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An irrationality exponent related to Fermat numbers

Let ξ be a real number. The irrationality exponent $\mu(\xi)$ of ξ is defined to be the supremum of the real numbers μ such that the inequality $|\xi - p/q| < q^{-\mu}$ has infinitely many solutions in rational numbers p/q. Let $F_n = 2^{2^n} + 1$ denote the nth Fermat number. In this talk, exploiting a connection between Hankel matrices and Padé approximants, we will sketch a proof that

$$\mu\left(\sum_{n\geqslant 0}\frac{1}{F_n}\right) = 2.$$