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Solving computational problems with coupled lasers

Computational problems may be solved by realizing physics systems that can simulate them. Here we present a new system of up to >1000 coupled lasers that is used to solve difficult computational tasks. The well-controlled dissipative coupling anneals the lasers into a stable phase-locked state with minimal loss, that can be mapped on different computational minimization problems. We demonstrate this ability for simulating XY spin systems and finding their ground state, for phase retrieval, for imaging through scattering medium and more.

Monday
March 8, 2021
Starts at 12:15 PM
zoom.us