

Publicationes Mathematicae Debrecen Year: 2023 Vol.: 102 Fasc.: 3-4

Title: On families of cubic split Thue equations parametrised by linear recurrence sequences

Author(s): Tobias Hilgart

Let $(A_n)_{n \in \mathbb{N}}, (B_n)_{n \in \mathbb{N}} \in \mathbb{Z}^{\mathbb{N}}$ be two linear-recurrent sequences that meet a dominant root condition and a few more technical requirements. We show that the split family of Thue equations

$$|X(X - A_n Y)(X - B_n Y) - Y^3| = 1$$

has but the trivial solutions $\pm\{(0, 1), (1, 0), (A_n, 1), (B_n, 1)\}$, if the parameter n is larger than some effectively computable constant.

Address:

Tobias Hilgart
Department of Mathematics
University of Salzburg
Hellbrunnerstraße 34
A-5020 Salzburg
Austria