

Scientific Program
of the Second International Youth Workshop
“Mathematical Methods in the Problems of Quantum Technologies”
(November 26, 2018, Moscow)

Time	Speaker	Title
10:00 – 10:30	Alexander N. Pechen	Mathematical problems of quantum technologies
10:30 – 11:00	Sergey N. Filippov	Quantum Sinkhorn’s theorem and its application in problems of quantum information theory

11:00 – 11:20. Coffee break.

Time	Speaker	Title
11:20 – 11:50	Konstantin A. Lyakhov	Optimal control of laser assisted separation of Bohr isotopes
11:50 – 12:20	Denys I. Bondar Alexander N. Pechen	Uncountability of quantum control: A connection of Diophantine equations with quantum control problem

12:50 – 14:00. Dinner.

Time	Speaker	Title
14:00 – 14:30	Anton S. Trushechkin	Security of the BB84 quantum key distribution protocol with detection-efficiency mismatch
14:30 – 15:00	Dmitry A. Kronberg	On information gain from collective quantum measurements
15:00 – 15:30	Evgeniy O. Kiktenko, Andey A. Koziy, Aleksey K. Fedorov	Use of quantum cryptography to provide Byzantine fault tolerance

15:30 – 15:50. Coffee break.

Time	Speaker	Title
15:50 – 16:20	Filipp G. Uskov, Oleg V. Lychkovskiy	A variational lower bound on the ground state of a many-body system and the squaring parametrization of density matrices
16:20 – 16:50	Nikolay B. Il’in	Squaring parametrization of density matrices
16:50 – 17:20	Oleg V. Morzhin	On some methods for constructing optimal controls for quantum systems