MODERN DEVELOPMENT OF MAGNETIC RESONANCE

program

2015

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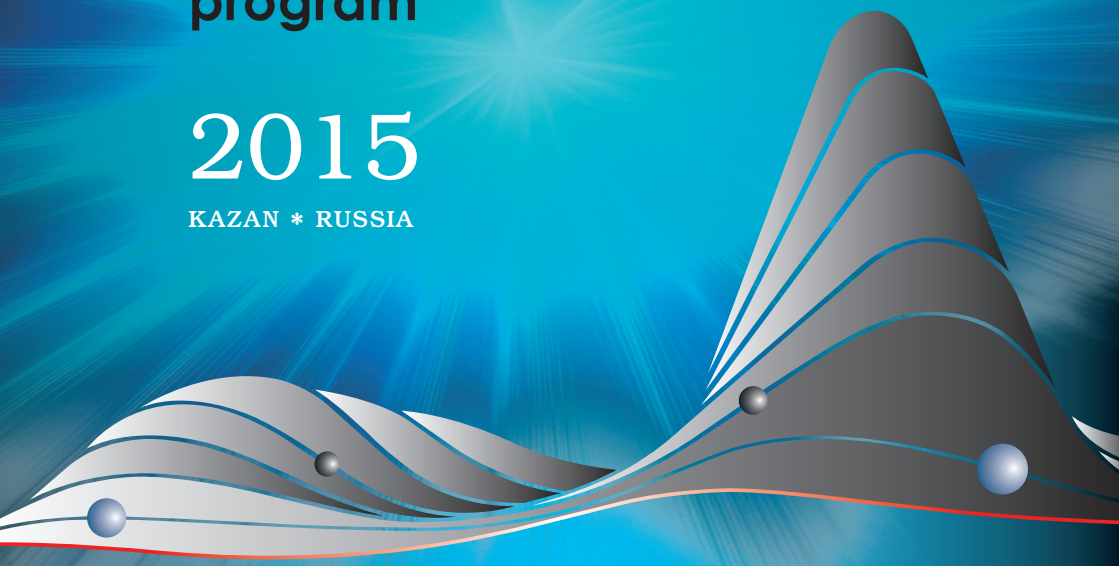

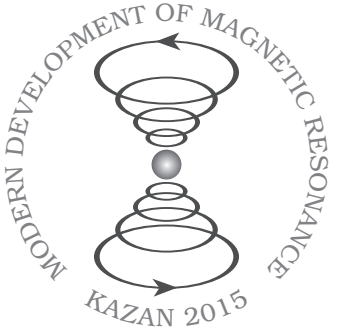
MODERN DEVELOPMENT OF MAGNETIC RESONANCE
KAZAN 2015

MODERN DEVELOPMENT OF MAGNETIC RESONANCE

PROGRAM OF THE
INTERNATIONAL CONFERENCE

KAZAN, SEPTEMBER 22–26, 2015

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SUPPORTED BY

The Government of the Republic of Tatarstan
The Russian Foundation for Basic Research
Bruker BioSpin Moscow

CONFERENCE LOCATION

The Academy of Sciences of the Republic of Tatarstan
Kazan, ul. Baumana 20

TIME SCHEDULE

TUESDAY, September 22nd, 2015

09:00	Registration
11:00–13:00	Excursion
13:00–14:00	Lunch
14:30–15:00	Opening of the Conference
15:00–17:00	Plenary Lectures
18:00	Welcome Party

WEDNESDAY, September 23rd, 2015

09:00–11:00	Session: Chemical and Biological Systems
11:00–11:30	Coffee Break
11:30–13:00	Session: Chemical and Biological Systems
13:00–15:00	Lunch
15:00–17:20	Session: Chemical and Biological Systems
18:00	Culture Program

THURSDAY, September 24th, 2015

09:00–11:30	Session: Strongly Correlated Electron Systems
11:30–11:50	Coffee Break
11:50–13:00	Session: Strongly Correlated Electron Systems, Magnetic Resonance Instrumentation (Bruker presentation)
13:00–14:30	Lunch
14:30–16:30	Session: Low-Dimensional Systems and Nano-Systems
16:30–17:00	Coffee Break
17:00–19:10	Session: Low-Dimensional Systems and Nano-Systems
19:15–21:00	Poster session (Coffee break sponsored by Bruker BioSpin Moscow)

