

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.).

18.01.2021

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Quantum Gravity Phenomenology – exploring the Quantum Gravity Regime

Abstract

On the one hand the structure of our present state of physics is analyzed which is based on the Einstein Equivalence Principle (EEP). On the other hand General Relativity seems not to be consistent with the formalism of quantum theory. The latter requires a new theory combining quantum theory and General Relativity. This new theory necessarily leads to violations of at least parts of the EEP. This is possible only if the structure of present day physics is different from what we have today and what is derived from the EEP. Accordingly, the task of quantum gravity phenomenology is to discuss in a parametrized way all possible deviations from the present laws of physics, to derive the corresponding experimental and observable consequences, to calculate estimates on the introduced parameters, and to get hints towards where it is best to search for possible effects of quantum gravity. In the talk this overall scheme will be presented.

Für die Dozentinnen bzw. Dozenten der Fakultät

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