量子物理学・ナノサイエンス第 450 回セミナー

Quantum Annealing Applied to Atoms and Molecules

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概　要

Quantum annealing (QA) is a computational method for solving optimization problems using quantum effects. It was formulated in its current form by Dr. Kadowaki and Prof. Nishimori at the Tokyo Institute of Technology (now Institute of Science Tokyo) in 1998. Their seminal work led to the construction of the first quantum computer based on QA known as quantum annealer by a company in Canada known as D-wave.

QA is steadily gaining in importance and has now been applied to a wide range of fundamental and practical problems. An important quantum algorithm in this area is known as the Quantum Annealer Eigensolver (QAE). In my talk, I shall consider recent applications of QAE to atomic and molecular problems and present the results that have been obtained.

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