

PHYSIKALISCHES KOLLOQUIUM

Wintersemester 2020/21

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.).

30.11.2020

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Complexity:

From a Black Hole Heuristic to a precise Quantum Field Theory Statement and back

Abstract

Viewing fundamental physics processes through the lenses of quantum information storage and processing is a new frontier in gravity and quantum field theory. Much of what we have learnt in the past decade builds on the notion of entanglement and its entropy. The latter quantifies how hard it is to store a quantum-many body state of interest on a classical computer. In my colloquium I will discuss a new player in the same context - complexity. Complexity quantifies how hard it is to prepare a quantum-many body state using limited resources. I will review progress achieved in the past three years on understanding complexity in the quantum field theory setting, as well as show what complexity might have to do with gravity.

Für die Dozentinnen bzw. Dozenten der Fakultät

Prof. Dr. Hankiewicz, Prof Dr. Höfling, PD Dr. Meyer, Prof Dr. Sing und Hr. Frerichs