

SUMS OF SQUARES IN FUNCTION FIELDS OF CURVES OVER $\mathbb{R}((T))$

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We show that the possible values for the Pythagoras number of function fields of curves over $\mathbb{R}((t))$ are 2 and 3, exploiting a recently discovered local global principle for isotropy of quadratic forms over such fields. Moreover, given a curve, we furthermore indicate a possible method how to decide the Pythagoras number of its function field.