

Scaling-up quantum computing with magnetic molecules

Developing large-scale quantum computing and simulation calls for the integration of a vast number of qubits in a device. In this talk, I will discuss the application to this field of artificial magnetic molecules. Recently, it has been shown that simple molecules can perform as spin qubits with long coherence times. Besides, they provide model systems to explore fundamental aspects related with, e.g. the energy cost of (quantum) computation.

Their design flexibility can also be used as a tool for scaling up computational resources: realizations of two- and three-qubit gates have been achieved. The challenge is to create a scalable architecture for quantum computation and simulation. A promising approach is based on linking molecular spins via microwave photons trapped in superconducting on-chip resonators. The technical challenges, limitations and potential of this platform will be discussed.



The IN²UB invites you to the seminar by

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SAVE THE DATE

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Telematic session



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