A.I., Nosov V.G. Quasi-Energy of Cold Neutrons and Neutron Time Interferometer. In: Quantum Interferometry. Ed. by F. de Martini, A.Zeilinger. World Scientific, Singapore, 1993.
34. Frank A.I., Amandzolova D.B. Neutron Quantum Reflection. JINR Communication E3-93-418, Dubna, 1993; In: New Horizons: A Workshop on the State of the Art in Neutron Reflectometry. Gaithersburg, Ma., USA, Dec. 9-10, 1993.
35. Frankle C.M., Bowman C.D., Bowman J.D., Seestrom S.J., Sharapov E.I., Popov Yu.P., Roberson N.B. P-Wave Resonance Spectroscopy in  $^{113}Cd$ . Phys. Rev., 1992, C45, p.2143.
36. Georgiev G.P., Grigoriev Yu.V., Zamyatnin Yu.S. et al. Determining Parameters of the  $^{149}Sm$  Neutron Resonances by Method of the  $\gamma$ -Quanta Multiplicity Spectroscopy. JINR Comm., P3-92-346, Dubna, 1992 (in Russian).
37. Georgiev G.P., Zamyatnin Yu.S., Pikelner L.B. et al. Determining Parameters of the  $^{147,148}Sm$  Neutron Resonances. Vopr. atomn. nauki i tekhn. Series: Yad. konst., 1992, v.2, p.75-85 (in Russian).
38. Georgiev G.P. et al. Determining the Neutron Resonances Spin from the Shape of the Spectrum of the Capture Gamma-Quanta Multiplicity. PhEI-2277 preprint, Obninsk, 1992 (in Russian).

39. Georgiev G.P., Grigoriev Yu.V., Zamyatnin Yu.S. et al. On the Study of Neutron Resonances in  $^{147}Sm$ . Proc. of Int.Conf. "Nuclear Data for Science and Technology", Jülich, Germany, 13-17 May, 1991, p.80. Springer Verlag, Berlin, 1992.
40. Georgiev G., Grigoryev Yu.V., Muradyan G.V., Yaneva N.B. Multiplicity of Gamma-Rays in Neutron Resonances of  $^{176}Hf$  and  $^{179}Hf$ . In: Abstract Booklet of Eight Int. Symp. on Capture Gamma-Ray Spectroscopy. Fribourg, Switzerland, Sept. 20-24, 1993, p.203.
41. Georgiev G., Grigoryev Yu.V., Faykov-Stanczyk H. et al. Multiplicity of Gamma-Rays Following Neutron Resonance Capture in  $Sm$  Isotopes and Determination of the Resonance parameters of  $^{147,148,149}Sm$ . In: Proc. of Second International Symposium on Nuclear Excited States. Lodz, June 1992. Ed. by L.Lason and M.Przytula. Lodz Univ., 1993, p.264-271.
42. Gledenov Yu.M., Khuukhenkhuu G., Popov Yu.P., Bao Shanglian, Tang Guoyou, Qu Decheng, Cao Wentian, Chen Zemin, Chen Yingtang, Qi Huiquan. Energy Spectra of Charged Particles Emission Induced by 3-4 Mev Neutrons. In: Int. Seminar on the Interactions of Neutrons with Nuclei. Dubna, 14-17 April, 1992. JINR, E3-92-128, Dubna, 1992, p.41.
43. Gledenov Yu.M., Salatski V.I., Sedyshev P.V., Sedysheva M.V., Pshenichnyj V.A., Andrejewski J.  $^{14}N(n,p)^{14}C$  Reaction Cross Sections at Thermal, 24 keV, 54 keV and 144 keV Neutron Energy. In: "Abstract Booklet". 8th Int. Symp. on Capture Gamma-Ray Spectroscopy and Related Topics. Fribourg, Switzerland, 20-24 Sept., 1993, p.204.
44. Gledenov Yu.M., Khuukhenkhuu G., Popov Yu.P., Bao Shanglian, Tang Guoyou, Qu Decheng, Cao Wentian, Chen Zemin, Chen Yingtang, Qi Huiquan. Study of the  $^{40}Ca(n,\alpha)^{37}Ar$  Reaction at Neutron Energies 4 and 5 MeV. In: "Abstract Booklet". 8th Int. Symp. on Capture Gamma-Ray Spectroscopy and Related Topics. Fribourg, Switzerland, 20-24 Sept., 1993, p.505.
45. Gledenov Yu.M., Khuukhenkhuu G., Popov Yu.P., Bao Shanglian, Tang Guoyou, Qu Decheng, Cao Wentian, Chen Zemin, Chen Yingtang, Qi Huiquan. Measurement of Cross Section at 5 MeV and Angular Distribution at 4 and 5 MeV for Reaction  $^{40}Ca(n,\alpha)^{37}Ar$ . Communication of Nuclear Data Progress, No.8, 1992, p.7-15. China Nuclear Information Center, Atomic Energy Press, Beijing.
46. Gohs U. Evaluation of Total Fission Characteristics for  $^{239}Pu$  in the Low Energy Region. In: Dynamical Aspects of Nuclear Fission. Proc. of Int. Workshop, Smolenice, Czechoslovakia, June 17-21, 1991. JINR, E7-92-95, Dubna, 1992, p.314-319.
47. Gohs U. Evaluation of Total Fission Characteristics for  $^{235}U$  in the Low Energy Region. In: Nuclear Data for Science and Technology. Proc. of Int. Conf. Jülich, FRG, 13-17 May, 1991. Springer Verlag, 1992, p.98-100.

