



**UNIVERSITÄT
BIELEFELD**



Faculty of Physics



Faculty of Mathematics



THE UNIVERSITY OF
MELBOURNE

Seminar

Bielefeld - Melbourne Random Matrices

Sungsoo Byun

Seoul National University

Real eigenvalues of elliptic random matrices

In this talk, I will discuss the real eigenvalues of the real elliptic Ginibre matrix, the model which provides a natural bridge between Hermitian and non-Hermitian random matrix theories. In the almost-Hermitian regime pioneered by Fyodorov, Khoruzhenko and Sommers, I will present the large- N expansion of the mean and the variance of the number of real eigenvalues. Furthermore I will explain the limiting empirical distributions of the real eigenvalues which interpolate the Wigner semicircle law and the uniform distribution. The proofs are based on the skew-orthogonal representation of the correlation kernel due to Forrester and Nagao.

This is a joint work with Nam-Gyu Kang (KIAS), Ji Oon Lee (KAIST) and Jinyeop Lee (LMU).

Wednesday, 16 June 2021, 0900 hrs CEST

Zoom Conference Call— Please contact Gernot Akemann
(akemann@physik.uni-bielefeld.de) for details regarding access