

FREE STRUCTURES IN SOME DIVISION RINGS

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The existence of free structures in a division ring is related to how complex its structure is. In 1984, Makar-Limanov conjectured that if a division ring D is finitely generated and infinite dimensional over its center (a field) k then D contains a noncommutative free k -algebra over 2 generators. I will discuss interesting known results, and I will show, using the techniques created by Makar-Limanov, how we gave a positive answer when the division ring is the fraction field of the skew polynomial ring $L[t, \sigma]$, where L is the function field of an abelian variety.

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