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Faculty of Physics

Invitation to a talk

Oscillator-based Ising machines

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Termin: **Tuesday, April 30, 2024, 13:45**

Ort: **Lise-Meitner-Lecture Hall**
9. Boltzmanngasse 5

Abstract:

Moore's law, one of the global economy driving forces, will end within the next decade. Meanwhile, in the past decade, the amount of compute used in AI training runs including combinatorial optimization problems has been increasing with a 3.5-month-doubling time. This necessitates the exploration of alternative computing architecture to meet AI's growing computational demands. Fortunately, Ising machines have emerged as a promising non-von-Neumann computing scheme that can accelerate the computation of NP-hard optimization problems via highly efficient annealing methods. Oscillator-based Ising machines of different natures as a promising class of combinatorial optimizers will be presented and discussed.

As part of the presentation, there will be a teaching demonstration on the topic "Perfect conductors vs. superconductors".