48. Golikov V.V., Ignatovich V.K., Kulagin E.N. Measurement of the Ultracold Neutrons Loss Coefficient in the Beryllium Powder. *Yad. Fiz.*, 1992, v.55, 3, p.608-616 (in Russian).
49. Grigoriev Yu.V., Gundorin N.A., Duka-Zolyomi A. Measurement of the Total Transmission and Self-Indication Functions in the  $^{239}Pu$  Fission Cross-Section within the Energy Band of 4.65 eV to 200 keV. PhEI-2226 preprint, Obninsk, 1992 (in Russian).
50. Grigoriev Yu.V., Georgiev G.P., Zamyatnin Yu.S. et al. Measurement and Analysis of Resonance Structure for  $^{238}U$  Total and Radiative Capture Cross Sections in Energy Range 0.465-200 keV. Proc. of Int. Conf. "Nuclear Data for Science and Technology", Jülich, FRG, 13-17 May 1991. Springer Verlag, Berlin, 1992, p.83-85.
51. Gundorin N.A., Popov A.B., Dao Ahn Minh, Michailov L.V., Kliman J., Polgorski V., Duka-Zolyomi A., Gohs U. On the Independent Fragment Yields in the Fission of  $^{239}Pu$  Induced by Resonance Neutrons. In: Proc. of Second International Symposium on Nuclear Excited States. Lodz, June 1992. Ed. by L.Lason and M.Przytula. Lodz Univ., 1993, p.181-188.
52. Iolin E.M., Raitman E.A., Gavrilov V.N., Kuvaldin B.V., Alexandrov Yu.A., Sedlakova L.N., Loshkarev A.A. The Effect of High Frequency Ultra-Sound on the Diffraction of Thermal Neutrons in Bent Silicon Single Crystal. Bragg Case. Int. Seminar on Structural Investigations at Pulsed Neutron Sources. Dubna, 1-4 Sept., 1992. JINR, E14-93-65, Dubna, 1993, p.278.
53. Janeva N., Georgiev G., Sirakov I. et al. A Setup for Precise Measurement of Resonance Neutron Capture by Self-Indication. *Nucl. Instr. and Meth. in Phys. Res.*, A313, 1992, p.266-272.
54. Khitrov V.A. Investigation of Main Parameters of Deformed Nuclei Compound State Gamma Decay. In: Proc. of the Second Int. Symp. on Nucl. Excited States. Lodz, June 22-26, 1992. Ed. by L.Lason and M.Przytula. Lodz Univ., 1993, p.190-195.
55. Khuukhenkhuu G., Gledenov Yu.M., Sedysheva M.V. Systematics of the  $(n, p)$  Cross Sections Averaged over  $^{235}U$  Thermal Fission Neutron Spectrum. JINR Communication, E3-93-205, Dubna, 1993.
56. Klora J., Borner H.G., von Egidy T., Georgii R., Jolie J., Judge S., Khitrov V.A., Krusche B., Libman V.A., Lindner H., Litvinsky L.L., Mayerhofer U., Murzin V.A., Robinson S.J., Sukhovojs A.M., Treb H. Nuclear Structure of  $^{156}Gd$  Studied with  $(n, \gamma), (n, e^-), (d, p), (d, t)$  Reactions and Lifetime Measurements. *Nucl. Phys.*, A561 (1993) 1-73.
57. Koehler P.E., Gledenov Yu.M., Graff S.M., Harvey J.A., Hill N.W., Kappeler F., Kavanagh R.W., O'Brien H.A., Popov Yu.P., Schatz H., Trautvetter H.P., Vogelaar R.B., Wiescher M. Recent Results in Explosive and S-Process Nucleosynthesis from Measurements on Radioactive and Stable Targets. In: "Abstract

Booklet". 8th Int. Symp. on Capture Gamma-Ray Spectroscopy and Related Topics. Fribourg, Switzerland, 20-24 Sept., 1993, p.65.