FRIDAY, September 25th, 2015

09:00–11:40	Session: Theory of Magnetic Resonance.
11:40–12:20	Session: Modern Methods of Magnetic Resonance. Other Applications of Magnetic Resonance.
12:20	Closing of the Conference
12:30–13:30	Lunch
14:00–17:00	Zavoisky Award Ceremony
19:00	Conference Dinner

SCIENTIFIC PROGRAM

TUESDAY, September 22nd, 2015

Plenary Session
Chairs: A. A. Kalachev, K. M. Salikhov

15:00 *V. A. Atsarkin, B. V. Sorokin, I. V. Borisenko, V. V. Demidov, G. A. Ovsyannikov*: Resonance Spin-Charge Phenomena in Manganite Thin Films and Bilayers

15:40 *V. Kataev, H.-J. Grafe, M. Iakovleva, E. Vavilova, A. Alfonsov, H. Nojiri, M.-I. Sturza, S. Wurmehl, S.-L. Drechsler, B. Büchner*: Exotic Spin Phases in the Low-Dimensional Quantum Magnet $LiCuSbO_4$ as Seen by High-Field NMR and ESR Spectroscopies

16:20 *S. V. Demishev, A. V. Semeno, M. I. Gilmanov, V. V. Glushkov, A. N. Samarin, N. E. Sluchanko*: Magnetic Resonance in Strongly Correlated and Quantum Critical Systems

WEDNESDAY, September 23rd, 2015

Session: Chemical and Biological Systems
Chair: I. V. Ovchinnikov

Invited Talk

09:00 *E. Bagryanskaya, A. A. Kuzhelev, O. A. Krumkacheva, M. Fedin, O. Yu. Rogozhnikova, D. V. Trukhin, V. M. Tormyshev, G. Shevelev, A. A. Lomzov, D. Pyshnyi*: New Approaches to Study Structure of Biopolymers Using Pulse EPR

09:30 *S. A. Dzuba*: Spin-Label EPR Study of Peptide-Lipid and Cholesterol-Lipid Interactions in Model Biological Membranes

10:00 *M. K. Bowman, H. Chen, N. P. Isaev, R. I. Samoilova, A. G. Maryasov, O. Y. Rogozhnikova, V. M. Tormyshev*: Magnetic Interactions in Narrow-Line Trityl Biradicals

10:30 *A. Semenov, M. Malferrari, A. Savitsky, M. Mamedov, K. Möbius, G. Venturoli*: Effect of Disaccharide Trehalose Glassy Matrix on Charge Recombination in Photosystem I

Chair: D. Carbonera

Invited Talk

11:30 *A. Yurkovskaya, O. Morozova*: Electron Transfer between Aromatic Amino Acids and Histidine Radicals

Oral Talk

12:00 *R. B. Zaripov, E. L. Vavilova, V. K. Voronkova, K. M. Salikhov, A. Aliabadi, A. Petr, V. Kataev, B. Büchner, M. A. Abdulmalic, T. Rüffer*: Application of ELDOR Detected NMR to Study Hyperfine Interaction in Cu(II)-bis(oxamidato) Complexes

12:20 *P. A. Purtov, N. E. Polyakov, I. M. Magin, A. I. Kruppa, T. V. Leshina*: Low Field Photo CIDNP in Linked Systems

12:40 *N. A. Kuznetsov, A. S. Kiryutin, M. S. Panov, A. V. Yurkovskaya, O. S. Fedorova*: Lesion Impact on Flipping-Unflipping Equilibrium of DNA Duplexes: an NMR Study

Chair: E. G. Bagryanskaya

Invited Talks

15:00 *G. I. Likhtenshtein*: A Connection Between Electron Transfer and Spin Exchange

15:30 *T. V. Leshina, E. A. Khramtsova, D. V. Sosnovsky, P. A. Purtov*: Spin Effects in Chiral Linked Systems

Oral Talk

16:00 *I. V. Kolbanev, E. N. Degtyarev, M. V. Sivak, A. N. Streletsky, A. I. Kokorin*: Paramagnetic Centers Created under Mechano-Chemical Treatment of Mixed Molybdenum-Vanadium Oxides

16:20 *R. K. Strizhakov, A. A. Kuzhelev, O. A. Krumkacheva, G. Y. Shevelev, I. A. Kirilyuk, M. V. Fedin, E. G. Bagryanskaya*: Electron Spin Relaxation of Nitroxide Spin Labels in the Trehalose Glassy Matrix at Room Temperature

