Title: Marc Schiffer

Speakers: Marc Schiffer

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Post Doc Welcome, Perimeter Institute

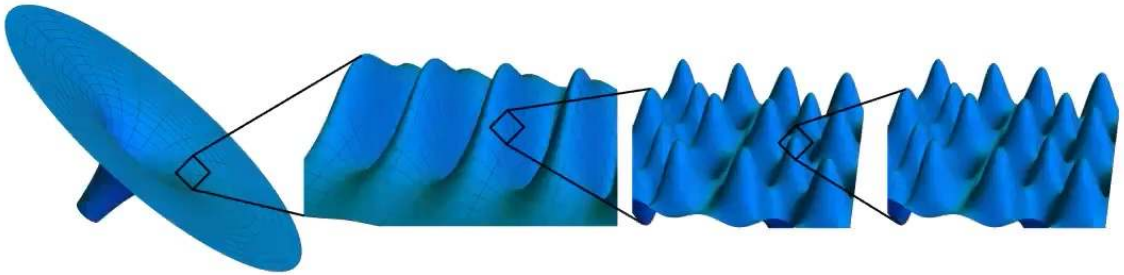
October 29, 2021

Marc Schiffer

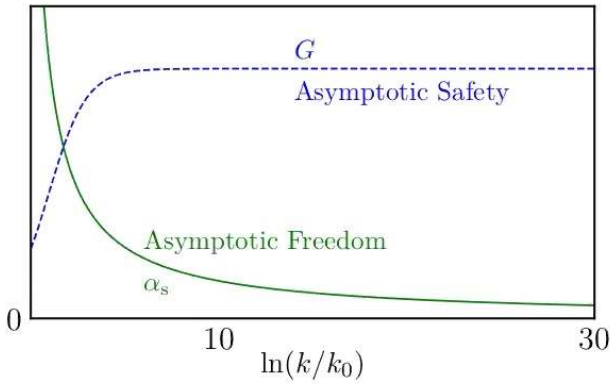
PhD: Heidelberg University (10/2021)

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

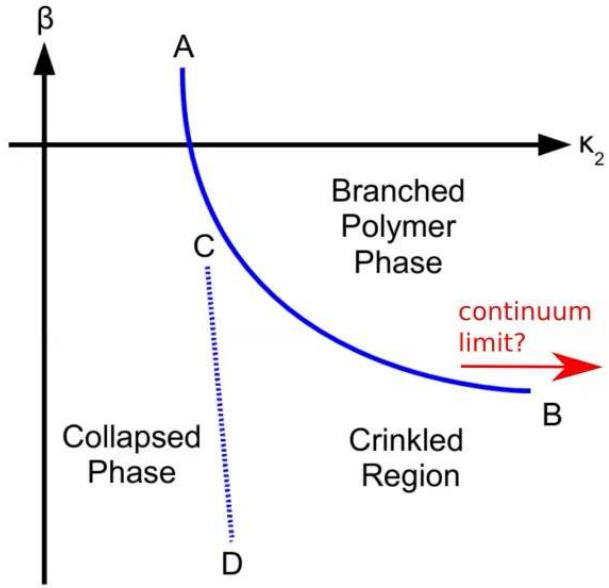
Standard Model matter + Asymptotically safe quantum gravity

$\Downarrow$

constraints on fundamental properties of nature?

Research interests II

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

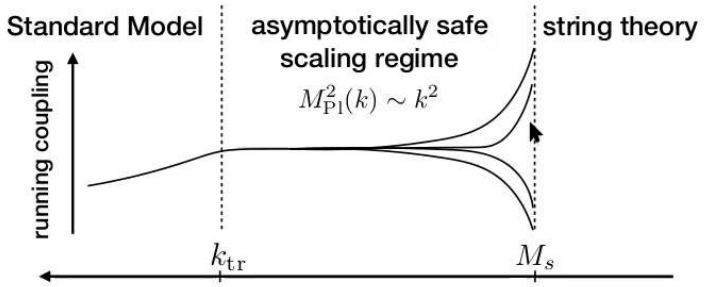


[Ambjorn, Glaser, Goerlich, Jurkiewicz, 2013]
[Coumbe, Laiho, 2014]

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, Pawlowski, MS, Versteegen] 2019]