



Leibniz
Universität
Hannover

Oberseminar Institut für Algebraische Geometrie

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The birational geometry of Markov numbers

The projective plane is rigid. However, it may degenerate to surfaces with quotient singularities. After the work of Bădescu and Manetti, Hacking and Prokhorov classified these degenerations completely. They are \mathbb{Q} -Gorenstein partial smoothings of $\mathbb{P}(a^2, b^2, c^2)$, where a, b, c satisfy the Markov equation $x^2 + y^2 + z^2 = 3xyz$. Let us call them *Markovian planes*. They are part of a bigger picture of degenerations with Wahl singularities, where there is an explicit MMP whose final results are either K nef, deformations of ruled surfaces, or Markovian planes. Although it is a final result of MMP, we can nevertheless run MMP on Markovian planes to obtain new numerical/combinatorial data for Markov numbers via birational geometry. New connections with Markov's uniqueness conjecture are byproducts. I will talk about this joint work in progress together with Juan Pablo Zúñiga (Ph.D. student at UC Chile).

Donnerstag, 12.10.2023, 16:30 - 17:30, B302.

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Alle Interessierten sind herzlich eingeladen.