16:40 *K. B. Konov*: The Study of Interaction of Disaccharides with Lipid Bilayer Using Pulsed Electron Paramagnetic Resonance

17:00 *N. N. Fishman, O. B. Morozova, M. S. Panov, G. Grampp, A. V. Yurkovskaya*: Kinetics and Mechanism of the Reversible Photoinduced Oxidation of Purine Nucleotides in Aqueous Solutions: Time-Resolved CIDNP and Laser Flash Photolysis Study

THURSDAY, September 24th, 2015

Plenary Session
Chair: G. B. Teitelbaum

09:00 *D. Gatteschi, M. Fittipaldi*: Exploring Low Symmetry Effects in Molecular Magnets with EPR

Session: Strongly Correlated Electron Systems. Magnetic Resonance Instrumentation

Invited Talk
09:40 *N. Gritsan, E. Suturina, A. Dmitriev*: Magnetic Properties of 4f- and 5d-Metal Complexes with Redox-Active Ligands: the High-Level *ab initio* Calculations with Non-Perturbative Account of Spin-Orbit Coupling
10:10 *G. Khaliullin*: Excitonic Magnetism in Van Vleck-Type Mott Insulators
10:40 *H.-J. Grafe, U. Gräfe, F. Hammerath, G. Lang, A. P. Dioguardi, N. J. Curro, B. Büchner*: Spin Fluctuations and Inhomogeneities in Iron Pnictide Superconductors as Probed by NMR and NQR

Chair: M. S. Tagirov

Oral Talk
11:30 *R. M. Eremina, I. V. Yatzyk, T. P. Gavrilova, V. V. Parfenov, V. I. Chichkov, N. V. Andreev*: Magnetic Properties of $YbMnO_3$ Ceramic Samples
11:50 *I. R. Mukhamedshin, I. F. Gilmutdinov, A. V. Dooglav, S. A. Krivenko, H. Alloul*: Unusual Quadrupole Moment Reduction and Cobalt Charge Differentiation in Na_xCoO_2
12:10 *E. R. Zhiteitsev, R. R. Zainullin, V. A. Ulanov, V. A. Shustov*: EPR of Gadolinium Cluster Centers in the Semimagnetic Narrow Gap Semiconductors $Pb_{1-x}Gd_xTe$ ($x = 0.02$)
12:30 *S. Lyubenova, P. Hoefer, D. Kuznetsov*: Research-Class Bench-Top EPR-Spectrometer Bruker EMXnano

Session: Low-Dimensional Systems and Nano-Systems
Chair: A. A. Kalachev

Invited Talk

14:30 *G. Audran, P. Brémond, S. Marque*: Spin Probes for EPR and Overhauser-Enhanced Magnetic Resonance Imaging

15:00 *A. I. Smirnov, T. A. Soldatov, K. Yu. Povarov*: Magnetic Resonance of Spinons in $S = 1/2$ Antiferromagnetic Spin Chains

15:30 *A. V. Klochkov, E. M. Alakshin, R. R. Gazizulin, V. V. Kuzmin, K. R. Safiullin, M. S. Tagirov*: NMR of ^{3}He in Porous Media

16:00 *N. V. Volkov, A. S. Tarasov, M. V. Rautskii, S. N. Varnakov, S. G. Ovchinnikov*: Silicon-Based Hybrid Nanostructures: Magnetic State and Magneto-Dependent Charge Transport

16:30 *A. M. Ziatdinov*: Electronic and Magnetic Structures of Nanographites and Their Changes Influenced by Adsorbed Molecules: EMR and MS Studies

Chair: V. E. Kataev

Oral Talks

17:30 *D. A. Biziyaev, A. A. Bukharaev, Yu. E. Kandrashkin, R. V. Gorev, L. V. Mingalieva, V. L. Mironov, N. I. Nurgazizov, T. F. Khanipov*: Investigation of Magnetoelastic Effect in Permalloy Microparticles by Ferromagnetic Resonance and Magnetic Force Microscopy Techniques

17:50 *A. A. Fraerman, N. S. Gusev, V. L. Mironov, E. S. Demidov, L. I. Budarin*: Features of Ferromagnetic Resonance and Exchange Interaction in Structures CoPt with not Collinear Magnetizations

18:10 *E. Skorohodov, R. Gorev, R Yakubov, Yu. Khivintzev, Yu. Filimonov, E. Demidov, V. Mironov*: Ferromagnetic Resonance in Permalloy Microstripes

