



CRC 1227
Designed Quantum States of Matter



GUEST LECTURE

Prof. Dr. Hartmut Grote

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

Leibniz Universität Hannover

DQ-mat Colloquium

01 December 2022, 4.00 pm

(Room D326, Welfengarten 1)

"Searching for dark matter and quantization of space-time with quantum-enhanced interferometry"

Laser interferometry has recently revolutionized astronomy by introducing a new sense in the observation of the universe. As is widely known, we can now hear the ripples of space-time: gravitational waves.

In this colloquium I will give an overview of how ultra-precise laser interferometers can also be used to try to shed light on other mysteries of the universe: dark matter and the question of whether space-time is quantized at the smallest level. Two examples to highlight are the direct searches for scalar field dark matter and dark photon dark matter (ab)using gravitational-wave detectors.

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