MODERN DEVELOPMENT OF MAGNETIC RESONANCE

program

2017

KAZAN * RUSSIA


MODERN DEVELOPMENT OF MAGNETIC RESONANCE
KAZAN 2017

MODERN DEVELOPMENT OF MAGNETIC RESONANCE

PROGRAM OF THE
INTERNATIONAL CONFERENCE

KAZAN, SEPTEMBER 25–29, 2017

Published by Kazan E. K. Zavoisky Physical-Technical Institute, Kazan
www.kfti.knc.ru

CHAIRMEN

Alexey A. Kalachev
Kev M. Salikhov

PROGRAM COMMITTEE

Kev Salikhov, Chairman (Russia)
Albert Aganov (Russia)
Vadim Atsarkin (Russia)
Pavel Baranov (Russia)
Marina Bennati (Germany)
Bernhard Blümich (Germany)
Michael Bowman (USA)
Sabine Van Doorslaer (Belgium)
Rushana Eremina (Russia)
Jack Freed (USA)
Ilgiz Garifullin (Russia)
Alexey Kalachev (Russia)
Walter Kockenberger (Great Britain)
Wolfgang Lubitz (Germany)
Klaus Möbius (Germany)
Hitoshi Ohta (Japan)
Igor Ovchinnikov (Russia)
Vladimir Skirda (Russia)
Murat Tagirov (Russia)
Takeji Takui (Japan)
Valery Tarasov (Russia)
Yurii Tsvetkov (Russia)
Violeta Voronkova (Russia)

LOCAL ORGANIZING COMMITTEE

Kalachev A.A., Chairman
Mamin R.F., Vice-Chairman
Voronkova V.K., Scientific secretary
Akhmin S.M.
Falin M.L.
Galeev R.T.
Goleneva V.M.
Gubaidullina A.Z.
Guseva R.R.
Kupriyanova O.O.
Kurkina N.G.
Latypov V.A.
Mosina L.V.
Oladoshkin Yu.V.
Salikhov K.M.
Siafetdinova A.Z.
Sukhanov A.A.
Tarasov V.F.
Voronova L.V.
Yanduganova O.B.
Yurtaeva S.V.
Zaripov R.B.
Ziganshina S.A.

SCIENTIFIC SECRETARIAT

Violeta K. Voronkova
Laila V. Mosina
Vlad A. Latypov
Sufia A. Ziganshina

The conference is organized under the auspices of the AMPERE Society

ORGANIZERS

Kazan E. K. Zavoisky Physical-Technical Institute
Kazan Federal University

SUPPORTED BY

The Government of the Republic of Tatarstan
The Russian Foundation for Basic Research, no. 17-02-20510-г
Bruker BioSpin

CONFERENCE LOCATION

The Academy of Sciences of the Republic of Tatarstan, Baumana str., 20;
Hotel Nogai, Profsojuznaja str., 16B

TIME SCHEDULE

MONDAY, September 25th, 2017

09:00	Registration
10:30–11:00	Welcome Coffee
11:00–13:00	Excursion
13:00–14:00	Lunch
14:00–14:15	Opening of the Zavoisky Week
14:15–15:20	Zavoisky Award Ceremony
15:20–16:00	Zavoisky Award Lecture
16:00–16:30	Coffee Break
16:30–17:50	Plenary Lectures
18:00	Welcome Party

TUESDAY, September 26th, 2017

09:00–10:20	Plenary Lectures
10:20–10:40	Coffee Break
10:40–13:00	Session: Theory of Magnetic Resonance
	Session: Low-Dimensional Systems and Nano-Systems
13:00–14:30	Lunch
14:30–16:00	Session: Spin-Based Information Processing
	Session: Low-Dimensional Systems and Nano-Systems
16:00–16:20	Coffee Break
16:20–17:00	Session: Spin-Based Information Processing
	Session: Low-Dimensional Systems and Nano-Systems
17:00–18:00	Session: Molecular Magnets and Liquid Crystals
	Session: Modern Methods of Magnetic Resonance
18:30	Culture Program

WEDNESDAY, September 27th, 2017

09:00–10:20	Plenary Lectures
10:20–10:40	Coffee Break
10:40–13:00	Session: Strong Correlated Electron System
	Session: Magnetic Resonance Imaging
	Session: Magnetic Resonance Instrumentation
13:00–14:30	Lunch