18:30 *B. Rameev, R. Khaibullin*: Magnetic Resonance Studies of Ion-Beam Implanted Single Crystal Oxides

18:50 *E. A. Zvereva, I. Munao, P. Lightfoot, A. A. Tsirlin, Y. A. Ovchenkov, O. S. Volkova, C. Koo, R. Klingeler, A. N. Vasiliev*: One-Third Magnetization Plateau and Spin Dynamics in Low-Dimensional Magnet $NaFe_3(HPO_3)_2(H_2PO_3)_6$

FRIDAY, September 25th, 2015

Session: Theory of Magnetic Resonance
Chair: A. I. Smirnov

Invited Talks

09:00 *D. Carbonera, M. Di Valentin, M. Albertini, E. Zurlo, M. Gobbo*: Distance Measurements by Peldor Spectroscopy in Systems Containing Photoexcited Triplet States and Nitroxides

09:30 *K. A. Earle, T. Broderick*: Applications of Information Geometry to Saturated Spectra

10:00 *E. B. Fel'dman*: Investigation of Quantum Correlations and Quantum Computations with NMR Methods

10:30 *F. S. Dzheparov*: Resonance Line Shape and Orthogonal Two-Spin Correlation Functions in Magnetically Disordered Systems

Oral Talks

11:00 *D. Sosnovsky, J. Matysik, G. Jeschke, K. Ivanov*: Exploiting the Concept of Avoided Level Crossings for Analysing Magnetic Field Dependence of Solid-State CIDNP

11:20 *A. N. Orlova, A. Y. Zubin, G. S. Kupriyanova*: Intrinsic Gilbert Damping in Polycrystalline Multilayer Structures with Exchange Bias NiFe/Cu/NiFe/IrMn

Session: Modern Methods of Magnetic Resonance. Other Applications of Magnetic Resonance
Chair: S. V. Demishev

Oral Talks

11:40 *A. N. Pravdivtsev, A. V. Yurkovskaya, H.-M. Vieth, K. L. Ivanov*: RF-SABRE and PH-INEPT Sequences Make High Field SABRE Feasible

12:00 *V. Soltamov, B. Yavkin, G. Astakhov, V. Dyakonov, H. Kraus, F. Fuchs, S. Orlinskii, P. Baranov*: Electron Paramagnetic Resonance Study of Color Centers in Silicon Carbide. From Identification to Quantum Applications

12:30 Closing of the Conference

14:00 Zavoisky Award Ceremony and Zavoisky Award 2015 Lectures
V. A. Atsarkin: Half a Century in Magnetic Resonance: Spin Temperature and More
D. Gatteschi: Low Symmetry through EPR: 40 Years of Attraction in Florence

POSTER SESSIONS

1. *M. M. Akhmetov, G. G. Gumarov, V. Yu. Petukhov, G. N. Konygin, D. S. Rybin, A. B. Konov*: NMR Studies of the Solution of Mechanically Activated Calcium Gluconate
2. *A. S. Berezin, V. A. Nadolinny, L. G. Lavrenova:* Influence of Uniaxial Compression on EPR Spectra of Nickel Chloride with 3-Amino-4-Ethoxycarbonylpyrazol Compound
3. *A. Bogaychuk, G. Kupriyanova, N. Sinyavsky, A. Gorkin*: Development of the Method of Indirect Registration of D_2O Involved in a Chemical Exchange
4. *N. Domracheva, V. Vorobeva, M. Gruzdev, U. Chervonova, A. Kolker, A. Pyataev*: Photo- and Thermo-Active Magnetic Properties of Iron-Containing Dendrimers
5. *E. S. Demidov, V. V. Podol'skii, V. P. Lesnikov, V. V. Karzanov, A. A. Tronov, L. I. Budarin*: Ferromagnetic Resonance of Deposited from Laser Plasma Nanosized Layers of the Diamond-Like Diluted Magnetic Semiconductor on the Basis of Si, Doped by Mn
6. *R. M. Eremina, T. Maiti, A. K. Shukla*: Synthesis and ESR Investigations of $Gd_{1-x}Sr_xMnO_3$
7. *R. M. Eremina, K. R. Sharipov, I. V. Yatsyk, N. M. Lyadov, T. P. Gavrilova, I. F. Gilmutdinov, A. G. Kiyamov, Yu. V. Kabirov, V. G. Gavrilyachenko, T. I. Chupakhina*: AFM-PM Phase Transitions in Nano-Composite Materials $(SrFe_{12}O_{19})_x(CaCu_3Ti_4O_{12})_{1-x}$
8. *M. L. Falin, V. A. Latypov, S. V. Petrov*: Electron Paramagnetic Resonance Study of Yb^{3+} in Hexagonal Perovskite $RbMgF_3$ Crystal
9. *N. Fishman, A. Kiryutin , O. Morozova, M. Panov, T. Abramova, A. Yurkovskaya*: CIDNP Study of Biradicals from Nucleotide-Photosensitizer and Amino Acid-Photosensitizer Conjugates
10. *R. R. Gaifullin, R. G. Deminov, L. R. Tagirov, T. Yu. Karminskaya, M. Yu. Kupriyanov, Ya. V. Fominov, A. A. Golubov*: The Modes of the Superconducting Triplet Spin-Valve and Distribution of Condensate Functions
11. *Kh. L. Gainutdinov, V. V. Andrianov, V. S. Iyudin, G. G. Yafarova, A. A. Denisov, M. O. Khotyanovich, S. G. Pashkevich, V. A. Kulchitchkii*: EPR Study of Nitric Oxide Production in Brain, Heart and Liver of Rats after Hemorrhagic Insult Modeling

