

Diophantine Approximation, Fractal Geometry and Related topics /  
Approximation diophantienne, géométrie fractale et sujets connexes

ID de Contribution: 11

Type: **Non spécifié**

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*mardi 4 juin 2024 11:40 (30 minutes)*

The Thue-Morse sequence has partial escape of mass over  $\mathbb{F}_2((1/t))$

Every Laurent series in the field  $\mathbb{F}_q((1/t))$  has a continued fraction expansion whose digits are polynomials. De-Mathan and Teulie proved that the degrees of the partial quotients of the left shifts of every quadratic Laurent series are unbounded. Shapira and Paulin improved this by showing that, in fact, a positive proportion of the degrees are bigger than any bound. We show that their result is best possible in the following sense: For the Laurent series over  $\mathbb{F}_2((1/t))$  whose sequence of coefficients is the Thue-Morse sequence, this proportion is strictly less than 1. This talk is based on a work in progress with Uri Shapira and Noy Soffer-Aranov.