

Russian–British Symposium on Quantum Technologies

V.N. Zadkov, N.N. Kolachevsky, A.V. Naumov

In the year 2017, declared ‘The Year of Science and Education’ in the Russian Federation (RF) and the United Kingdom (UK), researchers in these countries implemented the Promotion of UK–RF Joint Research in the Field of Quantum Technologies Project. In the framework of this project, Russian scientists from various scientific and educational institutions in Moscow, Novosibirsk, Kazan, Nizhnii Novgorod and St. Petersburg and their British colleagues from scientific centres in London, Birmingham and Glasgow exchanged visits.

One of the key events of the project was the Russian–British Symposium on Quantum Technologies, held on 20–23 March 2017 on the basis of the P.N. Lebedev Physical Institute (LPI), Russian Academy of Sciences (RAS), and the Institute of Spectroscopy (IS), RAS.

The symposium was headed by Corresponding Member N.N. Kolachevsky, Prof. V.N. Zadkov and Prof. E. Riis and contributed by more than 40 scientists from 17 RF and UK institutions: LPI (Moscow); IS (Troitsk, Moscow); M.V. Lomonosov Moscow State University; Moscow State Pedagogical University; Russian Quantum Center (Moscow); Institute of Laser Physics, Siberian Branch (SB), RAS (Novosibirsk); Institute of Semiconductor Physics, SB, RAS (Novosibirsk); Novosibirsk State University; Institute of Applied Physics, RAS (Nizhnii Novgorod); E.K. Zavoisky Physical-Technical Institute, Kazan Scientific Center, RAS (Kazan); Kazan Quantum Center; Institute of Fine Mechanics and Optics (St. Petersburg); Strathclyde University (Glasgow); National Physics Laboratory (London); University of Sussex (Falmer); University of Birmingham (Birmingham); Aston University (Birmingham); and others.

The reports presented at the symposium covered a wide range of fundamental issues in quantum physics and its interdisciplinary applications, including quantum optics, quantum

electronics, quantum information processing, quantum communications, laser physics, nano-optics, nanospectroscopy, atomic optics, laser cooling and trapping of atoms, quantum frequency standards, spectroscopy of single quantum emitters and nanoscopy.

The reports demonstrated great basic and applied importance of quantum technologies in the critical directions of modern science and engineering and a great potential of joint studies by RF–UK research teams.

This issue of Quantum Electronics presents papers based on Russian scientists’ lectures and reports made at the symposium but not published previously. These papers are expected to be of interest to researchers in the fields of quantum technologies, nano-optics and nanospectroscopy, as well as to students and postgraduate fellows who want to get an idea of the topical issues in these areas of research.

The symposium and project were coordinated with the participation of Prof. Peter Knight (Imperial College, London, UK) and were supported by the British Council and the British embassy in Russia.

V.N. Zadkov Institute of Spectroscopy, Russian Academy of Sciences, Fizicheskaya ul. 5, Troitsk, 108840 Moscow, Russia; Faculty of Physics, M.V. Lomonosov Moscow State University, Vorob’evy Gory, 119991 Moscow, Russia; e-mail: zadkov@isan.troitsk.ru;

N.N. Kolachevsky P.N. Lebedev Physical Institute, Russian Academy of Sciences, Leninsky prosp. 53, 119991 Moscow, Russia; Moscow Institute of Physics and Technology (State University), Institutskii per. 9, 141700 Dolgoprudnyi, Moscow region, Russia;

A.V. Naumov Institute of Spectroscopy, Russian Academy of Sciences, Fizicheskaya ul. 5, Troitsk, 108840 Moscow, Russia; Moscow State Pedagogical University, Pirogovskaya ul. 29, 119435 Moscow, Russia; e-mail: naumov@isan.troitsk.ru

Received 29 August 2017

Kvantovaya Elektronika 47 (9) 777 (2017)

Translated by O.M. Tsarev