

PHYSIKALISCHES KOLLOQUIUM

Wintersemester 2023/24

Das Kolloquium findet (soweit unten nicht anders angegeben) jeweils montags **jeweils montags um 17:15 Uhr online via Zoom** statt.

(Der jeweilige Link wird noch zur Verfügung gestellt.).

15.01.2024

Antrittsvorlesung Juniorprofessur für Quanteninformation und Gravitation

Prof. Dr. Dominik Neuenfeld

Universität Würzburg, Lehrstuhl für Theoretische Physik III

Double Holography and Quantum Information Theory as New Windows into Quantum Gravity

Abstract

Studying holographic models of spacetime from a Quantum Information Theoretic point of view has emerged as a fruitful tool for enhancing our understanding of Quantum Gravity. Very recently, this approach has allowed us to make some progress on the infamous Black Hole Information Paradox -- an apparent contradiction between Einstein's general theory of relativity and quantum mechanics. An important ingredient in this development are so-called doubly-holographic toy models, which enable us to understand the fate of information during black hole evaporation in a geometric way.

In this talk I will explain what Quantum Information Theory and Double Holography teach us about the fate of information which falls into a black hole and how their interplay offers opportunities to learn more about the nature of gravity at the quantum scale.

Für die Dozentinnen bzw. Dozenten der Fakultät

Prof. Dr. Assaad, Prof. Dr. Hinrichsen, Prof. Dr. Pflaum und Hr. Kuhr