14:30–16:00	Session: Electron Spin Based Methods for Electronic and Spatial Structure Determination in Physics, Chemistry and Biology Session: Chemical and Biological Systems
16:00–16:30	Coffee Break
16:30–18:00	Session: Electron Spin Based Methods for Electronic and Spatial Structure Determination in Physics, Chemistry and Biology Session: Chemical and Biological Systems
18:00–20:00	Poster Session

THURSDAY, September 28th, 2017

09:00–10:00	Special Session Devoted to the 110 Anniversary of E. K. Zavoisky
10:00–10:20	Coffee Break
10:20–12:00	Special Session Devoted to the 110 Anniversary of E. K. Zavoisky. Plenary Lectures
12:00–13:30	Lunch
14:00–15:30	Zavoisky Readings (Kazan Federal University)
19:00	Conference Dinner

FRIDAY, September 29th, 2017

09:00–10:20	Session: Other Applications of Magnetic Resonance/ Perspective of Magnetic Resonance in Science and Spin-Technology
10:20–10:40	Coffee Break
10:40–12:00	Session: Other Applications of Magnetic Resonance/ Perspective of Magnetic Resonance in Science and Spin-Technology
12:00	Closing of the Conference
12:15–13:00	Lunch

SCIENTIFIC PROGRAM

MONDAY, September 25th, 2017

14:00 Opening of the Zavoisky Week
14:15 Zavoisky Award Ceremony
15:20 Zavoisky Award 2017 Lecture
T. Takui: Topological High-Spin Organic Chemistry and Molecular Spin-Qubit Quantum Technology Underlain by Electron Magnetic Resonance

Plenary Session
Chair: *K. M. Salikhov*

16:30 *H. Ohta*: Multi-Extreme THz ESR: Developments and Future Biological Applications
17:10 *A. I. Smirnov*: Spinon Magnetic Resonance in a Quasi 1D $S = 1/2$ Antiferromagnet with a Weak Exchange Interaction

TUESDAY, September 26th, 2017

Hall A
Plenary Session
Chair: *M. Bowman*

09:00 *E. G. Bagryanskaya*: A Pulse Dipole EPR-Based Distance Measurements at Ambient Temperatures
09:40 *M. Huber*: EPR Methods to Determine Properties of Intrinsically Disordered Proteins

Hall A
Session: Low-Dimensional Systems and Nano-Systems
Chair: *V. A. Atsarkin*

Invited Talks
10:40 *V. V. Ryazanov, I. A. Golovchanskiy, V. V. Bolginov, N. N. Abramov, V. I. Chichkov*: Magnetoresistive and Microwave Responses of Hybrid Josephson Structures with Ferromagnetic Layers

11:10 *A. S. Mel'nikov*: Dynamics of Majorana States in Nanowires and Josephson Junctions
11:40 *E. A. Karashtin, N. S. Gusev, K. D. Sladkov, I. A. Kolmychek, T. V. Murzina, A. A. Fraerman*: Spin Current and Second Harmonic Generation in Noncollinear Magnets
12:10 *L. E. Svistov, S. K. Gotovko, T. A. Soldatov, H. D. Zhou:* Electric Field Controlled ESR in Multiferroic $CuCrO_2$

Oral Talks
12:40 *E. A. Zvereva, G. V. Raganyan, V. B. Nalbandyan, M. A. Evstigneeva, S. V. Streltsov, A. I. Kurbakov, M. A. Kuchugura, A. N. Vasiliev*: Magnetic Properties of New Chiral 2D Magnet $MnSnTeO_6$

Hall B
Session: Theory of Magnetic Resonance
Chair: *E. B. Fel'dman*

Invited Talks
10:40 *F. S. Dzheparov, D. V. Lvov*: Magnetic Resonance of Impurity Spin in Slow Normal Stochastic Local Field
11:10 *A. G. Maryasov, S. L. Veber, M. V. Fedin*: Manipulations of High Spin Kramers System States by Circularly Polarized MW Fields
11:40 *B. Fine*: Reversing Chaotic Dynamics of Nuclear Spins

Oral Talks
12:10 *E. Yu. Tupikina, A. A. Efimova, G. S. Denisov, P. M. Tolstoy*: Probing of Fluorine Atom Electronic Shell by means of Topological Analysis of Helium Chemical Shift Surfaces

