Title: On $p$-adic $T$-numbers

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Denote by $w_n^*$ and $w_n$ the exponents of Diophantine approximation defined in Mahler’s and Koksma’s classifications of transcendental numbers, respectively. We prove that there are $p$-adic $T$-numbers $\xi$ such that $w_n(\xi) - w_n^*(\xi)$ is any number chosen in the segment $[0, (n - 1)/n]$ for all positive integers $n$ and for $w_n(\xi)$ large enough. Thus we improve Schlickewei’s result [?] that $p$-adic $T$-numbers do exist.

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