

SALZBURG MATHEMATICS COLLOQUIUM

Summer 2015

Florian Luca (Mexico)

„Diophantine m -tuples with values in linear recurrences“

April 23, 2015

Abstract: In this talk, we will survey existing results concerning Diophantine m -tuples with values in linear recurrences and present some new results. We shall start by mentioning a result obtained jointly with Fuchs and Szalay in 2008 which states that if U is a binary recurrent sequence satisfying certain conditions, then there are at most finitely many triples of positive integers $a < b < c$ such that $ab+1$, $ac+1$, $bc+1$ are all members of U . The sequences of Fibonacci and Lucas numbers satisfy the conditions of the above theorem, and all Diophantine triples of positive integers with values in the Fibonacci sequence or the Lucas sequence were computed in joint work with Szalay in 2008 and 2009. This result was later extended by Szalay and his co-authors. We shall report on these and on several newer results in the area.

Thursday, **15:15-16:00**
Seminarraum II, 1. Stock