

Finiteness of β -continued fractions over quadratic number fields

FRANCESCO VENEZIANO

Università di Genova

ABSTRACT

We consider continued fractions with partial quotients in the ring of integers of a quadratic field as a generalization of β -continued fractions introduced by Bernat. We answer an open question of Bernat by proving that among quadratic Pisot units β , only the golden ratio $\frac{1+\sqrt{5}}{2}$ and the silver ratio $1+\sqrt{2}$ have the property that every element in $\mathbb{Q}(\beta)$ has a finite β -continued fraction expansion. This is a joint work with Z. Masáková and T. Vávra.