

Quantum Simulation

Quantum simulators are controllable quantum systems that can be used to simulate other quantum systems, which otherwise would not be possible to treat on classical computers. In this context, trapped ions are a very good candidate for the implementation of a quantum simulator. In the last years a lot of progress has been achieved, allowing both analog and digital quantum simulations to be realized with trapped ions. In this talk we will describe the main concepts behind these two approaches and present some recent experimental realizations of such simulators.

Valentin Goblot, Antonio Rubio Abadal