12. *R. T. Galeev*: Effect of Levels Anticrossing on the EPR Spectra and the Dynamic Susceptibility
13. *I. A. Goenko, V. Yu. Petukhov, I. V. Yatzyk, G. G. Gumarov, M. M. Akhmetov, G. N. Konygin*: ESR Study of Electron Beam Irradiated Calcium Gluconate
14. *Yu. Goryunov, A. Nateprov*: Electron Spin Resonance in 1-2-2 Pnictides $EuCd_2As_2$ and Influence Substitutions on its Parameters
15. *M. Iakovleva, E. Vavilova, H.-J. Grafe, S. Zimmermann, A. Alfonsov, H. Luetkens, H.-H. Klauss, A. Maljuk, S. Wurmehl, B. Büchner, V. Kataev*: Spin Dynamics in the Frustrated System $CoAl_2O_4$
16. *M. I. Ibragimova, A. I. Chushnikov, G. V. Cherepnev, V. Yu. Petukhov, I. V. Yatsyk*: Abnormal Asorption Lines in ESR Spectra of Sportsmen Serum Samples
17. *A. V. Izotov, B. A. Belyaev*: In-Plane Magnetic Anisotropy Constants of Thin Films from Angular FMR Dependence
18. *M. E. Kardash, S. A. Dzuba*: Orientational Self-Ordering of Spin-Labeled Cholesterol Analog in Lipid Bilayers
19. *I. T. Khairuzhdinov, K. M. Salikhov*: Development of Four-Pulse ELDOR Theory for the Case of Overlapping EPR Spectra and Overlapping Excitation Bands Taking into Account Nonsecular Part of the Dipole-Dipole Interaction
20. *A. V. Koroleva, A. V. Soukhorukov, D. V. Guseinov, A. V. Kudrin, S. A. Popkov, A. A. Detochenko, A. A. Ezhevskii, A. A. Konakov, N. V. Abrosimov, H. Riemann*: Spin-Dependent Transport in Bismuth Doped Silicon
21. *A. B. Konov, M. F. Sadykov, A. Tirkiya*: NMR Bottle Scaner
22. *G. S. Kupriyanova, V. V. Molchanov, E. A. Severin, G. V. Mozzhukhin*: Investigation of the T_1 and T_2 Relaxation of Polyamides NMR in the Low Magnetic Field
23. *A. A. Kuzhelev, O. A. Krumkacheva, D. V. Trukhin, O. Yu. Rogozhnikova, T. I. Troitskaya, V. M. Tormyshev, M. V. Fedin, E. G. Bagryanskaya*: Pulse and CW EPR Study of Triarylmethyl Radicals at Room Temperature
24. *V. A. Latypov, M. L. Falin, S. L. Korableva*: Electron Paramagnetic Resonance of Ce^{3+} Ions in $KZnF_3$ Single Crystal
25. *D. V. Leonov, K. B. Konov, K. Yu. Fedotov, N. P. Isaev, V. K. Voronkova, S. A. Dzuba*: Membrane-Sucrose Interactions Probed by Spin-Label Pulsed EPR

