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Einladung zur öffentlichen Defensio von

Josef KUESTNER

Thema der Dissertation

Elliptic Combinatorics of Lattice Paths, Domino Tilings and Rook Placements

Abstract:

Elliptic hypergeometric series generalize ordinary and basic hypergeometric series and made their first explicit appearance in the late 1980's in the work of mathematical physicists. Since then various researchers started to develop a yet expanding theory, which combines the theory of theta functions with the theory of basic hypergeometric series. Ordinary and basic hypergeometric series are classical and have many applications in number theory, statistical and mathematical physics and combinatorics and it appears natural to wonder if these applications also extend to elliptic hypergeometric series. In this context, several authors studied elliptic analogues of combinatorial models and combinatorial special numbers in the past few years.

In this talk we work out the concept of elliptic analogues and discuss elliptic analogues of binomial coefficients with integer values, Fibonomial numbers, Stirling numbers, Lah numbers and rook numbers. We introduce appropriate combinatorial models and elliptic weight functions and discuss some results. Whenever possible, we generalize the elliptic weights even further and present general weight-dependent analogues of combinatorial models and special numbers.

Prüfungssenat

Univ.-Prof. Mag. Dr. Andreas Cap
(Vorsitz)

Assoz. Prof. Dr. Michael Schlosser
(Universität Wien)

Prof. Masatoshi Noumi
(Kobe University)

Prof. Jiang Zeng
(Université Claude Bernard Lyon-I)

Zeit:
29. Juli 2022, 11:00 Uhr
29 July 2022 11:00 am Vienna

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