MP 9: Hauptvortrag

Zeit: Donnerstag 10:15–11:00 Raum: M010

Hauptvortrag MP 9.1 Do 10:15 M010

Noncommutative Gravity — •Peter Schupp — School of Engineering and Science, Jacobs University, Bremen

At length scales where both gravitational and quantum effects are important, the classical picture of smooth commutative spacetime should be replaced by some kind of quantum geometry. Such a noncommutative structure is however in general incompatible with local spacetime symmetries. We discuss how this problem can be overcome with an appropriately deformed tensor calculus in an approach based on star products and Drinfel'd twists. This leads to a formulation of general relativity on noncommutative spacetime. We explore solutions of the resulting deformed Einstein equations, and find in particular a fuzzy Schwarzschild-type geometry that quite naturally exhibits holographic behavior.