26. *T. Leshina, E. A. Khramtsova, D. V. Sosnovsky, P. A. Purtov*: Spin effects in chiral linked systems
27. *E. E. Lomonova, F. O. Milovich, N. Yu. Tabachkova, R. M. Eremina, I. I. Fazlizhanov*: Magnetic Properties of Crystals of Partially Stabilized Zirconia
28. *N. Lukzen, J. Behrends*: Calculations of Time-Resolved EPR Spectra in Photovoltaic Pair: Polymer Poly(3-Hexylthiophene) and [6-6]-Phenyl C61 – Butyric Acid Methyl Ester
29. *S. Mamadazizov, G. Mozzhukhin, B. Rameev, G. Kupriyanova*: Non Resonance Double Frequency NQR in $NaNO_2$
30. *I. Mershiev, G. Kupriyanova*: Compensation of the NQR Frequency Offset with Composite Pulses
31. *G. V. Mozzhukhin, J. Barras, B. Rameev, G. Kupriyanova*: Population Transfer in NQR of Compounds with long T_1 Relaxation Parameter
32. *I. Ovchinnikov, T. Ivanova, A. Sukhanov, O. Turanova*: Spin-Polarized Time-Resolved EPR Spectra of Pentadentate Fe(III) Complexes with Imidazole or Picoline as Co-Ligandes
33. *E. A. Pushkina, D. V. Leonov, S. A. Dzuba*: Low-Temperature Dynamical Transition in Glassy o-Terphenyl
34. *V. O. Sakhin, E. F. Kukovitsky, Yu. I. Talanov, G. B. Teitel'baum*: To the ESR Studies of the Topological Insulators
35. *K. M. Salikhov, R. T. Galeev, B. Bales, M. M. Bakirov*: Development of a Method for Separating Exchange and Dipole-Dipole Interactions to the Shape of EPR Spectra of Nitroxyl Radicals with Unresolved Proton Hyperfine Structure
36. *T. Salikhov, M. Iakovleva, K. Safiullin, A. Klochkov, M. Tagirov, M. Stratan, E. Zvereva, V. Nalbandyan, E. Vavilova*: Nuclear Magnetic Resonance in Low-Dimensional Compound $A_3Ni_2SbO_6$ (A = Na, Li)
37. *G. S. Shakurov, D. S. Pytalev, V. I. Kozlovsky, Yu. V. Korostelin*: High-Frequency EPR Spectroscopy of ZnSe:Fe
38. *R. K. Strizhakov, O. A. Krumkacheva, E. V. Tretyakov, A. S. Medvedeva, V. V. Novokshonov, V. G. Vasiliev, V. I. Ovcharenko, E. G. Bagryanskaya*: EPR Study of the Inclusion Complex of Nitronyl Nitroxide Covalently Linked with Permethyl-B-Cyclodextrin

39. *A. Sukhanov, R. Galeev, L. Mingalieva, V. Voronkova, A. Baniodeh, A. Powell*: Influence of Fe-Fe and Fe-Ln Spin-Spin Interactions on the Magnetisation Dynamics of Mixed Clusters
40. *Yu. Talanov, E. Kukovitsky, V. Sakhin, G. Teitel'baum:* ESR Study of the Bi_2Te_3 Doped with Manganese
41. *V. F. Tarasov, L. V. Mingalieva, K. A. Subbotin, R. B. Zaripov, E. V. Zharikov*: Dimer Self-Organization of Er^{3+} Impurity Ions in Synthetic Forsterite
42. *V. A. Ulanov, R. R. Zainullin, I. V. Yatsyk, E. R. Zhiteitsev*: Formation of (Ni^{3+}-F^-_{int}) Associates in the BaF_2 Crystals Activated by Nickel: Results of EPR Study
43. *S. V. Yurtaeva, I. V. Ovchinnikov, M. P. Kutyreva, A. R. Gataulina, N. A. Ulakhovich, A. A. Rodionov*: EPR Investigation of Trinuclear Copper Cluster in Hyperbranched Polyesterpolyacrylic Acid
44. *A. M. Zuyzin, M. A. Bakulin, S. V. Bezborodov, V. V. Radaikin, S. N. Sabaev*: The Influence of the Frequency of the Microwave Field on the Dispersion Curves of the Spin-Wave Resonance Spectra
45. *A. M. Zyuzin, N. V. Yantsen*: Spin-Wave Resonance in Films with a Uniform Gradient of Field Uniaxial Anisotropy

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