

MP 9: Holography and Quantum Gravity

Zeit: Donnerstag 11:00–12:05

Raum: Z6 - SR 1.012

Hauptvortrag MP 9.1 Do 11:00 Z6 - SR 1.012
Holographic aspects of loop quantum gravity — •NORBERT BODENDORFER — Universität Regensburg

We outline current research programs which aim to connect loop quantum gravity with holographic ideas.

MP 9.2 Do 11:45 Z6 - SR 1.012
Constraints on Non-Commutative Spacetime using CMB Data in Coherent State approach — •DIPANSHU GUPTA^{1,2} and PIERO NICOLINI^{1,2} — ¹Frankfurt Institute for Advanced Studies (FIAS) Ruth-Moufang-Str. 1, D-60438 Frankfurt am Main, Germany — ²Institut für Theoretische Physik, Goethe-Universität Frankfurt am

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From the seminal work of Witten and Seiberg, it has been shown that non commutativity is inherent in String Theory and a good low energy approximation in the form of non commutative fields. We try to constrain the length scale of non commutativity of spacetime using a new power spectrum of CMB Anisotropy derived using the Coherent State approach to noncommutativity instead of Star-Product approach in widespread literature. This formalism has many advantages, one of which is the preservation of Lorentz Invariance. We compute this new power spectrum and compare it with available data from CMB Experiments to put a new bound on the noncommutative parameter.