58. Koehler P.E., Graff S.M., O'Brien H.A., Gledenov Yu.M., Popov Yu.P.  $^{36}Cl(n,p)^{36}S$  Cross Section from 25 meV to 800 keV and the Nucleosynthesis of the Rare Isotope  $^{36}S$ . Phys. Rev., C47, No.5, 1993, p.2107-2112.
59. Le Khong Khiem, Popov Yu.P., Sukhovoij A.M., Pham Dinh Khang, Khitrov V.A., Kholnov Yu.V., Bondarenko V.A., Kuvaga I.L., Prokofiev P.T.  $\gamma$ -Transition Cascades of the  $^{143}Nd$  Compound State Decay. In: Nuclear Spectroscopy and Atomic Nucleus Structure. Theses of the Reports to the 42nd International Workshop. St. Petersburg, Nauka, 1992, p.71 (in Russian).
60. Lason L., Przytula M., Stanczyk H. Fluctuation of Total Radiation Widths of Neutron Resonances. In: Abstract Booklet of Eight Int. Symp. on Capture Gamma-Ray Spectroscopy. Fribourg, Switzerland, Sept. 20-24, 1993, p.74.
61. Mitsyna L.V., Samosvat G.S. On the Anomalous p-Neutron Scattering by the Tellurium Nuclei. JINR Comm., P3-92-230, Dubna, 1992 (in Russian).
62. Mitsyna L.V., Samosvat G.S. On the Anomalous p-Neutron Scattering by the Tellurium Nuclei. Yad. Fiz., 1993, v.56, 2, pp.23-28 (in Russian).
63. Nikolenko V.G., Popov A.B. On the Correctness of Estimates on  $n, e$ -Amplitude and Neutron Polarizability from Total Cross Sections of *Bi* and *Pb*. Z.Phys. A - Hadrons and Nuclei, 1992, 341, p.365.
64. Nikolenko V.G., Popov A.B.  $n, e$ -Amplitude Estimate Independent of Nuclear Scattering Model. In: Contribution Papers of the Int. Conf. of the Structure of Baryons and Related Mesons. - "Baryons'92", New Haven, USA, 1-4 June, 1992, p.1; In: Proc. Workshop on Hadron Structure from Photo-Reactions at Intermediate Energies. Brookhaven Nat. Lab., BNL-47972, May 28-29, 1992, p.140.
65. Nikolenko V.G., Popov A.B. Reestimation of Neutron Polarizability from Cross Section of  $^{208}Pb$ . JINR, E3-92-254, Dubna, 1992.
66. Nikolenko V.G., Popov A.B.  $n, e$ -Amplitude Estimate Independent of Nuclear Scattering Model. JINR, E3-92-255, Dubna, 1992.
67. Nikolenko V.G., Popov A.B. Unmodel  $n - e$ -Amplitude Estimate on Basis of Neutron Scattering Data. In: Abstract Booklet of VIII Int. Symp. on Capture Gamma-Ray Spectroscopy and Related Topics, Fribourg, Switzerland, 20-24 Sept., 1993, p.402.
68. Nikolenko V.G., Popov A.B. Comments on Neutron Polarizability Estimation from Scattering Cross-Section of  $^{208}Pb$ . In: Abstract Booklet of VIII Int. Symp. on Capture Gamma-Ray Spectroscopy and Related Topics, Fribourg, Switzerland, 20-24 Sept., 1993, p.401.

69. Pikelner L.B. Weak Interaction in Neutron-Nucleus Reactions. In: Proc. of the Second Int. Symp. on Nuclear Excited States. Lodz, 1993. Ed. by L.Lason and M.Przytula. Lodz Univ., 1993, p.234-241.
70. Pokotilovski Yu.M., Takhtamyshev G.G. Experimental Verification of the Skobeltsyn-Bogdan Hypothesis on the Non-Stable Particles Emission in  $^{214}Bi$  Decay. JINR Rapid Comm., No.2[53]-92, Dubna, 1992, p.29-34; Yad.Fiz., 1992, 55(9), p.2017-2022 (in Russian).
71. Pokotilobski Yu.N. Moving Converters as the Possible Tool for Producing Ultracold Neutrons on Pulsed Neutron Sources. NIM, 1992, A314, 561-2.
72. Pokotilovski Yu.N., Takhtamyshev G.G. Neutron – Neutron Scattering: a Possibility of the Beam Experiment. Yad. Fiz., 56(4), 1993, 184-9 (in Russian); JINR preprint, E3-92-417, Dubna, 1992.
73. Pokotilovski Yu.N. "Darmstadt Effect" and Related Issues. Particles and Nucleus, 1993, 24(1), 5-30 (in Russian).
74. Pokotilovski Yu.N. On Mössbauer Effect Experiments to Search for the New Light Bosons. Proc. of III Symp. on Weak and Electromagnetic Interactions in Nuclei. Dubna, June, 1992. World Scientific, p.878-880.
75. Popov Yu.P., Gledenov Yu.M. Neutron Induced Reactions Followed by Charged Particles Emission. In: "Nuclei in the Cosmos". Proc. of the Second Int.Symp. on Nuclear Astrophysics, Karlsruhe, Germany, 6-10 July, 1992. Ed. by F.Kappeler, K.Wisshak. Bristol and Philadelphia, 1993, p.233-238.
76. Pospisil S., Kubasta J., Telezhnikov S.A. Doppler-Broadened Lineshapes Produced at Isotropic Velocity Distribution. In: Abstract Booklet of VIII Int. Symp. on Capture Gamma-Ray Spectroscopy and Related Topics, Fribourg, Switzerland, 20-24 Sept., 1993, p.517.
77. Stoica A.D., Strelkov A.V., Shvetsov V.N. Proposal of Experiments with Ultracold Neutrons (UCN) at BIGR Reactor (Arzamas-16). Programme and Abstracts of 6th Int. Conf. on Nuclei Far from Stability. 9th Int. Conf. on Atomic Masses and Fundamental Constants. July, 1992, p.PH18.
78. Stoica A.D., Strelkov A.V., Shvetsov V.N. Dynamic Convertors of the Ultracold Neutrons. JINR Comm., E3-92-116, Dubna, 1992 (In Russian).
79. Sukhovoj A.M. The Main Peculiarities of Complex Nuclei Compound States  $\gamma$ -Decay. In: Nuclear Structure and Nuclear Reactions at Low and Intermediate Energies. Dubna, 1992, Contributions, p.71.
80. Sukhovoj A.M. Determination of the Radiative Strength Function. In: Int. Nuclear Physics Conference. Wiesbaden, Germany, 1992. Book of Abstracts. Ed. by U.Grundinger, p.26.
81. Sukhovoj A.M. Radiative Strength Function Determination in the  $(n, 2\gamma)$  Reaction for Soft Primary Transition in Heavy Nuclei. In: Proc. of the X Int. Physics School on Neutron Phys. and Nucl. Energy. Ed. by W.Andrejtscheff, O.Elenkov. Inst. for Nucl. Res. and Nucl. Energy, Sofia, 1993, 200-212.