Hall A
Session: Spin-Based Information Processing
Chair: *A. A. Kalachev*

Invited Talks
14:30 *T. Yamane, K. Sugisaki, T. Nakagawa, H. Matsuoka, T. Nishio, S. Kinjyo, N. Mori, S. Yokoyama, C. Kawashima, N. Yokokura, K. Sato, Y. Kanzaki, D. Shiomi, K. Toyota, D. H. Dolphin, W. C. Lin, C. A. McDowell, M. Tadokoro, T. Takui*: Exact Analytical and Genuine Zeeman Perturbation Approaches

to the Eigen-Energies and -Functions of the ZFS and Electronic Zeeman Interaction Hamiltonian for the Spin Quantum Numbers up to $S = 7/2$: Applications to High Spin Metalloporphyrins and a Re(III, IV) Complex with Sizable ZFS Values and Quantum Chemical Calculations

15:00 *K. Sato, S. Yamamoto, R. Hirao, K. Tanimoto, E. Hosseini, S. Nakazawa, K. Toyota, D. Shiomi, K. Ivanov, T. Takui*: Molecular Spin Technology Based on Microwave Pulse with Arbitrary Waveform towards Spin Quantum Computing

15:30 *G. A. Bochkin, E. B. Fel'dman, S. G. Vasil'ev, V. I. Volkov*: Decoherence in Many-Qubit Clusters in Multiple Quantum NMR in One-Dimensional Systems

Oral Talks

16:20 *R. A. Akhmedzhanov, L. A. Gushchin, N. A. Nizov, V. A. Nizov, D. A. Sobgayda, I. V. Zelensky*: Cross Relaxation Magnetometry with Diamond NV Centers

16:40 *E. I. Baibekov*: Electron-Electron and Electron-Nuclear Interactions in the Context of Spin-Based Quantum Computing

Hall B

Session: Low-Dimensional Systems and Nano-Systems

Chair: *A. A. Fraerman*

Invited Talk

14:30 *A. M. Ziatdinov*: The Influence of Adsorbate and Edge Covalent Bonds on Topological Zero Modes in Few-Layer Nanographenes

Oral Talks

15:00 *E. V. Skorohodov, A. P. Volodin, R. V. Gorev, V. L. Mironov*: Localized Ferromagnetic Resonance of Domain Wall in Curved Nanostripe

15:20 *T. A. Soldatov, A. I. Smirnov, K. Yu. Povarov, E. Wulf, A. Mannig, A. Zheludev*: ESR of a Doped Quasi-One-Dimensional $S = 1$ Antiferromagnet with Two Coupled Antiferromagnetic Sublattices

15:40 *A. Panich*: Nuclear Magnetic Resonance Studies of Nano-Diamond Surface Modification

16:20 *E. M. Alakshin, G. A. Dolgorukov, A. V. Klochkov, E. I. Kondratyeva, V. V. Kuzmin, D. S. Nuzhina, K. R. Safiullin, A. A. Stanislavovas, M. S Tagirov*: ^{3}He NMR in Nanostructures: Latest Progress

16:40 *S. S. Yakushkin, D. A. Balaev, G. A. Bukhtiyarova, O. N. Martyanov*: The Formation of Epsilon-Fe_2O_3/SiO_2 Nanoparticles: Spatial Stabilization and the Size Effect

Hall A
Session: Molecular Magnets and Liquid Crystals
Chair: *V. K. Voronkova*

Invited Talk

17:00 *F. Shi*: Spin Magnetic Resonance Spectroscopy from Billions of Molecules to a Single Molecule

Oral Talk

17:30 *V. Vieru, L. Ungur, V. Cemortan, A. Sukhanov, A. Baniodeh, V. Mereacre, C. E. Anson, A. K. Powell, V. Voronkova, L. F. Chibotaru*: Magnetic Properties, EPR and *ab initio* Investigation of a Series of Isostructural $Fe_2^{III}Dy_2^{III}$ Complexes

Hall B
Session: Modern Methods of Magnetic Resonance
Chair: *M. S. Tagirov*

Invited Talks

17:00 *S. V. Dvinskikh*: Characterization of Liquid-Crystalline Materials by Separated Local Field Methods

17:30 *B. Rameev*: Novel Approaches in Magnetic Resonance & Microwave Detection of Energetic and Illicit Material

WEDNESDAY, September 27th, 2017

Hall A
Plenary Lectures
Chair: *K. Sato*

09:00 *G. Khaliullin*: Soft Spins and Higgs Mode in Ruthenates
09:40 *R. Bittl*: Insight into Protein Function by EPR

