CRC 1227
Designed Quantum States of Matter

GUEST LECTURE

Assistant Prof. Christopher Overstreet

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(Guest of Prof. E. Rasel and Prof. K. Hammerer)

Leibniz Universität Hannover

DQ-mat Colloquium

12 October 2023, 4.00 pm

Room D326

Building 1101, Welfengarten 1

"Precision measurement with atom interferometry"

Precise measurements of atomic, molecular, and optical systems are opening a new experimental window into fundamental physics. The high sensitivity of light-pulse atom interferometry, which uses lasers to separate and interfere atomic wave packets, makes it particularly well-suited for such measurements. In this talk, I will discuss three experiments performed with the 10 meter atom interferometer at Stanford: a test of the equivalence principle, an observation of a quantum system in curved spacetime, and a measurement of a gravitational Aharonov-Bohm effect. I will also survey other applications of precise atom interferometry and discuss near-term prospects for the field.

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