universität wien

Fakultät für Mathematik

Mathematisches Kolloquium

Mittwoch, 19. Juni 2019
Sky Lounge

EINLADUNG

Tim Netzer
(Univ. Innsbruck)

„Real Algebra and Geometry: The Commutative and the Non-Commutative World"

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Abstract:
Real algebra and geometry studies semialgebraic sets, i.e. solution sets to systems of polynomial inequalities. The classical theory provides Positivstellensätze, which are of the same spirit as Nullstellensätze in the case of varieties, i.e. solution sets to systems of polynomial equations. Many interesting (and hard) such results have been developed in the last decades, and surprising applications in optimization and convexity have arisen. A much more recent development is the theory of non-commutative semialgebraic sets. Triggered by questions in electrical engineering, control theory and quantum physics, several exciting results have been proven. But beyond the mentioned applications, the non-commutative theory also sheds light on classical questions.
In this talk, I will give an introduction to both the classical theory and their non-commutative extension, as well as some interesting applications.

15.45 Uhr: Kaffeejause

16.15 Uhr: Vortrag

vinum cum pane im Anschluss

Christian Krattenthaler