KAZAN SCIENCE WEEK 2025

PROGRAM

KAZAN SCIENCE WEEK

PROGRAM OF THE
INTERNATIONAL CONFERENCES
“ADVANCED LASER TECHNOLOGIES”
AND
“MODERN DEVELOPMENT OF MAGNETIC RESONANCE”

KAZAN, SEPTEMBER 22 – OCTOBER 03, 2025

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MEPhI National Research Nuclear University MEPhI

ЭЛЕМЕНТ

AVESTA
LASERS AND OPTICAL SYSTEMS

special systems
PHOTONICS

"НАУКА"
Центр Технического Сопровождения

SLS
PRIME TECHNOLOGY

Solar Laser Systems

LLS

LACOPA

Solar Laser Systems

SOLAR LS Company has been working in the international photonics market for more than 30 years. We are experts in the design and manufacturing of solid-state laser systems and spectral analysis instruments for science, medicine and industry. Currently, the company comprises scientific research laboratories, a design department, a mechanical and assembly production facility, an optical department, and a group for adjustment and service maintenance. Therefore, we complete the entire cycle of work on creating laser and spectral analysis systems - from research and development to the supply of finished products and their service maintenance. Our instruments and systems successfully operate in more than 25 countries all over the world. Being one of the market leaders, we offer our customers the widest range of the cutting-edge solid-state lasers, laser systems and spectral instruments. Reliability and technical perfection of SOLAR LS products are ensured by more than 30 years of manufacturing experience while design and concept incorporates with the latest achievements of the photonics.

Our laser product line includes:

- Nanosecond lasers with lamp and diode pumping with pulse energy up to 2.5 J, pulse repetition rates up to 100 Hz;
- Lasers with kHz pulse repetition rates with average power up to 10 W, pulse repetition rates from 1 to 100 kHz;
- Picosecond and femtosecond lasers with average power up to 8 W, pulse energy up to 1 mJ, pulse duration from 150 fs to 30 ps;
- Tunable nanosecond laser systems with a tuning range from 200 nm to 20 μm.

All lasers are equipped with harmonic generators and nonlinear converters, providing the capability to operate in UV, visible and IR spectral ranges.

Typical spectral products of our company are:

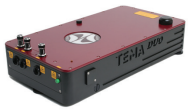
- Monochromators/spectrographs with a focal length from 44 to 522 mm;
- Compact spectrometers in the spectral range from 190 to 2560 nm with high optical sensitivity, low level of stray light and high resolution;
- Tunable light sources based on xenon lamps in the spectral range from 190 to 2500 nm, with high resolution up to 0.1 nm;
- Wavelength meters for lasers and diodes in the spectral range from 190 to 1800 nm with high accuracy and extremely high resolution.

We offer a wide range of detectors and accessories to complete our spectral instrument registration systems, as well as to collect light and input/output it into a fiber or spectral instrument. In addition to standard models of lasers and spectral instruments, our specialists are ready to develop and manufacture absolutely unique systems for your specific requirements and tasks.

Why we are confident in excellent results:

- Extensive experience: over 30 years of designing and producing laser systems and spectral analysis instruments to meet the current User's needs;
- Rapid and high-quality development of custom instruments;
- Established small-scale production process;
- Our team is involved in optimizing optical schemes designs for experiments using our spectral analysis instruments and laser systems;
- We provide stable OEM-supplies of high-quality instruments and systems.

Фемтосекундные твердотельные лазеры


TiF
Ti:S лазер
- λ_{range}: 690-1040 нм
- τ_{pulse}: 6 фс - 30 пс
- P_{av}: до 4 Вт
- PRR: 40...125 МГц

TeMa
иттербиевый лазер
- λ: 1030...1054 / 525 нм
- τ_{pulse}: 15-150 фс
- P_{av}: >20 Вт / >8 Вт
- PRR: 10-80 МГц

CrF
Cr:F лазер
- λ_{range}: 1230-1270 нм
- τ_{pulse}: <70 фс
- P_{av}: до 1 Вт
- PRR: 75...125 МГц

Katyusha
многоканальная система
- λ: 525 / 740-860 / 1050 нм
- τ_{pulse}: <150/<50/<200 фс
- P_{av}: 1.5 Вт на 800 нм
- PRR: 80 МГц

TOPOL
ОПО с накачкой
- λ_{range}: 205-4750 нм
- τ_{pulse}: <150 фс
- P_{av}: >3 Вт
- PRR: 80 МГц

Фемтосекундные волоконные лазеры





YFOA
иттербиевый лазер
- λ: 1030...1064 нм
- τ_{pulse}: <100 фс
- P_{av}: до 50 Вт
- PRR: 40-80 МГц

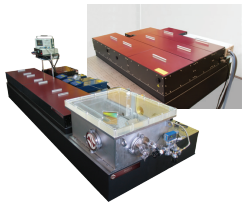
ANTAUS
микроджоульный
- λ: 1030...1053 нм
- τ_{pulse}: <250 фс
- E_{pulse}: до 60 мкДж
- P_{av}: до 50 Вт

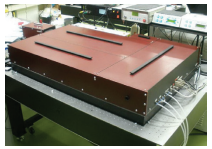
PErL, EFO
эрбиевые лазеры
- λ: 1560 нм
- τ_{pulse}: 50...300 фс; 5 пс
- P_{av}: до 5 Вт
- PRR: 30...100 МГц

EFOA-SH/PErL-PM-SH
эрбиевый лазер
- λ: 1560/780 нм
- τ_{pulse}: <50 фс
- P_{av}: >2 Вт
- PRR: 30...100 МГц

EFO-COMB
комб-генератор
- λ: 200...3390 нм
- F_{rep}: 100-250 МГц
- Стаб.: $1*10^{-17}$ на 1 с

Усилители





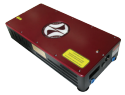

AVET и REUS
титан-сапфировые усилители
- λ: 740...950 нм
- τ_{pulse}: <35 фс (опция <8 фс)
- P_{peak}: до 20 ТВт
- E_{pulse}: >550 мДж@10 Гц

TETA иттербиевый усилитель
- λ: 1030/515/343/257 нм
- τ_{pulse}: <180 фс (опция <30 фс)
- P_{av}: до 30 Вт @ 2 МГц
- E_{pulse}: до 2 мДж

FREGAT хром-форстеритовый усилитель
- λ: 1240 нм
- τ_{pulse}: <100 фс
- E_{pulse}: до 100 мДж
- PRR: 10 Гц...1 кГц

PARUS
параметрический усилитель
- λ_{range}: 190 нм - 15 мкм
- τ_{pulse}: от <30 фс
- Eff. S+I: >10% от накачки

Непрерывные твердотельные лазеры

TiC Ti:S лазер
- λ: 690-1040 нм
- P_{av}: до 6 Вт
- <1 МГц ширина линии

TEMA-CW
- λ: 1010-1070 нм
- P_{av}: до 15 Вт
- USB

LF-100 Cr:F лазер
- λ: 1210-1290 нм
- P_{av}: до 1 Вт
- USB

DLS одночастотный диодный лазерный источник
- λ: 400...1670 нм
- P_{av}: до 10 Вт

ABECTA
ЛАЗЕРЫ И ОПТИЧЕСКИЕ СИСТЕМЫ

ООО «АВЕСТА», ул. Физическая, 11
Троицк, 108840, Москва, Россия
Тел.: +7 (495) 138-99-56

fs@avesta.ru
www.avesta.ru

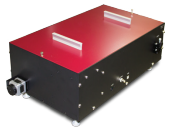
Диагностическое оборудование



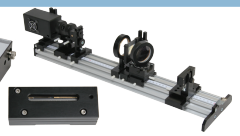
AA-DD и IRA
сканирующие автокорреляторы
- λ_{range}: 420 нм - 11 мкм
- τ_{pulse}: 10 фс - 250 пс
- Чувствительность: от 100 мВт^2
- USB и ПО для Windows

ASF, ASF-FROG
одноимпульсные автокорреляторы и FROG
- Диапазон длин волн: 400-2200 нм
- Диапазон длительности: 5 фс - 20 пс
- USB, ПО для Windows и LabView

SPIDER
измеритель спектральной фазы
- Input λ: 550-2200 нм
- Input $\tau_{pulse\ range}$: 5-320 фс
- USB и ПО для Windows





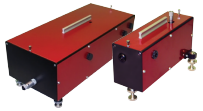



COMET измеритель контраста
- Диапазон длин волн: 700-1500 нм
- Динамический диапазон: 10^{10}
- Временной диапазон: до 10 нс
- USB и ПО для Windows

OD фотоприемники
- Диапазон длин волн: 200-2600 нм
- Полоса до 2500 МГц
- Время нарастания от 0.5 нс
- Со смещением, с усилителем, лавинные, волоконные

Спектрометры и сенсоры
- λ: 190-3450 нм
- Разрешение: от 0.01 нм
- Волоконный/free-space
- USB и ПО для Windows

Компоненты


OG ЭО и АО селекторы импульсов
- Длины волн: 210...2700 нм
- Выходная частота: до 40 МГц
- Пропускание >90%
- Контраст >2 000:1
- Блок генерации задержек
- USB, ПО для Windows и LabView

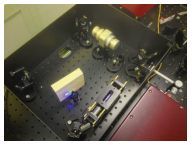
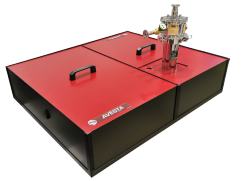
ALock. Блок ФАПЧ
- Входной сигнал до 3 ГГц
- Полоса ПИД до 2 МГц
- PZT до 50 Вт
- Синхронизация лазеров
- Стабилизация CEP
- ASOPS, THz-ASOPS

AG генераторы гармоник
- Выход: 195 нм - 5 мкм
- ЧГ на 800 нм = ТГ+основная
- Преобразование: до >50%

APC призменный компенсатор
GVD на 800 нм:
от +16500 фс^2 до -13800 фс^2

Compulse компрессор
- 6 фс, 500 мкДж на 800 нм
- 30 фс, 200 мкДж на 1030 нм



OA оптические аттенюаторы
- Динамический диапазон: 10^2
- λ: 250...2000 нм
- Модели с низкой дисперсией
- Порог пробоя: до 10 Дж/см^2

