



# *EINLADUNG*

im Rahmen des Seminars für Mathematische Physik  
(Joint TU/UV Theory Seminar)

zum Vortrag

von

**Emanuel Malek**

(Humboldt Univ. Berlin)

über

*„Kaluza-Klein Spectrometry for  
String Theory Compactifications“*

**Abstract:**

I will present a powerful new method that for the first time allows us to compute the Kaluza-Klein spectrum of a large class of string theory compactifications, including those arising in maximal gauged supergravities and beyond. This includes geometries with little to no remaining (super-)symmetries, completely inaccessible by previous methods.

I will show how these insights can be used to holographically compute the anomalous dimensions of protected and unprotected operators in strongly-coupled CFTs, as well as to study global properties of their conformal manifolds.

I will also show how the method can be used to determine the perturbative stability of non-supersymmetric AdS vacua.

We will see the importance of higher Kaluza-Klein modes to the physics of string compactifications, e.g. in realising the compactness of moduli spaces, and in destabilising vacua that appear to be stable in lower-dimensional supergravities.

If time permits, I will comment on ongoing work extending these methods to capturing cubic interactions in supergravity, where we will encounter a surprising new structure that is inherited from the consistent truncation to maximal gauged supergravity.

**Zeit:** Dienstag, 23.05.2023, 14.00 h

**Ort:** TU - Sem.R. DA grün 05 (Freihaus, TU Wien, Wiedner Hauptstrasse 8)

gez.: S. Fredenhagen, D. Grumiller, E. Batista, R. Ruzzi