Otto-von-Guericke-Universität Magdeburg
Fakultät für Mathematik

Auf Einladung des Institutes für Algebra und Geometrie spricht

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über das Thema

Equations and Groebner bases of tensor train varieties

Zeit: Dienstag, 2. Juni 2026, 13.15 Uhr, G02-20

Zu diesem Vortrag laden wir alle Interessierten herzlich ein.

Prof. Dr. Thomas Kahle

Abstract: Tensor train varieties are parametrized projective varieties used to approximate the solutions to the electronic Schroedinger equation in second quantization. In particular, Rayleigh-Ritz optimization on these varieties plays a prominent role. This talk will present the equations of the defining ideal of any tensor train variety. They consist of minors of particular flattenings of the underlying tensors and these equations were conjectured by Sturmfels in an unpublished note. The proof uses the description of the ideal of the general Markov model on trees by Draisma and Kuttler. The last part of the talk will be devoted to Groebner bases and initial ideals of these defining equations.