AF ротаторы и изоляторы
- λ: 400...1250 нм
- Изоляция: >38 dB; >60 dB
- Широкопол. и перестраив.
- Апертура: до 20 мм
- Порог пробоя: до 5 Дж/см^2

GECON генератор суперконтинуума
- Вх. λ: 800; 1030-1064 нм
- Вых. λ: 200-1200 нм
- Преобразование: >50%

Tera-Ax ТГц генератор
- Центр. частота: 1 ТГц
- Длительность ТГц: <1 пс
- Энергия ТГц: >1 мДж
- ЭО детектор (опция)
- Версия с криостатом

• чопперы • шаттеры • USB контроллеры • оптомеханика • столики • оправы •

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rev 2507

LASERS & LASER SYSTEMS

PULSED Nd:YAG LASERS

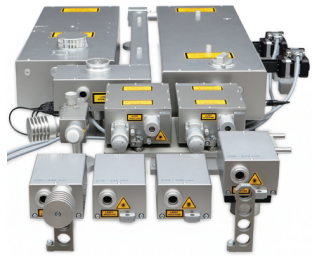
- Pulse energy up to 2.5 J
- Flat top beam profile
- Pulse repetition rate up to 200 Hz
- All harmonics from 1064 to 213 nm
- Adjustable pulsewidth
- Adjustable pulse shape

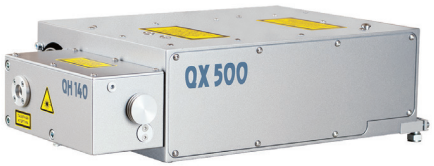
FEMTO-, PICOSECOND LASERS

- Pulsewidth (FWHM) up to 110 fs
- Output power up to 7 W
- Output energy up to 1 mJ
- Harmonic generators
- Diode pumping
- Pulse selectors

TUNABLE LASERS

- Ti:Sapphire lasers, DFG converters
- Optical parametric oscillators
- Tuning range from 0.2 to 20 μm
- Linewidth up to 0.005 nm
- Pulse energy up to 100 mJ





DIODE-PUMPED LASERS

- Compact industrial design
- Built-in or external harmonic generators
- up to 150 mJ per pulse at 20 Hz
- up to 3 W @ 355 nm at 30 kHz

Solar Laser Systems

SPECTRAL INSTRUMENTS

MONOCHROMATORS/ SPECTROGRAPHS

- Single and double
- Focal length from 44 to 522 mm
- Wide range of detectors

SPECTROMETERS

- Spectral range from 190 to 2560 nm
- High optical sensitivity
- Fiber input

WAVELENGTH METERS FOR LASERS AND DIODES

- Spectral range from 190 to 1800 nm
- High accuracy ± 3 pm
- FWHM and spectral line monitoring and analysis

TUNABLE LIGHT SOURCES

- Spectral range from 190 to 2500 nm
- Spectral resolution up to 0.1 nm

Solar Laser Systems

BUILT WITH ADVANCED TECHNOLOGIES

PULSED Nd:YAG LASERS

- Wavelength 1064, 532, 355, 266 and 213 nm
- Pulse energy up to 4 J
- Repetition rate up to 10 kHz
- Integrated energy meter
- Compact housing
- Manufactured in the Republic of Belarus

Convenient Operation · High Reliability · Guaranteed Service

SLS Prime Technology unites leading experts in lasers and laser systems development and production to bring innovative equipment to domestic markets.

We place special emphasis in engineering diode-pumped lasers, deliberately dissolving the boundaries of their applications between science and industry. We are determined that our products are designed to succeed in both domains.

AZURITE is our first and proven model of diode-pumped lasers generating nanosecond pulses. It delivers **up to 160 mJ** pulse energy at **up to 30 Hz** repetition rates in a completely **"dry" design**.

Its **extended service interval of over 1 billion pulses** makes AZURITE a robust solution not only for a wide range of R&D applications but also for integrating in industrial environments operating 24/7.

We use **exclusively domestically sourced components** for all critical parts, ensuring system maintainability and reliable long-term service support.

Please contact our specialists for more details by e-mail or phone:

SLS Prime Technology | +375 (17) 382-00-55 | sales@sls-prime.com | www.sls-prime.com

SLS PRIME TECHNOLOGY

PULSED
Nd:YAG LASERS

SLS PRIME TECHNOLOGY

AZURITE
Compact diode-pumped lasers

- Up to 160 mJ pulse energy at up to 30 Hz repetition rate
- >1 billion shots lifetime
- Completely dry cooling design
-

GRAPHITE
Compact lamp-pumped lasers

- 200 mJ - 750 mJ pulse energy at up to 100 Hz repetition rate
- >30 million shots lifetime
- Water-air cooling

CORUNDUM
Lamp-pumped Joule-class lasers

- Up to 1.5 J pulse energy at up to 20 Hz repetition rate
- >30 million shots lifetime
- Water-air cooling

OBSIDIAN
Picosecond lasers

- Up to 2 mJ pulse energy at up to 1 kHz repetition rate
- 300-500 ps pulse duration
- SLM operation mode

AMETHYST
Tunable laser systems

- Tunable output in the 0.2–20 μm range
- Up to 150 mJ pulse energy
- Customized configurations available

- *All Nd:YAG laser models incorporate replaceable harmonic generators for wavelength selection from IR to UV: 1064 nm, 532 nm, 355 nm, 266 nm, and 213 nm.*
- *Nd:YAG lasers are available with single longitude mode (TEM00) option.*
- *Lasers with pulse energies up to 4 J are available on a custom-order basis.*
- *Tunable wavelength systems are developed to individual specifications based on Nd:YAG lasers enhanced with OPOs and sum- and difference-frequency generators.*

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SLS PRIME TECHNOLOGY

ЭЛЕМЕНТ

Сайт: https://element-msc.ru/

Компания «ЭЛЕМЕНТ» – надежный поставщик аналитического оборудования, запчастей и расходных материалов на российском рынке уже более 20 лет. Мы не только обеспечиваем лаборатории и научные центры передовой техникой, но и предлагаем полный спектр сервисных услуг, включая гарантийное обслуживание и ремонт приборов.

«ЭЛЕМЕНТ» является официальным дистрибьютором SHIMADZU в России, а также представляет ряд других ведущих производителей аналитического оборудования. Среди наших партнеров:

- **ZHONGTAI (CIQTEK)** – разработчик спектрометров ядерного магнитного резонанса (ЯМР) и электронного парамагнитного резонанса (ЭПР) X и W диапазона, а также уникального оборудования для измерения магнитных свойств веществ, включая NV-магнитометры и квантовые NV-микроскопы.

- **Zhenyi Scientific** – китайский производитель инновационных решений в области ЯМР-анализа, включая **бескриогенные низкопольные ЯМР-анализаторы** для пищевой науки, материаловедения и биомедицины.

ЭЛЕМЕНТ

СПЕКТРОМЕТРЫ ЯДЕРНОГО МАГНИТНОГО РЕЗОНАНСА (ЯМР)

ЯМР-спектрометры Zhenyi на постоянном магните серии HT-PNMR12 (60/90МГц)

Предназначены для проведения рутинных экспериментов. В зависимости от конфигурации они способны регистрировать ЯМР-спектры ядер: ^{1}H, ^{19}F, ^{13}C, ^{31}P. Уникальный постоянный магнит не требует охлаждения криогенными жидкостями. Для уменьшения влияния анизотропии магнитного поля используется система вращения. Все блоки прибора находятся в едином корпусе. Заводская гарантия 24 месяца с момента поставки.

- Две модификации: HT-PNMR12-6 на 60 МГц / HT-PNMR12-9 на 90 МГц
- Магнитное поле: 1,4 Тл / 2,1 Тл
- Разрешение: < 0,8 Гц / < 0,5 Гц
- Соотношение S/N (1% этилбензол): 100:1 / 120:1
- Температурная стабильность: 0,001 К/ч через 4 часа после запуска

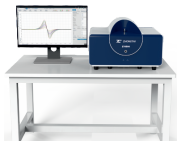
Высокопольные ЯМР-спектрометры ZHONGTAI CAN400 и CAN600 (400/600 МГц)

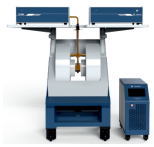
Современные высокочувствительные ЯМР-спектрометры с интеллектуальным управлением и сверхпроводящим магнитом, обеспечивающим исключительную однородность поля. Приборы оснащены автоматизированным зондом и модульной системой, что позволяет проводить точные исследования молекулярной структуры с минимальным вмешательством оператора. ЯМР-спектрометры ZHONGTAI идеально подходят для современных лабораторий, сочетая высокое разрешение, надежность и удобство в эксплуатации.

- Две модели: CAN400 / CAN600
- Рабочая частота на ядрах 1H – 400 МГц / 600 МГц
- Магнитное поле: 9,39 Тл / 14,09 Тл
- Соотношение S/N (0,1% этилбензол): ≥ 500:1 / ≥ 850:1
- Наблюдаемые ядра: ^{1}H, ^{13}C, ^{15}N, ^{31}P, ^{19}F и другие
- Разрешение: < 0,0005 Гц
- Диаметр теплого отверстия: 54 мм
- Опции: температурная приставка (от -150 °C до +150 °C), автосамплер на 72 образца

СПЕКТРОМЕТРЫ ЭЛЕКТРОННОГО ПАРАМАГНИТНОГО РЕЗОНАНСА (ЭПР)

ЭПР -спектрометры X-, Q-, W- диапазона от ZHONGTAI


ZT6500


ZT15C


ZT15P


ZT60W

Линейка ЭПР спектрометоров ZHONGTAI включает :

- компактную настольную модель ZT6500
- две высокочувствительные модели ЭПР X-диапазона. Модель ZT15C для работы в CW-режиме и модель ZT15P с возможностью работы в импульсном +CW режиме. Обе модели можно модернизировать для работы в Q-диапазоне (с магнитом 1,8Т).
- Вершина линейки - высокочастотный ЭПР-спектрометр W-диапазона ZT60W.

Кроме этого, производитель предлагает большой набор опций: резонаторы, азотные и гелиевые температурные приставки, системы облучения, ячейки для разных приложений, в том числе для модернизации ЭПР-спектрометров сторонних производителей.

