



Hauptvortrag/Plenary lecture

Mittwoch/Wednesday, 10:30, Wolfgang-Paul-Hörsaal

On geometry and combinatorics in representation theory

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In representation theory, the exchange with combinatorics and geometry has a long tradition and many different roots. We consider an example to present some of the latest developments and methods. The problem addressed in the example goes back to A. Horn, who posed a conjecture in 1962 on the characterization of the possible eigenvalues of a sum of Hermitian matrices. The problem turned out to have many interesting ramifications and the proof of the conjecture uses representation theory, combinatorics and geometric invariant theory. The problem and its generalizations has seen tremendous development in the last years, but many aspects of its analogue for other groups than the general and the special linear group is not very well understood still.