



Der Wissenschaftsfonds.



Institut f. Analysis und Zahlentheorie

Zahlentheoretisches Kolloquium

Freitag, 28. 4. 2017, 13:00 Uhr

Seminarraum Analysis-Zahlentheorie (NT02008), Kopernikusgasse 24/II

On Diophantine quadruples of Fibonacci numbers

PROF. DR. FLORIAN LUCA

(University of the Witwatersrand, Max Planck-Institut Bonn)

Coauthor: Y. Fujita

A Diophantine k -tuple is a set of k -positive integers $\{a_1, \dots, a_k\}$ such that $a_i a_j + 1$ is a square for all $1 \leq i < j \leq k$. Recently, He, Togbé and Ziegler proved that $k \leq 4$. If $(F_n)_{n \geq 0}$ denotes the Fibonacci sequence given by $F_0 = 0$, $F_1 = 1$ and $F_{n+2} = F_{n+1} + F_n$ for all $n \geq 0$, then $\{F_{2n}, F_{2n+2}, F_{2n+4}\}$ is a Diophantine triple for all $n \geq 1$. In my talk, I will show that there only finitely many Diophantine quadruples consisting of Fibonacci numbers.

R.Tichy