Hall A
Session: Strong Correlated Electron System
Chair: *G. B. Teitel'baum*

Invited Talks
10:50 *V. Kataev*: Signatures of Fractionalized Spin Excitations in the Proximate Quantum Spin Liquid α-$RuCl_3$ from Sub-THz Spectroscopy in Strong Magnetic Fields
11:20 *S. V. Demishev, V. N. Krasnorussky, V. V. Glushkov, A. V. Semeno, M. I. Gilmanov, A. V. Bogach, A. N. Samarin, N. A. Samarin, N. E. Sluchanko, N. Yu. Shitsevalova, V. B. Filipov*: Electron Nematic Effect in CeB_6: The ESR and Magnetoresistance Evidence

Oral Talks
11:50 *M. Iakovleva, E. Vavilova, H.-J. Grafe, A. Alfonsov, B. Büchner, Y. Skourski, R. Nath, V. Kataev*: Investigation of a Field Induced Magnetic Transition in the Low-Dimensional Magnet $BiCoPO_5$
12:10 *S. V. Demishev, M. I. Gilmanov, A. N. Samarin, A. V. Semeno, N. E. Sluchanko, N. Yu. Shitsevalova, V. B. Filipov, V. V. Glushkov*: Magnetic Resonance in the Strongly Correlated Topological Insulator SmB_6
12:30 *S. Anishchik*: ODMR and LAC Spectroscopy of Nitrogen-Vacancy Centers in Diamond

Hall B
Session: Magnetic Resonance Imaging
Chair: *K. Il'yasov*

Invited Talk
10:50 *U. Eichhoff*: MRI and Emotion

Oral Talks
11:20 *D. V. Volkov, M. V. Gulyaev, L. L. Gervits, D. N. Silachev, N. V. Anisimov, A. P. Chernyaev, Yu. A. Pirogov*: Several Aspects of ^{19}F Gastrointestinal MRI
11:40 *A. A. Bayazitov, V. E. Khundiryakov, Ya. V. Fattakhov, I. R. Sitdikov, A. R. Fakhrutdinov, V. A. Shagalov, R. Sh. Khabipov, A. N. Anikin*: The Design of the Receiving Coils for Specialized MRI

Hall B
Session: Magnetic Resonance Instrumentation
Chair: *I. A. Garifullin*

Invited Talk
12:00 *K. Zick*: Latest Developments in Pulsed Field Gradient and High Speed Magic Angle Spinning NMR
12:30 *M. Tseytlin*: Rapid Scan EPR

Hall A
Session: Electron Spin Based Methods for Electronic and Spatial Structure Determination in Physics, Chemistry and Biology
Chair: *R. Bittl*

Invited Talks
14:30 *K. M. Salikhov*: Manifestations of the Collective Motion of Spins Induced by Stochastic Relaxation Processes
15:00 *H. Matsuoka, M. Retegen, L. Schmitt, S. Höger, F. Neese, O. Schiemann*: Time-Resolved EPR and Theoretical Investigations of Metal-Free Triplet Emitters for Organic Light Emitting Diodes

15:30 *S. A. Dzuba, M. E. Kardash, V. N. Syryamina, E. F. Afanasyeva*: Nanoclustering of Spin-Labeled Molecules in Lipid Membranes as Revealed by "Instantaneous Diffusion" Effects in Electron Spin Echo Decay

16:30 *M. V. Fedin, A. M. Sheveleva, S. L. Veber*: EPR of Metal-Organic Stimuli-Responsive Materials

Oral Talk

17:00 *E. Vavilova, R. Zaripov, A. Vyalikh,M. Zschornak, T. Köhler, M. Nentwich, T. Weige, S. Gemming, E. Brendler, D. C. Meyer*: Defects Structure in Congruent Lithium Tantalite by NMR, ESR, FTIR Spectroscopies and DFT Calculations

17:20 *S. B. Orlinskii, A. A. Rodionov, A. V. Galukhin, I. N. Gracheva, G. V. Mamin, M. R. Gafurov*: Stable Self-Organized Paramagnetic Complexes in the Asphaltenes' Structures from the W-band EPR and ENDOR

Hall B
Session: Chemical and Biological Systems
Chair: *R. Kaptein*

Invited Talks

14:30 *G. Likhtenshtein*: A Combine ESR – Fluorescence Approach for Investigation of Structure, Molecular Dynamics and Mechanism of Electron Transfer in Biological Systems: 50 Years of History

