CENTRE
DE RECHERCHES
MATHÉMATIQUES

Tenseurs : information quantique, complexité et combinatoires quantiques

Tensors: Quantum Information, Complexity and Combinatorics

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A tensor restriction theorem over finite fields

The theorem in the title says that tensors of a fixed format over a fixed finite field K are well-quasi-ordered by restriction: they contain no infinite anti-chains. The same holds, more generally, for "tensors" in spaces described by any finite-length functor from the category of finite-dimensional K-vector spaces to itself.

I will discuss several equivalent versions and consequences of the tensor restriction theorem, and explain what their proof reveals about the coarse structure of arbitrary restriction-closed tensor properties. I will also comment on analogous results for Zariski-closed tensor properties over infinite fields, which were obtained earlier in collaborations with Bik, Eggermont, and Snowden.

(Based on joint work with Andreas Blatter and Filip Rupniewski.)