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Адрес: 129626, Россия, Москва,
ул. Маломосковская, 22, стр. 1, «Технопарк»
Телефон: +7 (499) 322 06 62
Моб.: +7 915 404 65 97
E-mail: d.naberezhnyi@cts-nauka.ru

ЦЕНТР ТЕХНИЧЕСКОГО СОПРОВОЖДЕНИЯ «НАУКА» ЗАНИМАЕТСЯ ПОСТАВКОЙ И ОБСЛУЖИВАНИЕМ НАУЧНОГО ОБОРУДОВАНИЯ ДЛЯ ЛАБОРАТОРИЙ, РЕШАЯ СЛЕДУЮЩИЕ ЗАДАЧИ:

- разработка комплексного решения под задачи пользователя, в том числе поставка оборудования, разработанного по индивидуальным проектам
- поставка, запуск и обслуживание оборудования
- объединение приборов от разных производителей в единый комплекс
- поставка всех необходимых расходных материалов
- гарантийное и постгарантийное обслуживание

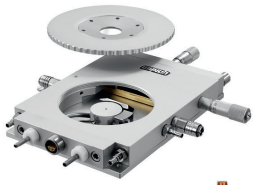
ЛАБОРАТОРНОЕ ОБОРУДОВАНИЕ | РАСХОДНЫЕ МАТЕРИАЛЫ | СЕРВИС

КОМПАНИЯ ОБРАЗОВАНА В 2013 ГОДУ И ЗАРЕКОМЕНДОВАЛА СЕБЯ КАК НАДЕЖНЫХ ПОСТАВЩИК ПРИБОРОВ ДЛЯ ИССЛЕДОВАНИЙ В ОБЛАСТИ ФИЗИКИ И ХИМИИ.

www.scientific-technology.ru | www.nauka-shop.ru | www.lgrinc.ru | www.cryoindustries.ru

ЦТС «НАУКА» ПРЕДЛАГАЕТ ШИРОКИЙ ПЕРЕЧЕНЬ УНИКАЛЬНОГО ОБОРУДОВАНИЯ ДЛЯ НАУЧНЫХ ИЗЫСКАНИЙ:

КРИОГЕННОЕ ОБОРУДОВАНИЕ:



Linkam

+ Столики для микроскопии с задаваемой температурой / давлением от **Linkam Scientific Instruments**.

ARS

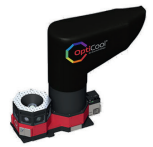
+ **Advanced Research Systems:** оптические криостаты замкнутого цикла, проточные, сверхвысоковакуумные, исследовательские станции с зондом и иные аксессуары.

CIA CRYO INDUSTRIES OF AMERICA, INC.

+ **Cryo Industries of America:** оптические безжидкостные криостаты, поточные гели евые криостаты, гелиевые и безжидкостные сверхпроводящие магниты, системы охлаждения газового потока, системы для криомикроскопии, генераторы жидкого азота, криостаты He-3, трансферные линии и сосуды Дьюара.

SHI Cryogenics Group

+ **SHI Cryogenic Group (Sumitomo):** криокулеры (криогенные рефрижераторы), крионасосы, гелиевые компрессоры.



+ **Quantum Design:** безжидкостные оптические криостаты, ожижители гелия, системы квантовой микроскопии, системы наноосаждения PVD/CVD, SQUID магнетометры, безжидкостные станции для исследования материалов и криомикроскопии.

CRYOGENIC

+ **Cryogenic Limited:** безжидкостные измерительные системы 18 Тл и криокулеры, криостаты замкнутого цикла, магниты высокого разрешения для ЯМР, SQUID магнетометры.

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EDWARDS

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+ пластинчато-роторные насосы, спиральные насосы, турбомолекулярные насосы от **Pfeiffer Vacuum, Edwards Vacuum, Leybold GmbH.**

EVP

+ вакуумные насосы и крионасосы от **EVP** и других производителей

YUNMU VAC TECH

+ вакуумные камеры, вакуумная арматура от **Yunmu** и иных производителей.

СОПУТСТВУЮЩИЕ АКСЕССУАРЫ:

SMC

+ Чиллеры, сосуды Дьюара, трансферные линии и многое другое.

ИЗМЕРИТЕЛЬНОЕ ОБОРУДОВАНИЕ:

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+ синхронные усилители от **Zurich instruments**

KEITHLEY
A Tektronix Company

+ генераторы и измерители электронных сигналов от **Keithley Instruments**

ABB

+ портативные газовые анализаторы от **ABB**

ThermoFisher SCIENTIFIC

+ спектрометры от **Thermo Fisher Scientific**

EDINBURGH INSTRUMENTS

+ спектрометры от **Edinburgh Instruments**

HORIBA

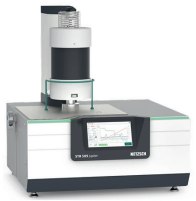
+ спектрометры от **Horiba**

LGR

+ изотопные анализаторы от **Los Gatos Research**

NETZSCH

+ термические анализаторы от **Netzsch.**



ЛАБОРАТОРНОЕ ОБОРУДОВАНИЕ | РАСХОДНЫЕ МАТЕРИАЛЫ | СЕРВИС

"НАУКА"

Центр Технического Сопровождения

Адрес: 129626, Россия, Москва, ул. Маломосковская, 22, стр. 1, «Технопарк»
Телефон: +7 (499) 322 06 62
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АО «ЛЛС» — ВАШ ПРОВОДНИК В МИРЕ ОПТИКИ И ФОТОНИКИ!

Нам доверяют эксперты отрасли, а мы обеспечиваем интеграцию оборудования под ключ — от поставки до пусконаладки

10 лет мы лидеры рынка оптики и фотоники — отбираем лучших производителей и предлагаем альтернативные решения без компромиссов по качеству.

Представим оборудование, доступное в АО «ЛЛС» (более 300 производителей):

- **Оптический анализ материалов: микроскопия, спектроскопия и терагерцовые технологии:**
  Apex Photon, Optosky, Oceanoptics, CIQTEK, YSL Photonics, B-THz,Toptica, CNI Laser
- **Производство и тестирование ФИС:**
  CUMEC, OMTools, Moji Nano, Santec, Quantifi photonics, Anritsu, Yokogawa, Toptica
- **Комплектующие и системы для микрообработки материалов:**
  NordLase, Grace Laser, Moji Nano, Huaray, ScanLab
- **Оптомеханика от ведущих мировых производителей:**
  LBTEK, OMTools, Thorlabs, Newport, Coremorrow, Luminous
- **Волоконно-оптические компоненты и оборудование для работы с волокном:**
  LightComm, Shinho, CSRazer, XLG, AFR, Optizone
- **Охлаждение атомов и квантовые технологии:**
  Faraday, CasColdAtom, Tuptek, Connet, KeyangPhotonics, Vision Datum, QUBIG, Zurich Instruments
- **Оборудование для измерения характеристик лазерного пучка:**
  Cai Huang Thermoelectricity, Ophir, Lightcomm, Dataray

+ многое другое оборудование на выставке

На стенде АО «ЛЛС» вас будут ждать подарки

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специальные системы
ФОТОНИКА

О КОМПАНИИ

ООО «Специальные Системы. Фотоника» является специализированным поставщиком и интегратором лазерно-оптических и волоконно-оптических компонентов, измерительного, спектрального и технологического оборудования, источников излучения и лазерных систем различного назначения.

Специалисты компании обеспечивают высококвалифицированную техническую и информационную поддержку по продукции и оборудованию от ведущих мировых производителей для заказчиков из России и ЕАЭС.

Миссия компании - это внедрение передовых лазерно-оптических технологий и продукции в текущие и перспективные разработки российских научных и производственных центров. Активное участие в развитии фотоники в России, как наиболее перспективного направления науки и технологий.

НАПРАВЛЕНИЯ ДЕЯТЕЛЬНОСТИ И УСЛУГИ

- Дистрибуция лазерно-оптических и волоконно-оптических компонентов и оборудования.
- Комплексное оснащение лабораторий и производств.
- Разработка и производство волоконно-оптических модулей и систем (ВОЛС, радиофотоника).
- Собственная лаборатория с передовым измерительным и технологическим оборудованием.
- Технический консалтинг, инженерный сервис и обучение специалистов заказчика.
- Подготовка документации для закупочных процедур на электронных торговых площадках (ФЗ 223 и ФЗ 44).
- Логистические услуги, таможенное оформление лабораторного оборудования и лазерных компонентов.

LACOPA
ПРОВОДНИК ИННОВАЦИЙ

Компания Лакопа – проводник инновационных решений, которая обеспечивает доступ к экспертным знаниям и перспективным технологиям, способствует повышению уровня научных исследований, подготовке квалифицированных кадров, способных работать с прорывными идеями и творчески мыслить.

Наша компания является официальным дистрибьютером Suzhou Niumag Analytical Instrument - ведущего производителя, специализирующееся на разработке и применении технологии «низкопольного ядерного магнитного резонанса». Компания отличается мощным научно-исследовательским потенциалом, осуществляет полный цикл производства. Благодаря постоянному накоплению технологий, новаторским решениям и разработкам в различных областях применения оборудования, Niumag быстро стало высокотехнологичным предприятием, ориентированным на привлечение в команду ведущих специалистов в отрасли, инновации и развитие.

纽迈 NIUMAG

НАСТОЛЬНЫЙ ТВЕРДОТЕЛЬНЫЙ ЯМР-СПЕКТРОМЕТР С ВРАЩЕНИЕМ ОБРАЗЦА ПОД МАГИЧЕСКИМ УГЛОМ (MAS)

Настольный твердотельный ЯМР-спектрометр MAS20 использует вращение под магическим углом для достижения высокоточного измерения химического сдвига в твердых телах или гетерогенных системах, что позволяет анализировать структурное и молекулярное движение, а также анализировать компонентный состав.

