



Einladung zum Vortrag

High dimensional quantum information and thermodynamics

von

Marcus Huber

Institute of Quantum Optics and Quantum Information (IQOQI), Vienna

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Ort: Lise-Meitner-Hörsaal
9. Boltzmannngasse 5 / Strudlhofgasse 4, 1. Stock

Abstract:

While quantum technologies are breaching into the realm of practical usability, many open questions remain at the theoretical foundations. The working horse of current implementations are entangled qubits. Understanding the intricacies of higher-dimensional (HD) Hilbert spaces, however, promises to unlock a far greater potential.

Therefore, I will start with mathematical foundations and present general results in HD entanglement theory. These form the basis for a series of experiments in HD quantum communication. Continuing with a brief foray into statistical physics, I will elucidate how thermodynamics can be understood to emerge from HD entanglement. This research line continues with quantum machine designs and what they can teach us about the foundation of physics.