15:00 *A. I. Kokorin, I. V. Kolbanev, T. V. Sviridova, D. V. Sviridov*: Structure and Properties of Mechanically Activated TiO_2/MoO_3, TiO_2/V_2O_5 and TiO_2/MoO_3:V_2O_5 Oxides Studied by EPR and XRD

15:30 *N. Enkin, S.-H. Liou, T. Orlando, I. Tkach, M. Bennati*: Fullerene-Nitroxide Derivatives: Polarizers with New Properties for DNP in Liquid State

16:30 *P. M. Tolstoy, S. A. Pylaeva, E. Yu. Tupikina, G. S. Denisov, H. Elgabarty, D. Sebastiani*: Proton Dynamics in Strong Hydrogen Bonds: Solvent-Induced Distribution of NMR Chemical Shifts

Oral Talks
17:00 *V. I. Polshakov*: NMR Methods to Study Protein-Ligand Interactions

18:00 **Poster Session**

THURSDAY, September 28th, 2017

Hall A
Special Session Devoted to the 110 Anniversary of E. K. Zavoisky
Chair: *B. I. Kochelaev*

Invited Talks
09:00 *M. S. Tagirov*: E. Zavoisky and Kazan University
09:30 *K. M. Salikhov*: About E. Zavoisky and His Discovery

Plenary Lectures
10:20 *M. K. Bowman, H. Chen, B. R. Fowler, A. G. Maryasov*: The Different Faces of Free Radical Spin Dynamics in Frozen Solution
11:00 *V. F. Tarasov*: Dimer Self-Organization of Rare-Earth Impurity Ions in Synthetic Forsterite

Zavoisky Readings (Kazan Federal University)
14:00 *R. Grimm*: The Magic of Ultracold Matter

FRIDAY, September 29th, 2017

Hall A
Session: Other Applications of Magnetic Resonance / Perspective of Magnetic Resonance in Science and Spin-Technology
Chair: *V. F. Tarasov*

Invited Talks

09:00 *Yu. M. Bunkov, T. R. Safin, A. R. Farhutdinov, M. S. Tagirov*: Supermagnonics in YIG Film
09:30 *A. A. Sukhanov, Yu. E. Kandrashkin, V. K. Voronkova, V. S. Tyurin*: Continuous Wave and Time Resolved EPR Studies of Aggregation CuCPP-I

Oral Talks

10:00 *R. Eremina, K. Konov, V. F. Tarasov, T. P. Gavrilova, A. V. Shestakov, Yu. D. Zavartsev, A. I. Zagumennyi, S. A. Kutovoi*: ESR Study of Sc_2SiO_5:Nd^{143} Isotopically Pure Crystals

10:40 *V. Sakhin, E. Kukovitskii, N. Garifyanov, R. Khasanov, Yu. Talanov, G. Teitel'baum*: ESR Study of Intrinsic Magnetic Moments in Topological Insulators

11:00 *D. Bizyaev, A. Bukharaev, N. Nurgazizov, T. Khanipov*: Investigation of Magnetic Anisotropy Field in Stressed Permalloy Microparticles by FMR

11:20 *V. A. Ulanov, A. M. Sinicin, R. R. Zainullin*: Influence of Free Charge Carriers on EPR Parameters of Gd^{3+} Centers in the $Pb_{1-x}Ag_xS$ and $Pb_{1-x}Cu_xS$ Semiconductors

11:40 *A. Esmaeili, I. R. Vakhitov, N. P. Nikitin, I. V. Yanilkin, A. I. Gumarov, B. M. Khaliulin, B. F. Gabbasov, M. N. Aliyev, R. V. Yusupov, L. R. Tagirov*: FMR Studies of Ultra-Thin Epitaxial PD1-XFEX Films