ТЕХНИЧЕСКИЕ ХАРАКТЕРИСТИКИ:

- Тип магнита: постоянный магнит, не требует охлаждения и обеспечивает крайне низкие затраты на обслуживание
- Индукция магнитного поля: 0,5 Тл
- Диаметр ротора: 3,5 мм
- Максимальная скорость: 20 кГц
- Детектируемые ядра: доступны в исполнениях 1H, 7Li, 19F и 31P
- Безопасность: магнитное поле <2 Гс на корпусе прибора
- Температура окружающей среды: 20–26 °C, температурный дрейф <2 °C/ч
- Влажность окружающей среды: менее 80%
- Питание: 220 В, 50/60 Гц
- Пользовательский интерфейс: английский

ОБЛАСТИ ПРИМЕНЕНИЯ:

MAS20 применяется для научных исследований, обучения, предварительного анализа образцов и рутинного контроля качества, особенно для изучения парамагнитных материалов. Прибор позволяет устранить значительные боковые полосы вращения (spinning sidebands) парамагнитных материалов в традиционных магнитно-резонансных системах с высоким полем, которые влияют на качественный и количественный анализ.

- Материалы для литиевых аккумуляторов: анализ дефектов, идентификация информации о связях Li-O-TM (TM = Co, Cr, Mn,Fe, Ni) и анализ искажений
- Фосфорсодержащие материалы: анализ распределения Fe^{2+}/Mn^{2+} в парамагнитных фосфатных соединениях и кислотности катализаторов
- Парамагнитные комплексы: определение структуры и дифференциация кристаллических и аморфных структур
- Фторсодержащие материалы: определение содержания фтора, участия фтора в реакциях и структурный анализ
- Анализ жидкостей: определение содержания масла, воды и каучука в сложных системах

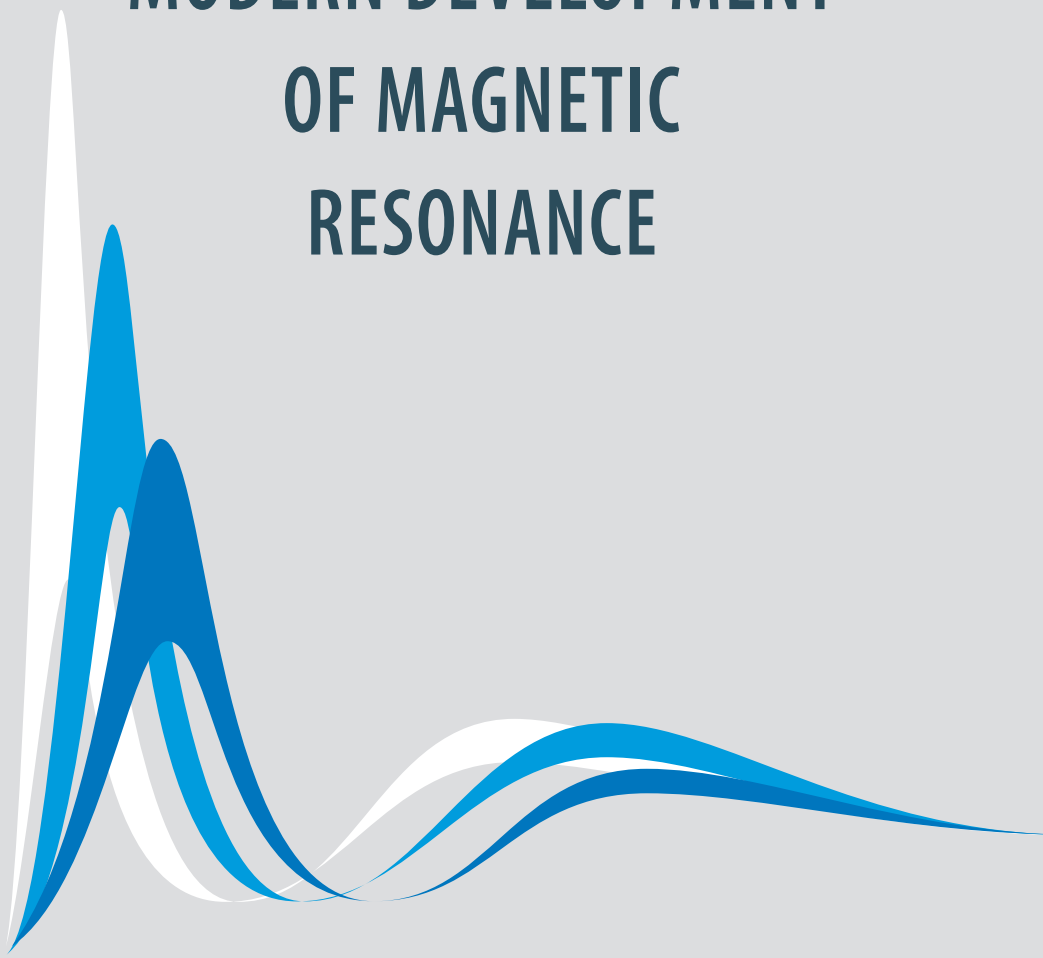
Специалисты компании имеют большой опыт работы в области перспективных разработок и знают, как сложно прокладывать путь первопроходцам. Сотрудничая со многими ведущими экспертами, мы развиваем междисциплинарные коммуникации для обмена опытом, подбираем правильные технологии, адаптируем их для решения самых сложных задач.

НАШ САЙТ

ПОДПИСЫВАЙТЕСЬ НА НАШ ТЕЛЕГРАММ КАНАЛ

Дополнительную информацию о продуктах и решениях компании можно получить, отправив запросы на электронную почту **marketing@lacopa.group**

MODERN DEVELOPMENT OF MAGNETIC RESONANCE



KAZAN, SEPTEMBER 29 – OCTOBER 03, 2025

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(t.gavrilova@knc.ru)

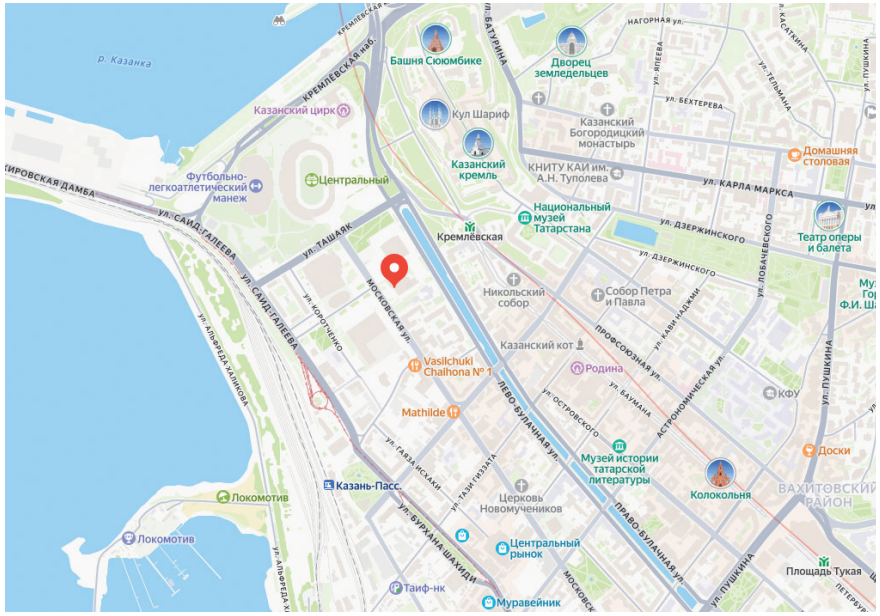
Anna MOROZOVA
(morozova_anna_s@mail.ru)

LOCAL COMMITTEE CHAIRMEN

Sergey KHANTIMEROV

VENUE

Conference “Modern Development of
Magnetic Resonance 2025” will be held in Hotel Mirage.
Address: 420202, Russia, Kazan, Moscow street, 5



SECTIONS

- ADVANCES IN MAGNETIC RESONANCE THEORY AND INSTRUMENTATION
  Chair:
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- MODERN METHODS OF MAGNETIC RESONANCE
  Chair:
  Tatyana POLENOVA (Uniersity of Delaware, USA)

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  Chairs:
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  Chair:
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  Sergey TRAVIN (Semenov Federal Research Center for Chemical Physics, Moscow),
  Alexandra YURKOVSKAYA (International Tomography Center, Novosibirsk)

- DEFECTS AND SPIN QUBITS
  Chair:
  Yury KANDRASHKIN (Zavoisky Physical-Technical Institute, Kazan)

- MAGNETIC RESONANCE IMAGING AND APPLICATIONS IN MEDICAL PHYSICS
  Chair:
  Roman YUSUPOV (Kazan Federal University, Kazan)

- RELATED PHENOMENA

SECTION COLOR SCHEME

ADVANCES IN MAGNETIC RESONANCE THEORY AND INSTRUMENTATION

MODERN METHODS OF MAGNETIC RESONANCE

LOW-DIMENSIONAL SYSTEMS, NANO-SYSTEMS AND MOLECULAR MAGNETS

SPIN-BASED INFORMATION PROCESSING AND OPTICAL QUANTUM TECHNOLOGIES

STRONGLY CORRELATED ELECTRON SYSTEMS

CHEMICAL AND BIOLOGICAL SYSTEMS

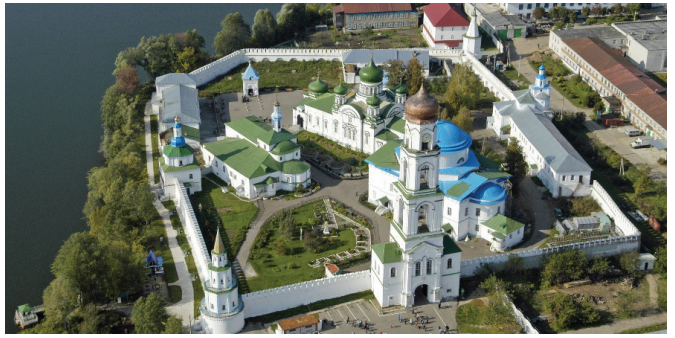
DEFECTS AND SPIN QUBITS

MAGNETIC RESONANCE IMAGING AND APPLICATIONS IN MEDICAL PHYSICS SYSTEMS

RELATED PHENOMENA

08:30–11:00	Registration		
11:00–11:30	Opening ceremony		
11:30–13:00	Plenary session. Chair: S. Khantimerov		
11:30–12:15	Plenary lecture 1		
12:15–13:00	Plenary lecture 2		
13:00–14:30	Break		
	Room 1		Room 2
14:30–16:00	Chemical and Biological Systems Chair: A. Sukhanov	14:30–16:00	Low-Dimensional Systems, Nano-Systems and Molecular Magnets Chair: A. Kamashev
16:00–16:30	Coffee break		
16:30–17:20	Magnetic Resonance Imaging and Applications in Medical Physics Chair: R. Yusupov	16:30–18:00	Low-Dimensional Systems, Nano-Systems and Molecular Magnets Chair: R. Eremina
17:20–18:10	Defects and Spin Qubits Chair: Yu. Kandrashkin		
18:10–19:30	Wellcome party		