82. Vasilieva E.V., Kulik V.D., Kulikov E.V., Lebedev N.A., Le Khong Khiem, Novgorodov A.F., Popov Yu.P., Sukhovoij A.M., Pham Dinh Khang, Khitrov V.A., Kholnov Yu.V. Using the  $\gamma\gamma$  Coincidences Method with Summing the Amplitudes of the Coinciding Pulses in the Investigation of the Decay Schemes of the Radioactive Nuclei. The  $\gamma$ -Transition Scheme of the  $^{170}Lu \rightarrow ^{170}Yb$  Decay. Izv. RAN, ser. fiz., 1992, v.56, No.5, c.2-17 (in Russian).
83. Vasilieva E.V., Vojnov A.V., Kulik V.D., Popov Yu.P., Sukhovoij A.M., Khitrov V.A., Kholnov Yu.V., Shilin V.N. A New Way of Subtracting the Compton Background in Studying the  $\gamma\gamma$ -Coincidences by the Method of Summing the Amplitudes of the Coinciding Pulses. JINR P6-92-148, Dubna, 1992 (in Russian).
84. Vasilieva E.V., Vojnov A.V., Kulik V.D., Popov Yu.P., Sukhovoij A.M., Khitrov V.A., Kholnov Yu.V., Shilin V.N. The Techniques of Analyzing the Non-Statistical Behavior of the Radiative Strength Function at the Thermal and Resonance Neutron Capture. JINR E3-92-245, Dubna, 1992 (in Russian).
85. Vasilieva E.V., Vojnov A.V., Kulik V.D., Popov Yu.P., Sukhovoij A.M., Khitrov V.A., Kholnov Yu.V., Shilin V.N. The Analysis of the Non-Statistical Behavior of the Radiative Strength Function at the Thermal and Resonance Neutron Capture. Yad. Fiz., 56 (1993) 13-22 (in Russian).
86. Vasilieva E.V., Vojnov A.V., Kestanova O.D., Kulik V.D., Sukhovoij A.M., Khitrov V.A., Kholnov Yu.V., Shilin V.N. The Two-Quantum Cascades of the Thermal Neutron Capture in Sm-149. Izv. RAN, ser. fiz., v.57, 9, 1993, p.128 (in Russian).
87. Vasilieva E.V., Vojnov A.V., Kestanova O.D., Kulik V.D., Sukhovoij A.M., Khitrov V.A., Kholnov Yu.V., Shilin V.N. The Cascade Gamma-Decay of the Gd-156 Compound State. Izv. RAN, ser. fiz., v.57, 10, 1993, p.98 (in Russian).
88. Vasilieva E.V., Vojnov A.V., Kestanova O.D., Kulik V.D., Sukhovoij A.M., Khitrov V.A., Kholnov Yu.V., Shilin V.N. The Intense Two-Quantum Cascades and the Decay Scheme of the Dy-164 Compound State. Izv. RAN, ser.fiz., v.57, 10, 1993, p.109 (in Russian).
89. Vasilieva E.V., Vojnov A.V., Kestanova O.D., Kulik V.D., Popov Yu.P., Sukhovoij A.M., Khitrov V.A., Kholnov Yu.V., Shilin V.N. On the Possibility of the Excitation Energies of the Intense Gamma-Cascades Transition Levels Being Equidistant. Izv. RAN, ser. fiz., v.57, 9, 1993, p. 118 (in Russian).
90. Vesna V.A., Gledenov Yu.M., Okuniev I.S., Parzhitskii S.S., Popov Yu.P., Shulgina E.V. P-Odd Correlations in the Reactions  $^6Li(n, \alpha)^3H$  and  $^{10}B(n, \alpha)^7Li$  with Polarized Neutrons. In: Book of Abstracts. Int. Nucl. Phys. Conf., Wiesbaden, Germany, July 26 - August 1, 1992. Ed. by U.Grundinger. GSI, p.1.4.10.
91. Vesna V.A., Okuniev I.S., Gledenov Yu.M., Parzhitskii S.S., Popov Yu.P. A Search for p-Odd Effects in Reactions  $^{10}B(n, \alpha)^7Li$  and  $^6Li(n, \alpha)T$ . In: Int. Symp. on Weak and Electromagnetic Interactions in Nuclei. JINR E1,3,6,15-92-241, Dubna, 1992, p.22.

