

Abstracts of Conference on the **Fundamentals of the Physics of Ultracold Atoms and Ions**

Editors

Evgeny Anikin

Semyon Zarutskiy

Vasiliy Vinogradov

Organized by
Russian Quantum Center, Russia
19 August 2022

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(Editors)

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AIJR Publisher, Dhaurahra, Balrampur, India 271604



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Evgeny Anikin

Russian Quantum Center (RQC)
Laboratory of Quantum Computations on Cold Trapped Ions

Semyon Zarutskiy

Russian Quantum Center (RQC)
Laboratory of Quantum Computations on Cold Trapped Ions

Vasiliy Vinogradov

Russian Quantum Center (RQC)
Laboratory of Ultracold Fermions

Conference Organizer

Russian Quantum Center, Russia

Conference Venue

Office of the Russian Quantum Center (Moscow, Bolshoi Boulevard, 30, Building 1, G7)

ISBN: 978-81-961472-1-1

DOI: <https://doi.org/10.21467/abstracts.149>

Type

Abstract Book

Series

AIJR Abstracts

Published

23 May 2023

Number of Pages

26

Copyeditor

Augustine Gomes

Imprint

AIJR Books

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About the Conference

The "Conference on the Fundamentals of the Physics of Ultracold Atoms and Ions" was conducted by the Russian Quantum Center and the State Atomic Energy Corporation Rosatom in parallel with the eponymous summer school. The school was held on July 11–August 19, 2022 on the territory of the RQC.

During the summer school, the participants conducted various research projects in the rapidly developing field of quantum computation with ultracold atoms and trapped atomic ions. In addition, introductory lectures on quantum mechanics, quantum computer science and laser cooling were given in the first two weeks. The research topics included the operations with atomic beams, ion trapping, laser light modulation, quantum algorithms, etc. The results of the projects were presented on the conference.



The Participants, School Lecturers & Project Supervisors of the Summer School

Conference Date: August 19, 2022

Place: Office of the Russian Quantum Center (Moscow, Bolshoi Boulevard, 30, Building 1, G7)

Committees

Conference chairs
Andrey Turlapov Ultracold fermions group leader in the Russian Quantum Center Corresponding member of the Russian Academy of Sciences
Kirill Lakhmanskiy Quantum computing on cold ions group leader in the Russian Quantum Center PhD at the Leopold-Franzens University of Innsbruck (Austria)
Academic secretary
Semyon Zarutskiy Department of Quantum Electronics, Faculty of Physics, Moscow State University RQC Quantum computing on cold ions group
Summer school lecturers & project supervisors
Andrey Turlapov Ultracold fermions group leader in the Russian Quantum Center Corresponding Member of the Russian Academy of Sciences
Kirill Lakhmanskiy Quantum computing on cold ions group leader in the Russian Quantum Center PhD at the Leopold-Franzens University of Innsbruck (Austria)
Georgiy Shlyapnikov Scientific Director of the Russian quantum center Professor at the University of Amsterdam
Jacob Biamonte , PhD in physics, Doctor of Science
Artur Matveev , PhD in physics
Olga Lakhmanskaya , PhD in Physics
Evgeny Anikin , PhD in Physics
Vasiliy Vinogradov
Kirill Karpov
Anton Efremov
Ekaterina Efremova
Mikhail Popov
Kirill Khoruzhii
Trofim Ruzaikin
Ilya Mosaki
Lianna Akopyan
Elnury Suleimen

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