09:00–10:30	Plenary session. Chair: L. Tagirov		
09:00–09:45	Plenary lecture 1		
09:45–10:30	Plenary lecture 2		
10:30–10:40	Sponsors' presentation		
10:40–11:00	Coffee break		
	Room 1		Room 2
11:00–12:00	Chemical and Biological Systems Chair: E. Konstantinova	11:00–12:00	Low-Dimensional Systems, Nano-Systems and Molecular Magnets Chair: A. Smirnov
12:00–14:00	Break		
14:00–17:00	Zavoisky Award Ceremony Zavoisky Awardee 2025 Lecture		
17:00–18:00	Buffet in honor of the laureate ***Tatarstan Academy of Sciences, Baumana str., 20***		

09:00–17:00	Social Program. Excursion to the Raifa Bogoroditsky Monastery
	

09:00–10:30	Plenary session. Chair: S. Demishev		
09:00–09:45	Plenary lecture 1		
09:45–10:30	Plenary lecture 2		
10:30–11:00	Coffee break		
	Room 1		Room 2
11:00–13:00	Chemical and Biological Systems Chair: A. Yurkovskaya	11:00–13:00	Strongly Correlated Electron Systems Chair: V. Glazkov
13:00–14:30	Break		
14:30–16:10	Spin-Based Information Processing and Optical Quantum Technologies Chair: V. Shaginyan	14:30–15:10	Strongly Correlated Electron Systems Chair: E. Vavilova
		15:10–16:00	Modern Methods of Magnetic Resonance Chair: T. Polenova
16:10–16:30	Coffee break		
16:30–18:00	Plenary session. Chair: E. Bagryanskaya		
16:30–17:15	Plenary lecture 1		
17:15–18:00	Plenary lecture 2		
18:00–18:30	Coffee break		
18:00–20:00	Poster session		

09:00–09:45	Plenary session. Chair: S. Dzuba		
09:45–10:00	Coffee break		
	Room 1		Room 2
10:00–12:00	Chemical and Biological Systems Chair: S. Travin	10:00–12:00	Low-Dimensional Systems, Nano-Systems and Molecular Magnets Chair: N. Suleimanov
12:00–13:00	Break		
13:00–14:40	Chemical and Biological Systems Chair: A. Kokorin	13:00–14:40	Advances in Magnetic Resonance Theory and Instrumentation Chair: R. Zaripov
14:40–15:10	Coffee break		
15:10	Closing ceremony		

30 September

Electron spin resonance from spin ensemble to single spin

Jiangfeng DU

University of Science and Technology of China, Hefei, China & Zhejiang University, Hangzhou, China

Electron Spin Resonance (ESR) is a powerful scientific technique widely used in cutting-edge research and industry. While traditional ESR primarily relies on spin ensembles, recent advances have extended its reach to the single-spin level. This lecture presents our research progress in both spin ensemble and single-spin ESR technologies.

(I) Spin Ensemble ESR: We have successfully developed a suite of ESR spectrometers covering frequency from X-band to W-band, including both pulsed and continuous-wave operation. These instruments provide researchers with powerful tools for scientific discovery across diverse fields.

(II) Single-Spin ESR: We have developed single-spin ESR techniques utilizing Nitrogen-Vacancy (NV) centers in diamond. This breakthrough has enabled the detection and manipulation of individual electron spins, finding applications in basic physics, information science, and life sciences. Significant research outcomes have been achieved, including probing exotic spin interactions beyond the Standard Model, studying non-Hermitian quantum physics, advancing single-spin quantum computing, and performing single-molecule scale magnetic resonance spectroscopy.

We anticipate that continued technological advancement will ensure ESR remains a vital tool in future scientific research, leading to further innovative discoveries and applications.

New type of Griffiths phase with enhanced ferromagnetic interaction. The breaking of the universal paradigm

11:30–12:15
29 September

It is believed that magnetic disorder universally suppresses the magnetic transition temperature, leading to the formation of a Griffiths phase. In the present work, we report the magnetic properties of the disordered ferromagnet $Mn_{1-x}Rh_xSi$, where the Curie temperature T_C exceeds 350 K, thus demonstrating about 12 times enhancement with respect to the parent compound MnSi, where this parameter is $T_C \sim 29$ K. We argue that a breaking of the universal Griffiths paradigm and the giant T_C increase are a consequence of the formation of a new type of ferromagnetic Griffiths phase, where disorder is caused mainly by strong dispersion of the local magnetic field in spin clusters. NMR data allow us to suggest a mechanism for Curie temperature enhancement based on the change of spin polaron states responsible for the anomalous magnetism of $Mn_{1-x}Rh_xSi$.

Sergey DEMISHEV

Vereshchagin High Pressure Physics Institute of RAS

EPR study of pH in living cells using spin labels based on triarylmethyl radicals

12:15–11:30
29 September

This report overviews the application of spin labels based on stable radicals to study biopolymers and their reaction in living cells. Real-time monitoring of tumor microenvironment parameters like intracellular pH remains challenging yet critical for understanding cancer progression and therapeutic resistance. Stereo-substituted nitroxides and triarylmethyl radicals have shown its suitability for in-vivo EPR experiments. We report a ^{13}C-isotope-enriched triarylmethyl radical (OX063) conjugated to the cell-penetrating peptide, which undergoes sequential redox transformations within live human cancer cells. Upon cellular internalization, reactive oxygen species oxidize OX063 to quinone methide (QM), which is subsequently reduced by endogenous thiols to form the pH-responsive radical OX063-OH. This radical enables precise pH mapping and estimation of redox agent concentrations. This redox-activated probe provides a strategy for non-invasive assessment of tumor acidosis, with implications for personalized diagnostics and therapy evaluation.

Elena BAGRYANSKAYA

N.N. Vorozhtsov Novosibirsk Institute of Organic Chemistry SB RAS

9:00–9:45
30 September

Antiferromagnetic spintronics and magnonics

Sergey NIKITOV
Kotel'nikov Radioengineering and Electronics Institute of RAS, Moscow Institute of Physics and Technology

We present the review of the recent results obtained in the field of antiferromagnetic (AFM) spintronics and magnonics. We begin with theoretical results describing the dynamic of the magnetic excitations in two sub-lattice AFM. Experimentally we suggested temperature controlled generator and detector of terahertz (THz) frequencies based on heterostructure orthoferrite–heavy metal generating frequencies in the range 0.2–0.8 THz. Direct and inverse spin Hall effects in AFM resonator in the hetestructure $FeBO_3$/Pt are studied. Also we studied microwave spin pumping from α-Fe_2O_3, and at the frequency 1.1 THz spin pumping from thin film NiO. We performed experiments on the influence of elastic deformations on the AFM modes in various materials. Both Brillouin light scattering experimental setup and microwave setup are used. All this leads to formation of the THz component base with AFM materials.

9:45–10:30
30 September

EPR of nanoporous materials: new applications

Matvey FEDIN
International Tomography Center SB RAS

Porous materials with nanoscale pores attract great attention in modern chemistry and materials science, whereas EPR spectroscopy is a highly informative method for studying and optimizing magnetic, structural, and functional properties of nanostructures and nanomaterials. In our recent series of studies, we have developed a number of new EPR approaches to study micro/nanoporous media, including metal-organic frameworks (MOFs), porous organosilica materials, and type-III porous liquids based on MOF nano/microparticles dispersed in ionic liquids and their aqueous mixtures. The report will overview the key results of recent years and discuss the prospects for the application of EPR spectroscopy in the study and design of functional nanoporous media.

Magnetic resonance and integrative structural biology, outside and inside Mammalian cells

9:00–9:45
02 October

Next-generation magnetic resonance methods for atomic-level characterization of large biological assemblies and proteins in their natural environments will be discussed, including the integrative approaches for magic angle spinning (MAS) NMR combined with medium-resolution cryo-EM and data-driven MD simulations to gain insights into the structure and dynamics of HIV-1 protein assemblies and their functions. ^{19}F dynamic nuclear polarization (DNP)-enhanced MAS NMR in protein assemblies and proteins in mammalian cells will be introduced. With over 35-to-50-fold signal enhancements, high signal-to-noise ratio MAS NMR spectra can be recorded on nanomole quantities of proteins in only minutes, and two-dimensional dipolar correlation spectra with high resolution are obtained. This work paves the way for ^{19}F DNP-enhanced MAS NMR applications in cellular environments to probe protein structure, dynamics, and ligand interactions. Challenges and opportunities for magnetic resonance in integrative structural biology will also be discussed.

Tatyana POLENOVA
Uniersity of Delaware, USA

Spin excitations in ordered XXZ-chain system CS_2COCL_4

9:45–10:30
02 October

One-dimensional spin chains with antiferromagnetic exchange exhibit specific quantum ground states and excitations. We discuss S = 1/2 antiferromagnetic chains with XXZ-anisotropy of exchange. It is expected, these chains have a spin-liquid (quantum-disordered) ground state in zero field, be a quantum-reduced antiferromagnet in moderate fields and then again spin liquid before saturation. Crystals of Cs_2CoCl_4 give a unique realization of this quantum model due to a practically perfect one-dimensionality of exchange and pseudospin σ = 1/2 presentation of a spin S = 3/2 system with large single-ion anisotropy. We find experimentally by ultra-low-temperature ESR the specific spinon-like and magnon-like excitations and observe multi-mode antiferromagnetic resonance of a complicated ordered spin structure with 90% of spectral weight being described by one-dimensional excitations.

