



CRC 1227
Designed Quantum States of Matter



GUEST LECTURE

Dr. Rémi Geiger

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Associate Professor of Physics at Sorbonne University,
SYRTE laboratory**

(Guest of Prof. P.O. Schmidt and Prof. K. Hammerer)

Leibniz Universität Hannover
DQ-mat Colloquium
08 June 2023, 4.00 pm
(via Zoom-Meeting)

"Metrology with cold atoms and diamond quantum sensors"

This talk will review activities in two important areas of research and technology in the field of quantum sensing and metrology. First I will present how laser-cooled atoms can be used for accurate inertial measurements, and illustrate applications in gyroscopy and gravitational wave detection (projects currently under development at the SYRTE laboratory/Paris Observatory). Second I will explain how solid state defects in diamond can be used to realize magnetometers which feature a good compromise between sensitivity, stability, robustness and spatial resolution, and illustrate concrete applications of such magnetometers (projects currently under development in the company WAINVAM-E).

References

- High-accuracy inertial measurements with cold-atom sensors
<https://pubs.aip.org/avs/aqs/article-abstract/2/2/024702/997275/High-accuracy-inertial-measurements-with-cold-atom?redirectedFrom=fulltext>
- Metrology with diamond quantum sensors
<https://wainvam-e.com/>

All DQ-mat members and all interested are cordially invited to attend.