



**UNIVERSITÄT
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Faculty of Physics



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THE UNIVERSITY OF
MELBOURNE

Seminar

Bielefeld - Melbourne Random Matrices

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University of Melbourne

Central Limit Theorems to Stable and Invariant Random Matrices

Heavy-tailed random matrices have surprising and novel effects that can be hardly seen with the classical ensembles. For instance, in recent years it was shown that heavy-tailed Wigner matrices can exhibit localised eigenvector statistics for the eigenvalues in the tail while everything stays the same as we know it for the bulk statistics of a GUE. This effect, some intriguing as well as real world applications, and some own numerical experiments have motivated us to study invariant heavy-tailed random matrices. One of the questions we have addressed has been about central limit theorems at fixed matrix dimensions and invariant random matrices that are stable when adding independent copies of the random matrix under consideration. I will report on our new findings and will sketch the main ideas of their proofs in the present talk.

These projects have been carried out in collaboration with Jiyuan Zhang and Adam Monteleone.

Wednesday, 20 October 2021, 0900 hrs CEST

Zoom Conference Call— Please contact Mario Kieburg
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