Alexander SMIRNOV
P.L. Kapitza Institute for Physical Problems RAS

16:30–17:15
02 October

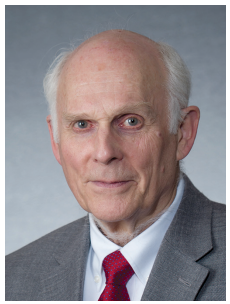
Nuclear hyperpolarization in electron transfer in chiral systems

Kev SALIKHOV
Zavoisky Physical-Technical Institute, FRC Kazan Scientific Center of RAS

The phenomenon of chiral-induced electron spin selectivity (CISS) is currently being intensively studied as it concerns the use of electron spins in quantum technologies. At present, considerable attention is also paid to photoinduced electron transfer (ET) in chiral donor-acceptor dyads recommended as models for studying the mechanism of influence of a chiral medium on the spin dynamics of electrons. We have shown that photoinduced ET in chiral systems exhibits NSS effects nuclear spin selectivity (the so-called NSS effect). The goal of our work is to investigate whether CISS and NSS effects have a common origin.

17:15–18:00
02 October

Comparison of electron spin relaxation and pulse turning angles of lanthanide complexes with differing coordination numbers



Gareth EATON
University of Denver, USA

Field-swept spin-echo detection permits observation of wide lanthanide spectra that extend over thousands of gauss. EPR spin-lattice relaxation times were measured for seven lanthanide(III) ions bound to a phosphine oxide ligand that forms meridional pseudo-octahedral 6-coordinate complexes. EPR spectra and relaxation times are compared with previously reported results for lanthanides. The emphasis in this discussion will be on the *g* value and energy level information provided by the electron spin turning angle in pulsed EPR measurements of lanthanides. The turning angles provide insight into the *J* values for the ground states. The EPR spectra and relaxation times are sensitive to the coordination environment and are emerging tools for characterization of both small-molecule and biomolecule interactions with lanthanide ions. Both Kramers and non-Kramers ions will be discussed.

9:00–9:45
03 October

High-resolution NMR and nuclear spin hyperpolarization with fast field cycling

The talk presents advanced methods in nuclear hyperpolarization and high-resolution NMR spectroscopy using fast magnetic field cycling. A unified theoretical framework based on level crossings (LC) and avoided crossings (LAC) of spin states is introduced, along with a compact, automated field-cycling module developed in Novosibirsk, covering an ultra-wide magnetic field range (10 nT–19.4 T). Applications include PHIP, SABRE, photo-CIDNP, and efficient coherent polarization transfer to nuclei such as ^{13}C, ^{15}N, ^{19}F, ^{31}P, and ^{77}Se. Special focus is given to spin chemistry studies, particularly electron transfer reaction mechanisms in donor-acceptor systems and biradicals investigated via field-dependent and time-resolved photo-CIDNP. The results demonstrate novel strategies for controlling hyperpolarization across various magnetic fields, including zero-to-ultralow fields (ZULF), with implications for chemistry and biophysics.

Alexandra YURKOVSKAYA
International Tomography Center, SB RAS

08:30–11:00	Registration		
11:00–11:30	Opening ceremony		
11:30–13:00	Plenary lectures. Chair: S. Khantimerov		
11:30–12:15	**Sergey Demishev:** New type of griffiths phase with enhanced ferromagnetic interaction. The breaking of the universal paradigm *High Pressure Physics Institute*		
12:15–13:00	**Elena Bagryanskaya:** EPR in living cells using spin labels based on triarylmethyl and nitroxide radicals *Vorzhtsov Novosibirsk Institute of Organic Chemistry*		
13:00–14:30	Break		
	Room 1		Room 2
14:30–16:00	Chemical and Biological Systems Chair: A. Sukhanov	14:30–16:00	Low-Dimensional Systems, Nano-Systems and Molecular Magnets Chair: A. Kamashev
14:30–15:00	**Daniella Goldfarb (invited)** Spin dynamics and orientation selection in Gd(III)-^{19}F electron-nuclear double resonance *Weizmann Institute of Science, Israel*	14:30–15:00	**Anastas Bukharaev (invited)** Full 180° magnetization reversal of planar Ni microparticles without magnetic field *Zavoisky Physical-Technical Institute*
15:00–15:30	**Sergei Dzuba (invited)** Nanoscale structures in model phospholipid biomembranes probed by pulsed dipolar EPR spectroscopy *Voevodsky Institute of Chemical Kinetics and Combustion*	15:00–15:20	**Egor Alakshin** Synthesis, self-assembly and magnetic properties study of rare-earth ions trifluoride *Kazan Federal University*
15:30–16:00	**Yang Haijun (invited)** Changes of serum albumin function in cirrhotic patients studied by EPR *Tsinghua University, China*	15:20–15:40	**Adeliya Garaeva** Magnetic properties of microsized and nanosized PrF_3 powders *Kazan Federal University*

		15:40–16:00	**Vasiliy Glazkov** Magnetic ordering in the decorated square kagomé lattice magnets *Kapitza Institute for Physical Problems*
16:00–16:30	Coffee break		
16:30–17:20	Magnetic Resonance Imaging and Applications in Medical Physics Chair: R. Yusupov	16:30–18:00	Low-Dimensional Systems, Nano-Systems and Molecular Magnets Chair: R. Eremina
16:30–17:00	**Hiroshi Hirata (invited)** Recent technical advances in EPR spectroscopic mapping for mouse tumor models *Hokkaido University, Japan*	16:30–16:40	**Ke Xu** Low-field, high-speed MAS solid-state NMR technology enables high-resolution detection of paramagnetic materials *LACOPA*
17:00–17:20	**Yahya Fattakhov** Magnetic resonance imaging of laboratory animals lungs using hyperpolarized ^{129}Xe *Zavoisky Physical-Technical Institute*	16:40–17:10	**Olga Volkova (invited)** WBr_5: a novel layered ferromagnet for future spintronic applications *Lomonosov Moscow State University*
17:20–18:10	Defects and Spin Qubits Chair: Yu. Kandrashkin	17:10–17:30	**Dmitrii Astvatsaturov** Ethanol inside graphene oxide membranes – spin probe technique investigation *Semenov Federal Research Center for Chemical Physics*
17:20–17:50	**Sandra Eaton (invited)** Orientation and host dependence of spin-lattice relaxation times for oxo-vanadium porphyrins *University of Denver, USA*	17:30–17:50	**Timofei Soldatov** Crossover spin-3/2–pseudospin-1/2 in spin-chain antiferromagnet Cs_2CoCl_4 *Kapitza Institute for Physical Problems*

17:50–18:10	**Sergey Vasil'ev** Lindblad dephasing relaxation and quantum entanglement in two-spin systems *Federal Research Center of Problems of Chemical Physics and Medicinal Chemistry*	17:50–18:10	**Evgeniy Altynbaev (invited)** Complementarity of EPR and neutron scattering techniques in the study of long-period chiral magnets *Saint Petersburg State University*
18:10–19:30	Wellcome party		

09:00–10:30	Plenary lectures. Chair: L. Tagirov		
09:00–09:45	**Sergey Nikitov:** Antiferromagnetic spintronics and magnonics *Kotel'nikov Institute of Radioengineering and Electronics*		
09:45–10:30	**Matvey Fedin:** EPR of nanoporous materials: new applications *International Tomography Center*		
10:30–10:40	Sponsors' presentation. **Andrey Chazov:** The newest players of magnetic resonance market from Asia: latest developments in EPR, brand new high-field and affordable cryo-free NMR from China *Company «ELEMENT»*		
10:40–11:00	Coffee break		
	Room 1		Room 2
11:00–12:00	Chemical and Biological Systems Chair: E. Konstantionova	11:00–12:00	Low-Dimensional Systems, Nano-Systems and Molecular Magnets Chair: A. Smirnov
11:00–11:20	**Vladimir Koshman** Interaction of thiosemicarbazones with a model lipid membranes: NMR and molecular dynamics simulations *Voevodsky Institute of Chemical Kinetics and Combustion*	11:00–11:30	**Alexander Vasiliev (invited)** Diverse magnetic chains in inorganic compounds *Lomonosov Moscow State University*
11:20–11:40	**Ekaterina Kytina** Effect of spin centers on photoluminescence in porous aluminum oxide synthesizing in organic acids *Lomonosov Moscow State University*	11:30–12:00	**Rushana Eremina** Magnetic properties of Ca_2CoNbO_6 *Zavoisky Physical-Technical Institute*

11:40–12:00	**Margarita Sadovnikova** Effect of rare earth dopants on the structural features of calcium phosphate-based materials by EPR spectroscopy *Kazan Federal University*		
12:00–14:00	Break		
14:00–17:00	Zavoisky Award Ceremony Zavoisky Awardee 2025 Lecture **Jiangfeng Du:** Electron spin resonance from spin ensemble to single spin *University of Science and Technology of China, Hefei, China & Zhejiang University, Hangzhou, China*		
17:00–18:00	Buffet in honor of the laureate ***Tatarstan Academy of Sciences, Baumana str., 20***		

PROGRAMME PLAN | Wednesday, 1 October

09:00–17:00	Social Program. Excursion to the Raifa Bogoroditsky Monastery

09:00–10:30	Plenary lectures. Chair: S. Demishev		
09:00–09:45	**Kev Salikhov:** Nuclear hyperpolarization in electron transfer in chiral systems *Zavoisky Physical-Technical Institute*		
09:45–10:30	**Alexander Smirnov:** Spin excitations in ordered XXZ-chain system Cs_2CoCl_4 *Kapitza Institute for Physical Problems*		
10:30–11:00	Coffee break		
	Room 1		Room 2
11:00–13:00	Chemical and Biological Systems Chair: A. Yurkovskaya	11:00–13:00	Strongly Correlated Electron Systems Chair: V. Glazkov
11:00–11:30	**Jianzhang Zhao (invited)** Study of the triplet state of chromophores containing thionated carbonyl groups with time-resolved electron paramagnetic resonance spectra: large zero field splitting (ZFS) *Dalian University of Technology, China*	11:00–11:30	**Evgeniia Vavilova (invited)** Spin chains with non-magnetic defects: NMR studies *Zavoisky Physical-Technical Institute*
11:30–12:00	**Andrey Sukhanov (invited)** Inversion of electron spin polarization in organic chromophores. Time-resolved EPR study *Zavoisky Physical–Technical Institute*	11:30–12:00	**Vasily Shaginyan (invited)** Scaling behavior of superconductors *Petersburg Nuclear Physics Institute of NRC Kurchatov Institute*

