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Abstracts of Short Communications and Posters

Section:

2. Algebra

1991 MS Classification: 16.
Nüsken, Michael, University of Constance, Germany

Unique Tensor Factorization of Algebras.

Tensor product decomposition of algebras is known to be non-unique in general. However, an additively indecomposable, finite dimensional $\mathbb{C}$-algebra A has an essentially unique tensor factorization

$$A = A_1 \otimes \ldots \otimes A_r$$

into non-trivial, $\otimes$-indecomposable factors A_i (joint result with V. Strassen). Thus the semiring of isomorphism classes of finite dimensional $\mathbb{C}$-algebras is a polynomial semiring $\mathbb{N}[\mathcal{X}]$. This can be generalized to certain classes of algebras over other fields.

Reference: Nüsken, Michael (1998), *Unique Tensor Factorization of Algebras.* Dissertation, Universität Konstanz. UFO-Verlag, Allensbach, ISBN 3-930803-33-X. `http://www.mathe.uni-konstanz.de/~nuesken/wrt/disseration.html`