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Pfaffian functions and model theory

Pfaffian functions, which are defined as solutions of triangular systems of order one polynomial differential equations, have played an important role in the model theory of the real field, thanks to their finiteness properties. However, determining whether solutions of a given differential equation are Pfaffian remains a challenging problem. In this talk, I will discuss some work in progress, joint with James Freitag and Ronnie Nagloo, which uses model-theoretic tools to find criteria for functions to be pfaffian.