Corona-Update: ZOOM-Kolloquium

Kolloquium

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Applications of gauge/gravity duality to condensed matter physics

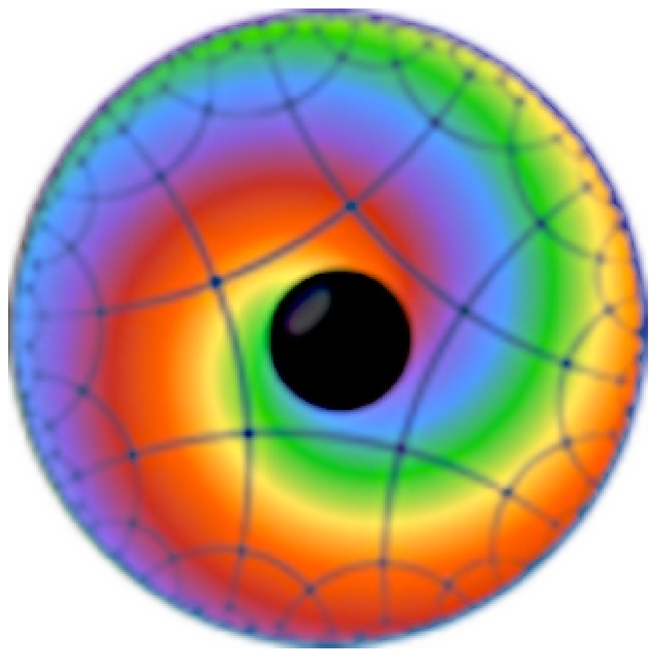
physikalisches

Mo. 25.5.20
16:00 Uhr
go.ur.de/Koll

Gauge/gravity duality provides a map between strongly coupled quantum field theories (QFT) and gravity theories. While being of intrinsic interest in the search for a unified description of QFT and gravity, this concept also has many applications: It provides a new means for describing strongly correlated systems that provides a new tool in the toolbox of methods for strong correlations.

Applications to elementary particle physics include transport processes in the quark-gluon plasma or the calculation of meson masses. More recently, also applications to condensed matter physics have emerged. Recent examples include a hydrodynamic description of the propagation of electrons in solids, in particular for Dirac and Weyl semimetals, and the design of new quantum materials in which the electron-electron interaction is large.

In the colloquium, I will introduce the concept of gauge/gravity duality and present recent examples for applications to condensed matter physics.



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