92. Vesna V.A., Gledenov Yu.M., Okunev I.S., Parzhitskii, Popov Yu.P., Shulgina E.V. Search for P-Odd Effects in the Reactions  ${}^6Li(n,\alpha){}^3H$  and  ${}^{10}B(n,\alpha){}^7Li$  with Polarized Neutrons. In: Int. Seminar on the Interactions of Neutrons with Nuclei. Dubna, 14-17 April, 1992. JINR, E3-92-128, Dubna, 1992, p.19.

## Theory

1. Belyaev V.B., Fiedeldey H., Rakityansky S.A., Sofianos S.A. Nuclear Transitions in Muonic Molecules. In: Proc. of 14th European Conf. on Few-Body Problems in Physics. Amsterdam, 1993, p.76.
2. Bunatian G.G. Nucleon Polarizability in Free Space and in the Nuclear Medium. *Yad. Fiz.*, 1992, v.55, issue 12, p.3196-3228 (in Russian).
3. Bunatian G.G. Description of a Nucleon in Nuclear Matter. In: Contribution Papers of the International Conference of the Structure of Baryons and Related Mesons - "Baryons'92". New Haven, USA, June 1-4, 1992. In: Book of Abstracts of the Int. Nucl. Phys. Conf. Wiesbaden, Germany, July 26 - August 1, 1992.
4. Bunatian G.G. Nucleon Polarizability in Free Space and in Nuclear Matter. *ibid.*
5. Bunatyan G.G., Kämpfer B. Properties of  $\rho$ - and  $\omega$ -Mesons in Dense and Hot Nuclear Matter near the Critical Pion Mode Scattering. FZR Preprint 92-08, Dresden, 1992.
6. Bunatian G.G., Kämpfer B. Quasiparticle Description of a Strongly Interacting Pion Gas. FZR Preprint 93-28, 1993; Submitted to *Phys. Lett.*
7. Furman W.I., Kadmensky S.G., Tchivilsky Yu.M. Shell Model Approach to the Description of Cluster Radioactivity of Heavy Nuclei. In: Clustering Phenomena in Atoms and Nuclei. Springer Verlag, Berlin, 1992, p.295.
8. Furman W., Kadmensky S., Tchuvilsky Yu. Some Predictions of New Spontaneous Cluster Emitters. In: Proc. 2nd Int. Conf. on Atomic and Nucl. Clusters'93. Santorini, Greece, June 29 - July 2, 1993, p.44.
9. Furman W.I., Kadmensky S.G., Tchuvilsky Yu.M. Results of Shell-Model Theory of Cluster Radioactivity. *Ibid.*, p.45.
10. Furman W.I. Nuclear Physics with Neutron at Dubna. Present Status and Trends. In: Collection of Abstracts of Workshop on Scientific Cooperation Between FRG Research Centers and JINR. JINR, 92-510, Dubna, 1992, p.24-27.
11. Ignatovich V.K. The Ultracold Neutron Dispersion Law in the Medium. JINR Preprint, P3-92-130, Dubna, 1992 (in Russian).
12. Ignatovich V.K. Propagation of the Acoustic Waves in the Elastic Layered Media. *Akust. zhurn.*, 1992,  $\hat{\Omega}$ .38, 1, pp.70-78 (in Russian).
13. Ignatovich V.K. Electromagnetic Model of the Ball Lightning. JINR Preprint, P3-92-209, Dubna, 1992 (in Russian).

14. Ignatovich V.K. Classical Interpretation of the Quantum Mechanics. JINR, P4-92-389, Dubna, 1992 (in Russian).
15. Ignatovich V.K. Joint Bragg-Laue Diffraction. Report at the Fourteen European Crystallography Meeting. ECM-14, 2-7.08, 1992, Enschede.
16. Ignatovich V.K. Quantum Mechanics of Ultracold Neutrons. Report on the Conference Wave-Particle Duality, Trani, Italy, 24.09-30.09.1992.
17. Ignatovich V.K. Time-of-Flight Fourier-Spectroscopy with Polarized Beams. Proc. of the ISSI, 1-4 September, Dubna, 1992. JINR, E3-93-65, Dubna, 1993, p.69.
18. Kadmensky S.G., Furman W.I., Tchuvilsky Yu.N. Spectroscopic Factors and Classification of the Even-Even Nucleus Cluster Decays. Nuclear Spectroscopy and the Atomic Nucleus Structure. Moscow, Nauka, 1992, p.174 (in Russian).
19. Kadmensky S.G., Kurgalin S.D., Mikheev V.L., Furman V.I., Tchuvilsky Yu.M. Cluster Radioactivity of the Nuclei with  $A < 208$ . Izv. RAN, 1993, v.57, No.1, p.12-16 (in Russian).
20. Kadmensky S.G., Kurgalin S.D., Furman W.I., Tchuvilsky Yu.M. Semi-Empirical Method of the Analysis of the Relative Probabilities of the Heavy Cluster Spontaneous Emission. Yad. Fiz., 1993, v.56, 8, p.80-89 (in Russian).
21. Pupyshev V.V., Rakityansky S.A. Semianalytical Method for Treatment of the N-Body Problem with Complex Total Energy within the Hyperspherical Approach. JINR preprint, E4-93-27, Dubna, 1993; Yad. Fiz., 1993, v.56, p.46 (in Russian).

