

On sums of Fibonacci numbers with few binary digits

By INGRID VUKUSIC (Salzburg) and VOLKER ZIEGLER (Salzburg)

Abstract. In this paper, we completely solve the Diophantine equation $F_n + F_m = 2^{a_1} + 2^{a_2} + 2^{a_3} + 2^{a_4} + 2^{a_5}$, where F_k denotes the k -th Fibonacci number. In addition to complex linear forms in logarithms and the Baker–Davenport reduction method, we use p -adic versions of both tools.

INGRID VUKUSIC &
VOLKER ZIEGLER
DEPARTMENT OF MATHEMATICS
UNIVERSITY OF SALZBURG
HELLBRUNNERSTRASSE 34/I
A-5020 SALZBURG
AUSTRIA

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