POSTER SESSIONS

1. *M. M. Akhmetov, G. G. Gumarov, V. Yu. Petukhov, G. N. Konygin, D. S. Rybin*: EPR Investigation of Mechanoactivated Copper Gluconate
2. *N. K. Andreev*: Cross-Correlation Effects in Spin-lattice Relaxation and Symmetry Restricted Spin Diffusion in Single Crystals of Amino Acids
3. *E. Anisimova, R. Zaripov, I. Khairuzhdinov, K. Salikhov, T. Ruffer, E. Vavilova*: Application of the Multi-Pulse Protocols in Solid State ^{1}H NMR in Cu(II)-Oxamidato Complex
4. *M. M. Bakirov, R. T. Galeev, K. M. Salikhov*: Routine of Determination of the Spin Exchange Rate Constants from EPR Line Shape Analysis of Nitroxyl Radicals in Liquids
5. *V. V. Chirkov, G. G. Gumarov, V. Yu. Petukhov, M. M. Bakirov*: FMR Investigation of Magnetic Anisotropy in Films were Synthesized by Co^{+} Implantation into Si
6. *N. E. Domracheva, V. E. Vorobeva, M. S. Gruzdev*: EMR Searching of Quantum Behavior of γ-Fe_2O_3 Nanoparticles Encapsulated in Dendrimeric Matrix
7. *N. E. Domracheva, V. E. Vorobeva, V. I. Ovcharenko, A. S. Bogomyakov, E. M. Zueva, M. S. Gruzdev, U. V. Chervonova, A. M. Kolker*: Action of Counterion on Spin-Crossover Behavior in Iron(III) Dendrimeric Complexes
8. *M. L. Falin, V. A. Latypov, S. L. Korableva*: EPR of Er^{3+} Ions in $CsCaF_3$ Single Crystals
9. *M. L. Falin, V. A. Latypov, A. M. Leushin, G. M. Safiullin*: Structural Models of the Yb^{3+} Ion in the Hexagonal Perovskite $RbMgF_3$ Single Crystal
10. *E. Frolova, T. Ivanova, O. Turanova, L. Mingalieva, E. Zueva, M. Petrova, I. Ovchinnikov*: Spin States of [Fe(Salten)Cl] Complexes in Acetonitrile
11. *B. F. Gabbasov, D. G. Zverev, S. I. Nikitin, I. F. Gilmutdinov, R. G. Batulin, A. G. Kiiamov, R. V. Yusupov*: EPR Spectroscopy of the Gd^{3+} Ions in the SrY_2O_4 Crystal

12. *L. Gafiyatullin, E. Frolova, E. Zueva, O. Turanova, E. Milordova, I. Ovchinikov*: Studies of [Fe(Salten)L]BPh_4 Complexes Solutions in Acetonitrile
13. *Kh. L. Gainutdinov, V. V. Andrianov, V. S. Iyudin, G. G. Yafarova, M. I. Sungatullina, I. I. Khabibrakhmanov, N. I. Ziatdinova, T. L. Zefirov*: Dynamics of Nitric Oxide Production in Heart and Liver of Rats During Increasing 30-Days Restriction of Motor Activity and Subsequent Recovery
14. *I. A. Goenko, G. G. Gumarov, M. M. Bakirov, R. B. Zaripov, V. Yu. Petukhov, D. S. Rybin, G. N. Konygin*: EPR Investigation of the Conformation of the Irradiated Calcium Gluconate
15. *A. I. Gorbovanov, S. N. Polulyakh, V. N. Berzhansky, A. A. Gippius*: Multiple Spin Echoes from ^{57}Fe Nuclei in Ferrimagnetic Yttrium Iron Garnet Films
16. *Yu. V. Goryunov, A. N. Nateprov*: Topological Interactions of Magnetic Impurities in Topological Semimetal: ESR Data
17. *G. G. Gumarov, O. N. Lis, A. V. Alekseev, M. M. Bakirov, V. Yu. Petukhov*: Temperature Dependence of Magnetic Anisotropy in Iron Silicide Films Ion-Synthesized in External Magnetic Field
18. *M. I. Ibragimova, D. K. Khaibullina, A. I. Chushnikov, I. V. Yatsyk, V. Yu. Petukhov, R. G. Esin*: The Possibilities of EPR for the Connective Tissue Dysplasia Diagnosis
19. *A. Imaev, A. Sayakhov, S. Gorshenin, M. Gorshenin, A. Sadikov, A. Bragin, V. Murzakaev, L. Gilyazov, A. Golubev, D. Zverev, I. Mumdzhi, S. Nikitin, D. Ivanov, D. Melnikova, A. Ivanov, O. Gnezdilov, R. Archipov, A. Aleksandrov, V. Skirda, Ya. Fattakhov, V. Shagalov, A. Fakhrutdinov, D. Konovalov, R. Khabipov, A. Anikin*: Downhole Laboratory for Reservoir Fluid Real-Time Extended NMR, Optical and Dielectric Spectroscopy Analysis and Sampling
20. *T. Ivanova, I. Gilmutdinov, O. Turanova, L. Mingalieva, I. Ovchinnikov*: Magnetic Interactions in the Chain Structure [Fe(salen)(2-Me-Him)]*n*
21. *G. S. Kupriyanova, G. V. Mozzhukhin, A. Maraşlı, B. Z. Rameev*: ^1H NMR Detection of Olive Oil
22. *I. Kurganskii, M. Ivanov, M. Fedin, S. Prikhod'ko, N. Adonin*: Investigation of Fullerenes C_{60} and PCBM Triplet States Spin Dynamics in Ionic Liquids by Time-Resolved EPR Spectroscopy

