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Erdős, Paul; Joó, I.

Articles of (and about)

On the expansion $1 = \sum q^{-n_i}$. (In English)

Period. Math. Hung. 23, No.1, 25-28 (1991); Corrigendum ibid. 25, No.1, 113 (1992) [0031-5303]

The authors consider the q-adic expansions $1 = \sum_{n=1}^{\infty} \varepsilon_n/q^n$, $\varepsilon_n = 0$ or 1, where 1 < q < 2. They consider the digits in the greedy and lazy expansions above and show in the case of the greedy expansion: (a) For fixed q there are no arbitrarily long sequences of consecutive 1 digits in the sequence $\varepsilon_1(1)$, $\varepsilon_2(1),\ldots$ (b) The set of 1 < q < 2 for which the greedy expansion contains arbitrarily long 0- sequences is residual in (1,2) and has measure 1.

By contrast for the lazy expansion they show that the set of 1 < q < 2 for which the lazy expansion contains arbitrarily long 1-sequences is residual and of full measure in (1,2).

The text of the Corrigendum should be added to theorem 2.

A. Knopfmacher (Wits)

Classification:

11A67 Representation systems for integers and rationals

11A63 Radix representation

Keywords:

digits; lazy expansions; greedy expansion