12:00–12:20	**Yulia Motygina** Intramolecular distances and excluded volume: simultaneous analysis of DEER traces in a model biradical *Voevodsky Institute of Chemical Kinetics and Combustion*	12:00–12:20	**Roman Yusupov (invited)** EPR and optical spectra, and double-loop magnetic hysteresis of SrY_2O_4:Dy crystals *Kazan Federal University*
12:20–12:40	**Maiya Ulyanova** Study of weak non-covalent interactions of quinone derivatives with GMP and oligonucleotides by NMR and CIDNP techniques *Voevodsky Institute of Chemical Kinetics and Combustion*	12:20–12:40	**Sofia Gotovko** Low-frequency dynamics of $LiCu_3O_3$ – a strongly depleted antiferromagnet *P. L. Kapitza Institute for Physical Problems RAS*
12:40–13:00	**Ivan Zhukov** Modeling of cidnp field dependence for molecular donor-acceptor compounds *International Tomography Center*	12:40–13:00	**Vadim Tumanov** Critical temperature and order parameter modulation in superconducting heterostructures with domain-structured ferromagnets *Kazan Federal University*
13:00–14:30	Break		
14:30–16:10	Spin-Based Information Processing and Optical Quantum Technologies Chair: V. Shaginyan	14:30–15:10	Strongly Correlated Electron Systems Chair: E. Vavilova
14:30–15:00	**Sergey Travin (invited)** On the new paradigm for describing the shape of EPR spectra lines *Semenov Federal Research Center for Chemical Physics*	14:30–14:50	**Aleksei Shestakov** EPR evidence of high-temperature magnetic transitions in noncentrosymmetric ternary carbide $GdCoC_2$ *Prokhorov General Physics Institute*

15:00–15:30	**Yury Bunkov (invited)** New mechanism of coherent photons emission *Russian Quantum Center*	14:50–15:10	**Georgy Nikolaev** Current-induced g-factor tuning in zinc oxide-based heterostructures *Institute of Solid State Physics RAS*
15:30–15:50	**Yuri Kandrashkin** Influence of nuclear spin on the Rabi frequency of erbium ions doped in a $YLiF_4$ single crystal *Zavoisky Physical-Technical Institute*	15:10–16:00	Modern Methods of Magnetic Resonance Chair: V. Voronkova
15:50–16:10	**Aleksey Akimov** Coherent spectroscopy on NV center on invisible transition *Russian Quantum Center*	15:10–15:40	**Nail Suleimanov (invited)** Echo phenomena in spin spectroscopy *Zavoisky Physical Technical Institute*
		15:40–16:00	**Alexey Kiryutin** ^{77}Se SABRE via tandem scalar coupling: first parahydrogen-induced hyperpolarization of selenium *International Tomography Center*
16:10–16:30	Coffee break		
16:30–18:00	Plenary lectures. Chair: E. Bagryanskaya		
16:30–17:15	**Tatyana Polenova:** Magnetic resonance and integrative structural biology, outside and inside mammalian cells *University of Delaware, USA*		
17:15–18:00	**Gareth Eaton:** Comparison of electron spin relaxation and pulse turning angles of lanthanide complexes with differing coordination numbers *University of Denver*		
18:00–18:30	Coffee break		
18:00–20:00	Poster session		

09:00–09:45 09:00–09:45	Plenary lectures. Chair: S. Dzuba **Alexandra Yurkovskaya**: High resolution NMR and nuclear spin hyperpolarization with fast field cycling *International Tomography Center*		
09:45–10:00	Coffee break		
	Room 1		Room 2
10:00–12:00	Chemical and Biological Systems Chair: S. Travin	10:00–12:00	Low-Dimensional Systems, Nano-Systems and Molecular Magnets Chair: N. Suleimanov
10:00–10:30	**Elizaveta Konstantionova (invited)** Features of paramagnetic centers in nanosized porous aluminum oxide *Lomonosov Moscow State University*	10:00–10:30	**Kirill Tsiberkin** Dynamics of classical magnetic moments after a few T_2: manifestation of collective modes *Perm State University*
10:30–11:00	**Alexander Kokorin (invited)** Spatial organization of polymer-metal coils in liquid solutions: Spin exchange titration *Semenov Federal Research Center for Chemical Physics*	10:30–10:50	**Vladimir Zhaketov** Polarized neutron reflectometry with oscillating magnetic field *Joint Institute for Nuclear Research*
11:00–11:20	**Sergei Dementev** EPR spectroscopy for biostability assessment of metallodrug complexes *International Tomography Center*	10:40–11:00	**Ekaterina Kovycheva** Spin dynamics of disordered structures and one-dmensional chains *Perm State University*
11:20–11:40	**Roman Podarov** Water-soluble fullerenes as spin labels for dipolar EPR spectroscopy *International Tomography Center*	11:00–11:20	**Denis Saritsky** Analysis of EPR spectra of NASICON:Fe^{3+} considering the distribution of fine structure parameters *Institute of Chemistry FEB RAS*

11:40–12:00	**Kirill Sannikov** NMR of liquid ^{129}Xe in porous media near triple point *Kazan Federal University*	11:20–11:40	**Amina Faskhutdinova** Ab initio magnetic properties simulation of nanoparticles based on ReF_3 and $LiReF_4$, (Re= Tb, Dy, Ho) *Kazan Federal University*
		11:40–12:00	**Vladimir Ulanov** Very strong concentration dependence of Mn^{2+} and Gd^{3+} EPR spectra parameters in $Pb_{0.995}Cu_{0.003}Gd_xMn_yS$ semiconductors *Zavoisky Physical-Technical Institute*
12:00–13:00	Break		
13:00–14:40	Chemical and Biological Systems Chair: A. Kokorin	13:00–15:00	Advances in Magnetic Resonance Theory and Instrumentation Chair: R. Zaripov
13:00–13:30	**Vitaly Volkov (invited)** NMR of polymeric electrolytes for lithium batteries *Federal Research Center of Problems of Chemical Physics and Medicinal Chemistry*	13:00–13:20	**Ilnaz Fairushin** Self-consistent relaxation theory of collective dynamics in Yukawa and Coulomb liquids *Kazan Federal University*
13:30–14:00	**Anatoly Vanin (invited)** Why, when there is oxygen in the tissues as a possible oxidizer of nitric oxide, the latter is preserved in the body of animals and humans, exercise a various physiological effect on it? *Semenov Federal Research Center for Chemical Physics*	13:20–13:40	**Ivan Frolov** Recombination operator model construction *Novosibirsk State University*

14:00–14:20	**Khalil Gainutdinov** EPR study of the content of nitric oxide and copper in the liver of rats after modeling combined brain and spinal cord injuries *Zavoisky Physical-Technical Institute*	13:40–14:00	**Artem Tsygankov** Quasi-stable structures in liquid antimony: DFT analysis *Kazan Federal University*
14:20–14:40	**Margarita Arbuzova** Lipid-mediated effect of saponin β-escin on the localization of the transmembrane domain of e protein of SARS-COV-2 *Voevodsky Institute of Chemical Kinetics and Combustion*	14:00–14:20	**Daniil Popov** Spin-crossover in Cu_2MnBO_5:Cr ludwigite *Zavoisky Physical-Technical Institute*
		14:20–14:40	**Razil Ziatdinov** Calculation of interaction parameters of Pu^{3+} ions with spins of fluorine nuclei in CaF_2 *Kazan Federal University*
14:40–15:10	Coffee break		
15:10	Closing ceremony		

1. Advances in magnetic resonance theory and instrumentation. Poster session	
1-Po1	**A.A. Gol'dberg, S.A. Klimova, R.V. Davydov, D.S. Provodin, V.V. Davydov:** A new approach to finding an analytical solution to the Bloch equations for magnetization components under modulation conditions of a constant magnetic field
2. Modern methods of magnetic resonance. Poster session	
2-Po1	**M.M. Bakirov, A.A. Sukhanov, H. Zhang, J. Zhao, Yu.E. Kandrashkin:** Time resolved EPR study of CNI Tempo
2-Po2	**R.R. Fatykhov:** Antisite defects in cathode materials of lithium (sodium)-ion batteries. EPR study
2-Po3	**I.T. Khairutdinov, R.B. Zaripov:** Inversion of ensemble of frequency-distributed spins using a chirp pulse sequences
2-Po4	**Zh.Kh. Pulotov, A.Kh. Kadikova, B.F. Gabbasov, I.V. Yanilkin, A.I. Gumarov, A.G. Kiiamov, L.R. Tagirov, R.V. Yusupov:** Spin-Hall effects in epitaxial $Pd_{1-x}Fe_x$/Pt and $Pd_{1-x}Fe_x$/W thin film structures
2-Po5	**A.D. Shishkin, G.S. Shakurov, I.V. Romanova, V.V. Semashko, O.A.Morozov, S.L. Korableva:** EPR experiments in $LiDyF_4$ at subterahertz frequencies
2-Po6	**D.E. Zhelezniakova, I.I. Gimazov, Y.I. Talanov:** Influence of magnetic correlations on scattering of current carriers in iron arsenides
3. Low-dimensional systems, nano-systems and molecular magnets. Poster session	
3-Po1	**V.A. Achintseva, R.G. Batulin, M.A. Cherosov, A.L. Zinnatullin, I.V. Romanova:** Features of solid-phase synthesis of $Gd_{2-x}Dy_xTi_2O_7$ and $Gd_{1-x}Dy_xTiO_3$ titanates
3-Po2	**M.Yu. Dmitrieva, A.B. Drovosekov, A.V. Sitnikov, S.N. Nikolaev, V.V. Rylkov:** Magnetic resonance in nanogranular composites: observation of "double-quantum" excitations in ferromagnetic nanoparticles
3-Po3	**M.L. Falin, V.A. Latypov, S.L. Korableva**: EPR of cubic center of Gd^{3+} in Rb_2NaF_6 single crystal before phase transition at T = 300 K
3-Po4	**B.F. Farrakhov, Ya.V. Fattakhov:** Morphology of the surface of the implanted silicon to increase the efficiency of light absorption formed by pulsed light heating

