

Date: September 4, 2007.

Speaker: Prof. Hidetoshi Nishimori, Tokyo Institute of Technology.

Title: Quantum Annealing : Optimization by Quantum Mechanics.

Abstract: Quantum annealing is a relatively new alternative to the generic optimization algorithm of simulated annealing. Thermal fluctuations are used in the latter to overcome barriers in the phase space to achieve global optimization whereas quantum tunneling plays an essential role in the former. I explain the basic ideas of quantum annealing and show how better the method works than classical simulated annealing using numerical and rigorous mathematical tools.