

Day 2

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Title: Overview of NEDO projects on quantum annealing machines in Japan

Abstract:

In Japan, NEDO (New Energy and Industrial Technology Development Organization) has been started a national project on quantum and CMOS annealing machines since 2016. Later on, three NEDO projects on quantum and classical annealing machines have been launched in 2018 and 2020. The aims of these three projects are development of (1) scalable and coherent quantum annealing machine based on superconducting quantum circuits (e.g., Josephson parametric oscillators), (2) a common software platform for various types of quantum and classical annealing machines, and (3) a quantum-classical control interface (Cryo-COMS and superconducting classical logic circuits) for superconducting quantum annealing machines and noisy intermediate-scale quantum computers. In this talk, we will review our NEDO quantum projects by especially focusing on hardware and software technologies for quantum annealing machines.