

Quantum Simulations: From Lattice Gauge Theories to Machine Learning

Friday, 29 June 2018 11:45 (45)

In my lecture I will discuss the present status of one of the pillars of the Quantum Technologies Flagship: Quantum Simulations. I will comment on various platforms and approaches, focusing, however, on ultra-cold atoms, molecules and ions. I will present the recent progress in the most challenging quantum simulations of lattice gauge theories

and speculate about the future directions, such as merging of quantum simulations and machine learning, or novel methods of quantum many body verification and certification.

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