#### Applied Studies

1. Burkovskaya T.E., Frontasyeva M.V., Gundorina. Elemental Bone Composition of Rats Flown in Biosatellite "Cosmos-2044". Int. Conf. Nuclear Analytical Methods in the Zife Sciences, 13-17 September 1993, Prague, Czech Republic, p.40.
2. Burkovskaya T.E., Frontasyeva M.V., Gundorina S.F. Kinetics of Elemental Content Changes of Bone Tissue of Mice During Evolution under Hypokinetic Stress. Int. Conf. Nuclear Analytical Methods in the Zife Sciences, 13-17 September 1993, Prague, Czech Republic, p.60.
3. Dermendjiev E. et al. An Experimental Facility for Studying Delayed Neutron Emission. Comm. JINR, E13-93-6, Dubna, 1993.
4. Diyachenko V.M. et al. Absolute Calibration of the KNT-8 Fission Chambers. JINR Rapid Comm., No. 2(53)-92, Dubna, 1992, p.45-50.
5. Frontasyeva M.V., Gundorina S.F., Gorbunov A.V., Onischenko T.L. Effect of the Production of Phosphorous Fertilizers on Environment. Recent Developments of Radioanalytical Methods at the IBR-2 Pulsed Fast Reactor. Proc. of MTAA-8, 16-20 Sept., 1991, Vienna, Austria; Journal of Radioanalytical and Nuclear Chemistry, 1992, v.167, No.1.

6. Frontasyeva M.V. et al. Activation Studies of Concrete Binding Agent Ingredients Used for Nuclear Radiation Shielding. *Kernenergie*, 1992, 34, p.7-8.
7. Frontasyeva M.V., Nazarov V.M., Steinnes E. Mosses as Monitors of Heavy Metal Deposition: Comparison of Different Multi-Element Analytical Techniques. *Int. Conf. Heavy Metals in the Environment*. Sept. 1993, Toronto, Canada, vol. 2, p.17 (submitted to the *Journal of Radioanalytical and Nuclear Chemistry*).
8. Gorbunov A.V., Frontasyeva M.V. et al. Effect of Agricultural Use of Phosphogypsum on Trace Elements in Soils and Vegetation. *The Science of the Total Environment*, 1992, 122, p.337-346.
9. Gorbunov A.V., Gundorina S.F., Frontasyeva M.V. The Effect of Sample Size on the Representativity of Ecological Sample Studied by NAA. In: *II Int. Workshop on Neutron Activation Analysis in Environment*. Dubna, 15-28 Sept., 1992. JINR, E14-92-364, Dubna, 1992.
10. Nazarov V.M., Frontasyeva M.V., Pavlov S.S., Sysoev V.P. Recent Developments of Radioanalytical Methods at the IBR-2 Pulsed Fast Reactor. *Proc. of MTAA-8*, 16-20 Sept., 1991, Vienna, Austria; *Journal of Radioanalytical and Nuclear Chemistry, Articles*, 1992, v.167, No.1.
11. Nazarov V.M., Borzakov S.B., Herrera E., Diaz O., Montero M.E. Investigation of REE and other Trace Elements Distribution along Oil Wells by Means of NAA. *Proc. of the Second Int. Symp. on Nuclear Analytical Chemistry (NACII)*. Toronto, Canada, 3-5 June, 1992.
12. Nazarov V.M., Frontasyeva M.V., Lavdanskij P.A., Stephanov N.I. NAA for Optimization of Radiation Shielding of Nuclear Power Plants. *Proc. of the Second Int. Symp. on Nuclear Analytical Chemistry (NACII)*. Toronto, Canada, 3-5 June, 1992.
13. Nazarov V.M. Use of Pulsed Neutron Sources in Analytical Applications. *Proc. of the Second Int. Symp. on Nuclear Analytical Chemistry (NACII)*. Toronto, Canada, 3-5 June, 1992.
14. Nazarov V.M. Radioanalytical Methods at the IBR-2 Pulsed Fast Reactor. *Proc. of the Annual Meeting of the Americal Nuclear Society*. Boston, Massachusetts, June 7-12, 1992.
15. Nazarov V.M., Serebryanny L.R., Kuznetsov M.P., Vostokova T.A., Koryakin V.S. Snow Cover as a Witness of Environmental Pollution from Norilsk Copper-Nickel Plant in the Maimyr Peninsula, Northern Siberia. *II Int. Workshop on Neutron Activation Analysis in Environment*. Dubna, 15-18 Sept., 1992. JINR, E14-92-364, Dubna, 1992.
16. Nazarov V.M. Use of IBR-2 Pulsed Fast Reactor in Analytical Applications. *II Int. Workshop on Neutron Activation Analysis in Environment*. Dubna, 15-18 Sept., 1992. JINR, E14-92-364, Dubna, 1992.