23. *A. M. Kusova, A. E. Sitnitsky, B. Z. Idiyatullin, D. R. Bakirova, Yu. F. Zuev*: Protein Translational Diffusion under Crowding Conditions
24. *D. Kuzmina, A. Sheveleva, A. Poryvaev, M. Fedin*: Spin Probe EPR Study of $CO_2/O_2/N_2$ Gas Sorption in ZIF-8
25. *N. T. Le, E. A. Konstantinova, B. B. Iversen*: Spin Centers in Nanocrystalline Titania, Synthesized with Supercritical Flow Reactor Technique
26. *V. N. Lisin, A. M. Shegeda, V. V. Samartsev*: The Coherence of the Exciting Radiation and Amplitude of Oscillations of Echo Intensity vs External dc Magnetic Field
27. *S. Lvov, E. Kukovitsky*: ESR Study of CuEr Dilute Alloys
28. *S. Mamadazizov, M. Shelyapina, G. Kupriyanova*: DFT Calculations of the ^{14}N NQR Spectra of Some Heterocycles
29. *I. Mershiev, B. Blümich* ^{14}N NQR with Frank Sequence Excitation
30. *L. V. Mingalieva, Y. Peng, V. K. Voronkova, A. K. Powell*: EPR of $\{Dy^{III}\text{-}Me^{III}_2\text{-}Dy^{III}\}$ Clusters, $Me^{III} = Cr^{III}$, Mn^{III}
31. *A. A. Minnekhanov, E. V. Vakhrina, E. A. Konstantinova*: Investigation of Charge Accumulation Processes in TiO_2-Based Nanoheterostructures
32. *G. V. Mozzhukhin, G. S. Kupriyanova, A. Maraşlı, B. Z. Rameev*: Nitrogen ^{14}N NMR Detection of Liquids
33. *A. V. Nikitina, Yu. V. Bogachev, A. A. Kostina, V. A. Sabitova, Ya. Yu. Marchenko, B. P. Nikolaev*: Determination of Aggregation Stability and MRI Contrast Efficiency of Magnetic Nanoparticles by NMR-Relaxometry
34. *A. M. Panich, N. A. Sergeev*: Towards Determination of Distances between Nanoparticles and Grafted Paramagnetic Ions by NMR Relaxation
35. *D. Pavlov, R. Mamin*: Multifunctional Properties of Ferromagnetics in Conditions of Photoexcitation
36. *S. N. Polulyakh*: A Classical Vector Model for Magnetization of Two-Spin System with Dipole-Dipole Interaction
37. *V. Ptushenko*: The First Decade After Zavoisky's Discovery: the EPR Technique in USSR
38. *G. V. Raganyan, E. A. Zvereva, V. B. Nalbandyan, M. A. Evstigneeva, A. N. Vasiliev*: Field-Induced Long-Range Magnetic Order in A_2MnTeO_6 (A = Na, Li, Ag, Tl)

