

Friday May 21st 2021- 10h 00

“Exploring antiferromagnetic order at the nanoscale with a single spin microscope”

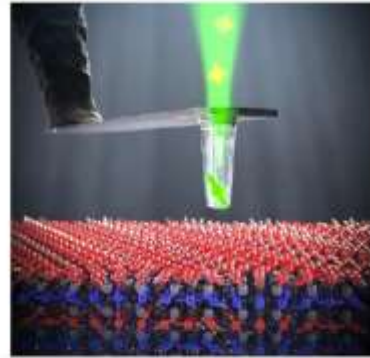
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Link: <https://us02web.zoom.us/j/86277738532>

Experimental methods allowing for the detection of single spins in the solid-state, which were initially developed for quantum information science, open new avenues for the development of highly sensitive quantum sensors. In that context, the electronic spin of a single nitrogen-vacancy (NV) defect in diamond can be used as an atomic-sized magnetometer, providing an unprecedented combination of spatial resolution and magnetic sensitivity under ambient conditions. In this talk, I will illustrate how scanning-NV magnetometry can be used as a powerful tool for exploring condensed-matter physics, focusing on chiral spin textures in antiferromagnetic materials.



Magnetic microscope based on a single spin in diamond



Dr. Vincent Jacques is a CNRS research associate in the team “Solid-state quantum technologies” at the Laboratoire Charles Coulomb (Montpellier). His research interests cover several fundamental and applied topics related to the applications of “artificial atoms” in quantum technologies. Such topics include quantum optics, spin physics, and quantum sensing with the development of highly-sensitive magnetometers based on NV defects.