17. Nazarov V.M. Radioanalytical Methods at the IBR-2 Pulsed Reactor. 1992 Annual Meeting Boston, Massach., June 7-12, 1992. Transaction of the American Nuclear Society, vol.65, Tansao 65, 1-580 (1992) p.173.
18. Nazarov V.M. et al. An Analyzer for the Determination of Protein Concentration in Corn. Conference on Industrial Radiation and Radioisotope Measurement Applications. September 8-11, 1992. Supplement number 1 to vol. 65, Tansao 65, 1-80 (1992).
19. Nazarov V.M. et al. Regent Developments of Radioanalytical Methods at the IBR-2 Pulsed Fast Reactor. Journal of Radioanal. and Nuclear Chem., vol.167, No.1 (1993).
20. Nazarov V.M. et al. Fine-Powder  $Al_2O_3$  and  $SiO_2$  for Preparation of Multielement Standards for Rare-Earth Element Analysis. Journ. of Radioanal. and Nuclear Chem., vol. 168, No.1 (1993) 163-168.
21. Nazarov V.M., Frontasyeva M.V., Chinaeva V.P., Borzakov S.B. NAA Biomonitoring of the Environment with Mosses and Pine Tree Needles. Int. Conf. Nuclear Analytical Methods in the Zife Sciences, 13-17 September 1993, Prague, Czech Republic, p.18.
22. Oganessyan Ju.Ts., Karamyan S.A., Nazarov V.M., Sheglovski Z. Observation Neutron Radioactive Capture Reaction on Exotic Isomer  $^{178m^2}Hf$ . JINR Rapid Comm., No. 3(54)-92, Dubna, 1992.
23. Ostrovnaya T.M. et al. Software for INAA on the basis of Relative and Absolute Methods Using Nuclear Data Base. II International Workshop on Neutron Activation Analysis in Environment. Dubna, 15-18 Sept., 1992. Collected reports, Dubna, 1993.
24. Polushkin V.N., Buev A.R. Investigation of the high temperature superconducting screen with the help of the magnetometer based on the radiofrequency high-temperature squid. JINR Preprint, P13-92-42, Dubna, 1992 (in Russian).
25. Vostokova T.A., Ilina Y.A., Nazarov V.M. NAA as Applied to Trace Elements Distribution Determination in Environmental Samples from Frans Iosifa Land. 2 International Workshop on Neutron Activation Analysis in Environment. Dubna, 15-18 Sept., 1992. Collected reports, Dubna, 1993.

### Neutron Sources

1. Aksenov V.L., Dikansky N.A., Lomidze V.L., Novokhatsky A.V., Popov Yu.P., Rudenko V.T., Skrinsky A.N., Furman W.I. Proposal for the Construction of the New Intense Resonance Neutron Source (IREN). JINR, E3-92-110, Dubna, 1992.
2. Krasnykh A., Popov Yu., Rudenko V., Somov L., Men'shikov L., Prusakov V., Subbotin. SCANUR: Subcritical Reactor with Electron Linac for Transmutation of Nuclear Wastes. In: Proc. of IEEE Particle Accelerator Conf., Washington, D.C., May 17-29, 1993, v.1, p.552.

3. Lomidze V.L., Rogov A.D. Using of the Interactive Version GEANTS3 Code for Analysis of Neutron Source. Presented to the Int. Conf.: Mathematical Methods and Supercomouting in Nuclear Application. 19-23 Apr., 1993, Karlsruhe, FRG.
4. Lomidze V.L., Rogov A.D. The Reflection of the 40 MeV Electrons by the Sharp-Angle Tungsten Target and the Fuel Pin Meltdown Accident Analysis of the IBR-30 Booster. Report during the Int. Seminar on Neutron Interactions with Nuclei. Dubna, April 14-17, 1992.
5. Novokhatsky A.V., Aleksandrov A.V., Avilov M.S. et al. Linear Accelerator for Intense Resonance Neutron Source (IREN). In: Proc. of the Int. Workshop on C-tau Factory. Dubna, 1993.
6. Pepyolyshev Yu.N., Malyshev E.K., Chuklyaev S.V. Secondary Emission Detectors to Measure Dose Rate of  $\gamma$ -radiation of Nuclear Reactors and Accelerators. The IXth Conference on Radiation Control of Intensive Fluxes of Ionizing Radiation. Abstracts of Reports. Obninsk, March 24-26, 1992 (in Russian).
7. Pepyolyshev Yu.N., Dzwinel W. The Possibility of Efficient Control of Product Quality with an Aid of Methods Classifying Data with Many Parameters. JINR Comm., H10-92-143, Dubna, 1992 (in Russian).
8. Pepyolyshev Yu.N., Chuklyaev S.V., Odintsov Yu.N., Koshelev A.S. Secondary Emission Detectors (SED-2) to Measure Dose Rate of  $\gamma$ -Radiation. Atomnaya Energiya., 1993, v.75, issue 4 (in Russian).
9. Rogov A.D., Shabalin E.P. Comparative Potentialities of Different Variatns to Up-Date the IBR-2 Pulsed Neutron Source. In: Int. Workshop "Pulsed Nuclear Reactors: New Possibilities for Scientific Research". Dubna, 1992 (in Russian).