3-Po5	**A.K. Ginkel, O.A. Morozov, S.L. Korableva, M.S. Pudovkin, R.M. Rakhmatullin, V.V. Semashko, A.A. Rodionov:** Effect of Bi^{3+} co-doping on Yb^{3+} local structure in CeO_2 nanoparticles
3-Po6	**A.S. Gurin, D.D. Kramushchenko, A.M. Skomorokhov, P.G. Baranov, S.Ya.Kilin, R.A. Babunts:** Cross-relaxation of nitrogen-related centers in diamond
3-Po7	**A.Kh. Kadikova, I.V. Yanilkin, A.I. Gumarov, B.F. Gabbasov, D.G. Zverev, L.R. Tagirov, R.V. Yusupov:** Inverse spin-hall effect and structural phase transitions in $Ni_{80}Fe_{20}/Mn_xPt_{1-x}$ bilayers
3-Po8	**R.I. Khaibullin, E.M. Begishev, D.A. Bizyaev, V.V. Bazarov, I.R. Vakhitov, A.A. Sukhanov:** VSM, MFM and FMR studies of rutile TiO_2 implanted with doubly positively charged cobalt ions
3-Po9	**I. Mershiev, G. Kupriyanova:** ^{35}Cl NQR relaxation study of fine powders
3-Po10	**B.M. Mukhamadullin, E.I. Boltenkova, A.M. Garaeva, A.V. Bogaychuk, E.M. Alakshin:** Monitoring of nanoparticles nucleation in capillary system using ^1H NMR
3-Po11	**N.I. Nurgazizov, A.P. Chuklanov, Ye.O. Mityushkin, V.G. Nikiforov:** Using atomic force microscopy to fabricate test structures from upconversion luminescent particles for confocal microscopy
3-Po12	**N.S. Saenko, N.I. Steblevskaya, M.V. Belobeletskaya, A.M. Ziatdinov:** ESR of nanoparticles powder of europium metaphosphate $Eu(PO_3)_3$ doped by Eu^{2+} ions
3-Po13	**D.A. Saritsky, V.V. Zheleznov, A.M. Ziatdinov:** Analysis and modeling of EPR spectra of $Na_2Ti_6O_{13}:Fe^{3+}$ considering the distribution of fine structure parameters
3-Po14	**T.S. Shaposhnikova, R.F. Mamin:** Magnetoelectric properties of skyrmions
3-Po15	**A.R. Sharipova, E.N. Frolova, O.A. Turanova, L.V. Bazan, A.N. Turanov:** Effect of counterions in Fe(III) complexes with β-enaminones on their magnetic properties
3-Po16	**N.Kh. Useinov:** Study of spin-orbit torques induced by current in magnetic tunnel junctions
3-Po17	**R.B. Zaripov, R.T. Galeev:** Observation of transient nutation on a two-quantum transition

4. Spin-based information processing and optical quantum technologies. Poster session	
4-Po1	**M.R. Arifullin, V.L. Berdinskiy:** Implemenetation of quantum computing on high-spin ions of paramagnetic complexes using phase-modulated microwave pulses
4-Po2	**E.M. Begishev, N.M. Lyadov, V.V. Bazarov, A.A. Sukhanov, R.I. Khaibullin:** Magnetic memristor based on cobalt-implanted rutile (TiO_{2-x}): VSM, MOKE and FMR studies
5. Strongly correlated electron systems. Poster session	
5-Po1	**D.A. Arbuzov, A.A. Validov, N.N. Garyf'yanov, A.A. Kamashev, I.A. Garifullin:** Investigation of the oxidation processes of cobalt thin films by the FMR method
5-Po2	**S.V. Demishev, R.R. Tagirov, A.V. Semeno, A.V. Shestakov, I.I. Fazlizhanov, R.M. Eremina, A.V. Bokov, D.A. Salamatin, A.V. Semeno, A.V. Tsvyashchenko:** Magnetic properties of $GdCoC_2$: ESR, static magnetization and magnetocaloric study
5-Po3	**T.N. Enderova, V.O. Sakhin, I.I. Gimazov, E.F. Kukovitsky, Yu.I. Talanov:** Non-resonant microwave absorption study of anisotropic transport properties in $Bi_{1.06}Sn_{0.04}Sb_{0.9}Te_2S$
5-Po4	**T.P. Gavrilova, I.V. Yatsyk, A.I. Zaitsev, A.V. Cherepakhin, E.M. Moshkina:** $CeMnB_5O_{10}$ – new member of a pentaborate family: ESR measurements
5-Po5	**Yu. Goryunov, A. Nateprov:** Nuclear magnetic moments in the 3D Dirac semimetal Cd_3As_2: Suhl-Nakamura interaction approach.
5-Po6	**M.I. Nasyrova, B.F. Gabbasov, M.A. Cherosov, R.G. Batulin, R.V. Yusupov:** Influence of cooling conditions on magnetic resonance spectra of $FeCr_2O_4$ multiferroic spinel
5-Po7	**A.E. Os'kin, A.V. Popov, I.V. Yatsyk, R.M. Eremina, S.V. Demishev:** Quantitative EPR line shape analysis in a metal based on the semiclassical magnetization dynamics
5-Po8	**I.V. Yatsyk, R.F. Likerov, R.M. Eremina, R.G. Batulin:** Magnetic properties $Ca_{0.3}Sr_{0.3}La_{0.3}Mn_{0.5}Ti_{0.5}O_3$
5-Po9	**S.V. Yurtaeva, I.V. Yatsyk, V.N. Efimov, A.A. Rodionov:** Analysis of temperature behavior of orientation dependent EMR signals in biological tissues
5-Po10	**A.V. Shestakov, Z.Y. Seidov, M.A. Cherosov, I.V. Yatsyk, A.S. Ovchinnikov, F.G. Vagizov, V.A. Shustov, A.G. Badelin, V.K. Karpasyuk, M.J. Najafzade, I.N. Ibrahimov, H.-A. Krug von Nidda, R.M. Eremina:** Magnetic properties of polycrystalline $La_{0.83}Sr_{0.17}Mn_{0.9}Fe_{0.05}Zn_{0.05}O_3$ and $La_{0.83}Sr_{0.17}Mn_{0.9}Fe_{0.05}Mg_{0.05}O_3$

6. Chemical and biological systems. Poster session	
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6-Po2	**V.V. Andrianov, I.B. Deryabina, A.I. Arslanov, L.V. Bazan, Kh.L. Gainutdinov:** Effect of different anesthesia methods on NO detection in rat brain tissue by the spin trap method
6-Po3	**E.E. Batueva, A.R. Sharipova, E.N. Frolova, A.A. Sukhanov, L.I. Savostina, O.A. Turanova, A.N. Turanov:** Multifunctional heptanuclear iron complexes
6-Po4	**M.I. Ibragimova, A.I. Chushnikov, I.V. Yatsyk, D.Kh. Khaibullina, G.G. Gumarov:** EPR method: methemoglobinemia in patients with connective tissue dysplasia
6-Po5	**I.S. Ivanova, D.R. Bajtimirov, S.V. Konev, D.V. Ivanov, A.P. Podshivalov:** Investigation of the origin of the radiation-induced paramagnetic centers in melanin by EPR spectroscopy
6-Po6	**A.P. Podshivalov, D.R. Bajtimirov, D.V. Ivanov, S.F. Konev, G.P. Slesarev:** Study of the influence of hydroxyapatite synthesis conditions on its dosimetric properties using the EPR method
6-Po7	**A.F. Shaidullina, L.I. Savostina, A.R. Sharipova, M.Yu. Volkov, O.A. Turanova, A.N. Turanov:** Influence of solvents on β-enaminon spectral characteristics and dynamics by NMR, UV-visible spectroscopy and DFT data
6-Po8	**A.A. Sukhanov, V.K. Voronkova, Zh. Li, Xi Chen, J. Zhao:** Exchange and spin dipolar interactions in perylenebisimide-tempo dyads
6-Po9	**E.K. Shamsutdinova, A.N. Turanov:** Proton Exchange in water-ethanol mixture. NMR
6-Po10	**A.R. Sharipova, E.N. Frolova, O.A. Turanova, L.V. Bazan, A.N. Turanov:** Potential control of magnetic properties of a new Fe(III) complex by means of synthesis methods
6-Po11	**M.Yu. Volkov, A.R. Sharipova, O.A. Turanova:** Study of 1-[4-(4-pentylcyclohexyl)-phenyl]-3-(quinolin-8-ylamino)prop-2-en-1-one by NMR and UV spectroscopy
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7-Po2	**Y.E. Ermakova, I.N. Gracheva, F.F. Murzakhanov, A.N. Smirnov, I.A. Eliseyev, O.P. Kazarova, G.V. Mamin, M.R. Gafurov:** Temperature stability of spin defects in ^{6}H-SiC studied by EPR and luminescence spectroscopy

7-Po3	**L.V. Nikiforov, D.V. Dmitrieva, D.S. Dmitrieva, V.V. Davydov:** Research a relaxation processes of E′ centers in pure quartz fibers by electron paramagnetic resonance method
7-Po4	**A.Yu. Oshchepkov:** Modeling the dynamics of spin qubits in the presence of stochastic impact of lattice in the semiclassical approximation
7-Po5	**A.A. Sukhanov, V.F. Tarasov, Ya.S. Didenko, K.A. Subbotin, E.V. Zharikov:** Hyperfine structure of epr spectra of Cr-53 impurity ions in synthetic forsterite
7-Po6	**R.B. Zaripov, V.A. Ulanov, R.R. Zainullin:** EPR study of [Mn^{2+}- Ag^{2+}] exchange coupled pairs synthesized in BaF_2 single crystal
8. Magnetic resonance imaging and applications in medical physics. Poster session	
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9-Po3	**A.A. Kamashev, N.N. Garifyanov, A.A. Validov, D.A. Arbuzov, I.A. Garifullin:** Investigation of features of magnetic properties of oxidized layers in superconducting spin valve structures CO/PB/CO
9-Po4	**R.F. Likerov, I.V. Yatsyk, R.M. Eremina:** High-entropy perovskite-like oxide $(BaCaSrLaNa)_{0.2}FeO_3$: synthesis and epr measurements
9-Po5	**M.E. Menshikov, A.V. Dooglav, R.G. Batulin, S.L. Korableva, O.A. Morozov, I.V. Romanova:** Measuring magnetostriction using capacitive dilatometer
9-Po6	**V.O. Sakhin, B.F. Gabbasov, D.G. Zverev, E.F. Kukovitsky, N.N. Garifyanov, A.A. Kamashev:** Investigation of spin-current conversion in $Py/Bi_{1.08}Sn_{0.02}Sb_{0.9}Te_2S$ heterostructure

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