UNIVERSITÀ DEGLI STUDI DI TORINO

Dipartimento di Fisica

Seminar

Dr. Ettore Bernardi

Istituto Nazionale di Ricerca Metrologica

INRiM ISTITUTO NAZIONALE DI RICERCA METROLOGICA

Quantum sensing using diamond color centers

Tuesday, May 31st h 9:00

WEBEX link:

https://unito.webex.com/unito/j.php?MTID=mafcfe8ec797fe5a4eb146c8f7d67fa82

This seminar will give an overview of the research activities of the Quantum Optics group, in collaboration with the University of Torino, on quantum sensing based on nitrogen-vacancy centers (NV)in diamond. The quantum state of the NV center is extremely sensitive to environmental variables such as applied magnetic fields and temperature, and has the advantage to be exploited as a sensor operating at room temperature. I will introduce the concept of quantum-enhanced sensing and will present an experimental scheme implemented at the INRiM laboratoris for the sensitivity enhancement of temperature measurements.

The speaker

Ettore Bernardi is Researcher at the Italian National Institute of Metrological Research. Its main research interests are focussed on Optically-Detected Magnetic Resonance schemes in solid-state defects, with applications in quantum theormodynamics and quantum-enhanced sensing.