

## **abstract**

Special Number Theory Seminar  
Topic:

Speaker:

Affiliation:

Date:

Time/Room:

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The classical Pell equation  $X^2 - DY^2 = 1$ , to be solved in integers  $X, Y \neq 0$ , has a variant for function fields (studied already by Abel), where now  $D = D(t)$  is a complex polynomial of even degree and we seek solutions in nonzero complex polynomials  $X(t), Y(t)$ . In this context solvability is no longer ensured by simple conditions on  $D$  and may be considered 'exceptional'.

In the talk we shall mainly let  $D(t) = D_{\lambda}(t)$  vary in a pencil. When  $D_{\lambda}(t)$  has degree  $\leq 4$ , it may be seen that for infinitely many  $\lambda \in \mathbb{C}$  there are nontrivial solutions. On the other hand, it is not so when  $D_{\lambda}$  has degree  $\geq 6$  (provided natural assumptions are verified).

Such finiteness result, obtained jointly with D. Masser, represents a conjecture of Pink for 'Unlikely Intersections' in a simple abelian scheme over a curve. We shall survey on the whole context and also comment on related problems.