

Day 3

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Title: Outrunning the bear: Quantum annealing in the presence of an environment

Abstract:

Have you ever had an encounter with a bear? If so, did it leave you in an excited state? Much like your encounter with that bear, there are different ways that a D-Wave QPU can end up in an excited state - be it from violation of adiabaticity to energy exchange with the environment. In this presentation, I will demonstrate the different dynamical regimes that are encountered when operating a D-Wave QPU as a function of anneal time. The conclusions drawn from these measurements are of practical importance to both those seeking signs of quantum coherent evolution, such as Kibble-Zurek mechanism, and those seeking to harness interactions with the environment to assist in solving optimization problems.