#### Measurement and Computation Complex

- Arkhipov V.A., Ishmukhametov M.Z., Solodilov A.V. Automation of the radiation monitoring at the JINR reactors. In: XV Int. Symp. on Nuclear Electronics. D13-92-581, Dubna, 1993.
2. Barabash I.P. et al. The Measurement Module for the Ultracold Neutron Experiments. JINR Comm., 13-92-274, Dubna, 1992 (in Russian).
  3. Bogdzel A.A., Vagov V.A., Lyapin D.I., Salamatin I.M., Sirotin A.P., Tishin V.G. Digital Information Filtering in the UKOR Multidimensional Spectrometer. JINR Comm., 13-92-121, Dubna, 1992 (in Russian).
  4. Bogdzel A.A. et al. Prompt Gamma-Rays Yields at Individual Fission Resonances of  $^{239}Pu$  by Resonance Neutrons. JINR E7-92-95, Dubna, 1992, p.305-311.
  5. Bogdzel A.A. et al. ibid., p.312-313.
  6. Bogdzel A.A. et al. A PC/AT-Based Multiparameter Nuclear Data Acquisition System. In: Proc. of Seventh Symp. on Microcomputer and Microprocessor., vol.1. April, 1992. House of Technics, Budapest, Hungary.

7. Bogdzel A.A., Nguyen Chung Tuan. The PC/AT Based Multidimensional Spectrometrical Information Acquisition System. In: XV Int. Symp. on Nuclear Electronics. JINR, D13-92-581, Dubna, 1993 (in Russian).
8. Brankowski E. et al. The Multidetector System of Registering and Storing the Spectrometrical Information Based on the 64K x 24bit Memorizing Device. JINR Comm., 13-92-120, Dubna, 1992 (in Russian).
9. Brankowski E. et al. The Bit Registering and Storing Multidetector System. In: XV Int. Symp. on Nuclear Electronics. JINR, D13-92-581, Dubna, 1993 (in Russian).
10. Cheremukhina G.A. et al. A Two-Dimensional Detector with Delay Line Readout for Slow Neutron Fields Measurements. JINR, E13-92-52, Dubna, 1992.
11. Ermakov V.A., Kim Khen Do. The Digital Filtering Unit. JINR Comm., P13-92-112, Dubna, 1992 (in Russian).
12. Ermakov V.A., Zen En Ken, Khim Khen Do. The POISK Multiparameter Measurement System Based on the CAMAC Units and the Pravets-16 Personal Computer. JINR Comm P13-92-210, Dubna, 1992 (in Russian).
13. Janeva N., Toshkov S., Georgiev G., Sirakov I., Tishin V.G., Zamyatnin Yu.M. A Setup for Precise Measurement of Resonance Neutron Capture by Self/Indication. Nucl. Instr. Meth. Phys. Res. A, 1992, v.313, No. 1,2, p.266-272.
14. Korneev D.A. et al. The Structure of the Spectrometrical Experiment Automation System Software Founded on Databases. In: XV Int. Symp. on Nuclear Electronics. JINR, D13-92-581, Dubna, 1993 (in Russian).
15. Natkaniec A., Ostrovnoi A.I., Sukhomlinov G.A., Tishin V.G. Computer-Aided Systems for the IBR-2 Spectrometers (CAS . IBR-2 Project). JINR-FRG Cooperation in Neutron Physics. Results of 1992 and Plans for 1993. JINR 92-563, Dubna, 1992, p.17-19.
16. Vagov V.A., Walther K., Sirotin A.P., Tishin V.G., Voitus K. The Readout, Handling, and Control System of the NSHR High-Resolution Spectrometer at the IBR-2 Reactor. JINR Comm., 13-92-122, Dubna, 1992 (in Russian).
17. Vladimirov V.A. et al. Operating Some Final-Control Devices of the TEKST and DVR Facilities at the IBR-2 and IBR-30 Reactors. JINR Comm., 13-92-123, Dubna, 1992 (in Russian).
18. Vladimirov V.A. et al. Operating Some Final-Control Devices of the TEKST and DVR Facilities at the IBR-2 and IBR-30 Reactors. In: XV Int. Symp. on Nuclear Electronics. JINR, D13-92-581, Dubna, 1993 (in Russian).
19. Zanevsky Yu.V. et al. Two-Dimensional High-Resolution Multiwire Detector for an X-Ray Diffractometer. JINR Preprint, 18-92-180, Dubna, 1992(in Russian).
20. Zanevsky Yu.V. et al. Two-Dimensional High-Resolution Multiwire Detector for an X-Ray Diffractometer. Crystallography, v.38, issue 2, 1993, p.252-260 (in Russian).