

Quantum computers have potential to solve many classically intractable problems. At the same time current quantum computers are plagued by errors caused by imperfections of their design. Those errors are the main limitation of their power. The goal of this proposal is development and application of methods to mitigate effects of those errors. As a part of the research these error mitigation methods will be refined to enable their application to more challenging quantum computer problems. Furthermore, the methods will be applied to enhance quantum computer performance for their most promising applications.