Zudilin, V. V.

Some remarks on linear forms containing Catalan's constant. (Russian) Zbl 1099.11036

Chebyshevskiĭ Sb. 3, No. 2(4), 60-70 (2002).

The paper deals with the Catalan's constant $G = \sum_{n=1}^{\infty} \frac{(-1)^n}{(2n+1)^2}$. New recurrent sequences of the second order in the form $r_n = u_n G - v_n$ of the type of Apéry are presented and their asymptotic behavior is proved. The group permutation which is connected with G is also included. The author concludes that maybe it will be possible to prove the irrationality of the number G with this tool.

Reviewer: Jaroslav Hančl (Ostrava)

MSC:

11J72	Irrationality; linear independence over a field
33C20	Generalized hypergeometric series, ${}_pF_q$
33C60	Hypergeometric integrals and functions defined by them (E, G, H and I functions)
11B37	Recurrences

Keywords:

Catalan's constant; irrationality