

Oleg Morzhin (Steklov Mathematical Institute of Russian Academy of Sciences, Moscow),

Alexander Pechen (Steklov Mathematical Institute of Russian Academy of Sciences, Moscow;

National University of Science and Technology «MISIS», Moscow)

Title: Some issues of optimal quantum control

Abstract:

We will overview some mathematical topics in quantum control, a modern interdisciplinary direction which studies control of quantum systems such as electrons, atoms, molecules, or photons. We will discuss typical classes of optimal control problems for quantum systems and some approaches for solving these problems including gradient methods, Krotov's method, GRAPE and CRAB methods, and analysis of quantum control landscapes.