39. *T. Salikhov, V. Kataev, M. Gunter, H.-H. Klauss, E. Zvereva, V. Nalbandyan, E. Vavilova*: NMR Study a Fragmented Haldane Like Spin-Chains
40. *T. Salikhov, E. Zvereva, V. Nalbandyan, R. Sarkar, H.-H. Klauss, E. Vavilova*: Magnetic Properties of Mixed-Valent System $LiMn_2TeO_6$
41. *Yu. Samoshkina, M. Rautskii, D. Velikanov, M. Volochaev, A. Sokolov, N. Andreev, V. Chichkov*: Magnetic Resonance Investigation in the Polycrystalline $Pr_{0.8}Sr_{0.2}MnO_3$ Films: Features of the Magnetic States above Curie Temperature
42. *A. V. Sapiga, N. A. Sergeev*: NMR and Water Molecules Diffusion in Nanochannels of Natrolite
43. *N. A. Sergeev, A. M. Panich, S. D. Goren*: Alignment of Anisotropic Particles by Magnetic Field as Seen by NMR
44. *G. S. Shakurov, V. A. Vazhenin, A. P. Potapov, V. A. Isaev, A. V. Lebedev, S. A. Migachev*: Wide-Band EPR Spectroscopy of the Black Garnets
45. *P. Skvortsova, D. Shurpik, I. Stoikov, Y. Zuev, B. Khairutdinov*: The Study of the Receptor Properties of Decasubstituted Pillar[5] arenes to Fluorescein dye by Methods of the High Resolution NMR Spectroscopy
46. *A. A. Sukhanov, Y. E. Kandrashkin, L. I. Savostina, V. K. Voronkova, V. S. Tyurin*: Photo-Induced States of Copper Complexes of Coproporphyrin I: from Monomer to Dimer Systems
47. *A. A. Sukhanov, M. D. Mamedov, A. Yu. Semenov, K. M. Salikhov*: Distance between Separated Charges in the Ion-Radical Pair $P_{700}^{+}A_1^{-}$ of the Photosystem I Reaction Center Complex Incorporated into Trehalose Matrix at Different Dehydration Levels Measured Using Out-of-Phase ESEEM
48. *A. A. Sukhanov, Y. Peng, V. K. Voronkova, A. K. Powell*: EPR Study of Al_2Er_2 Molecular Cluster
49. *A. A. Sukhanov, V. K. Voronkova, V. S. Tyurin*: Triplet State Delocalization in Zincporphyrin Dimer Probed by TR EPR
50. *I. Timofeev, O. Krumkacheva, A. Kuzhelev, A. Malygin, D. Graifer, M. Meschaninova, A. Ven'yaminova, M. Fedin, G. Karpova, E. Bagryanskaya*: EPR Study of Ribosomal Translational Complexes

51. *S. Tumanov, M. Fedin, S. Veber, S. Tolstikov, N. Artiukhova, V. Ovcharenko*: EPR Study of Light-Induced Metastable States in Two-Spin $Cu(hfac)_2L^R$ Compounds
52. *M. Vafadar, B. Rameev*: Electrically Detected FMR of Permalloy Microstrip via Spin Rectification Effect
53. *M. Volkov, O. Turanova, E. Milordova, E. Frolova, I. Ovchinnikov, A. Turanov*: Spin Properties of [Fe(Salten)Cl] Complex Solutions Studied by NMR and EPR
54. *P. Wang, S. Chen, M. Guo, S. Peng, M. Wang, F. Shi, X. Rong, J. Su, J. Du*: Nanoscale Magnetic Resonance Imaging of Intracellular Proteins
55. *I. V. Yatsyk, R. M. Eremina, P. S. Shirshnev, F. G. Vagizov*: Diluted Iron Oxide in K_2O-Al_2O_3-B_2O_3 Studied Method EPR
56. *S. Yurtaeva, V. Efimo*v: Temperature Dependence of Resonance Field of EMR Signals in Biological Tissues
57. *S. Yurtaeva, M. Volkov, G. Yafarova, D. Silantieva, E. Yamalitdinova*: ^{31}P NMR Spectrum of Rat Blood in Conditions of Spinal Cord Injury
58. *R. Zaripov, E. Vavilova, I. Khairuzhdinov, E. Anisimova, T. Salikhov, V. Voronkova, K. Salikhov, M. Abdulmalic, F. Meva, S. Weheabby, T. Rüffer, B. Büchner, V. Kataev*: Peculiarities of the Application of a Multi-Pulse Sequence for Spin Coherence Control
59. *R. Zaripov, E. Vavilova, I. Khairuzhdinov, K. Salikhov, V. Voronkova, M. A. Abdulmalic, F. E. Meva, S. Weheabby, T. Rüffer, B. Büchner, V. Kataev*: Determination of HFI Constants of Cu Oxamato-Complex by ENDOR and ED NMR Techniques
60. *A. M. Ziatdinov*: Topological Zero Modes in Few-Layer Nanographenes: EPR, CESR and Magnetic Susceptibility Studies

Ответственный редактор: В. К. Воронкова; редакторы С. М. Ахмин, Л. В. Мосина; технический редактор О. Б. Яндуганова. Издательство КФТИ КазНЦ РАН,
420029, Казань, Сибирский тракт, 10/7, лицензия № 0325 от 07.12.2000.

Отпечатано с оригиналов заказчика

АО “Информационно-издательский центр” · Казань, ул. Чехова 28, тел. +7 (843) 236 94 26