

Title: Marc Schiffer

Speakers: Marc Schiffer

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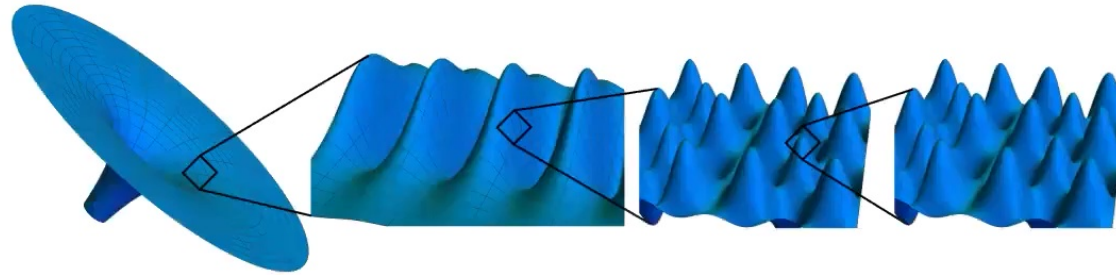
Post Doc Welcome, Perimeter Institute
October 29, 2021

Marc Schiffer

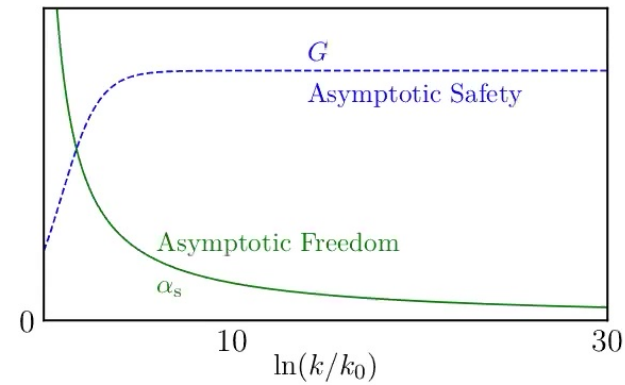
PhD: Heidelberg University (10/2021)

Advisor: Astrid Eichhorn

Asymptotically Safe Quantum Gravity



- Perturbative quantum gravity:
loss of predictivity
- Key idea of asymptotic safety:
Quantum realization of
scale symmetry



Research interests



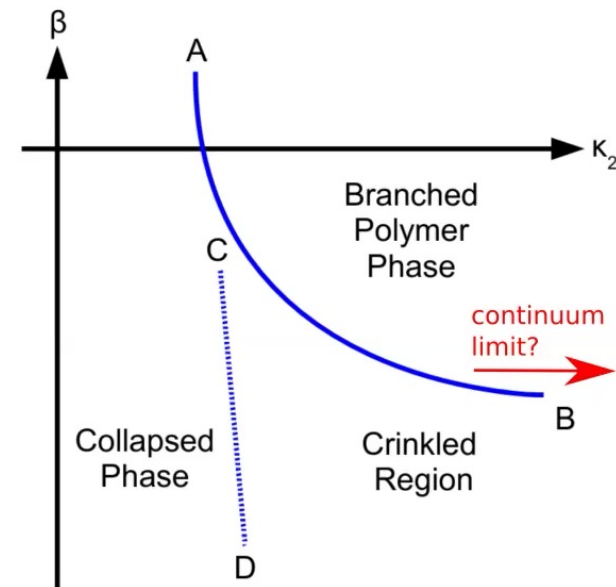
- Planck scale: $M_{\text{Pl}} \approx 10^{19}$ GeV
- No direct experimental tests of fundamental properties of spacetime
- Only consistency tests are possible
 - ▶ theoretical / internal
 - ▶ phenomenological
 - ▶ matter content
 - ▶ symmetries
 - ▶ dimensionality

Standard Model matter + Asymptotically safe quantum gravity
↓
constraints on fundamental properties of nature?

Research interests II



- Asymptotic safety on the lattice:
 - ▶ Euclidean dynamical triangulations (EDT)
 - ▶ Partition function:
sum over triangulations



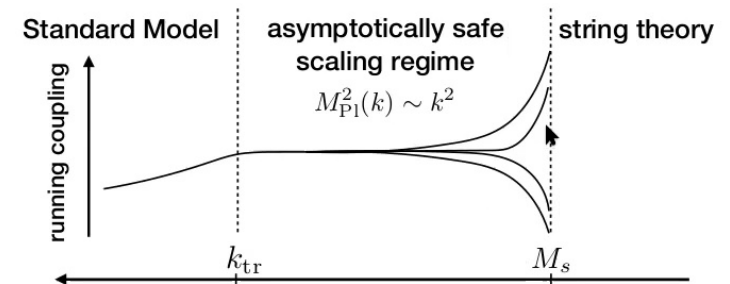
[Ambjorn, Glaser, Goerlich, Jurkiewicz, 2013]

[Coumbe, Laiho, 2014]

Research interests II



- Asymptotic safety on the lattice:
 - ▶ Euclidean dynamical triangulations (EDT)
 - ▶ Partition function:
sum over triangulations
- Connection between approaches to QG



[de Alwis, Eichhorn, Held, Pawłowski, MS, Versteegen] 2019]