1129-39-211 **Gleb Pogudin***, Julius-Raab Str., 10, 140, 4040 Linz, Austria. *On the effective difference Nullstellensatz.*

While modelling a discrete-time system, it is natural to assign a sequence of numbers in which the i-th number is equal to the value of the parameter at the i-th moment in time to every parameter of the system. There are usually several parameters with some relations among them. For every i-th moment in time, these relations can be written as equations in the values of the parameters at this moment and some neighboring moments. It is assumed that these equations are the same for all moments in time up to shifting the indices.

A natural question to ask is whether such an infinite system of equations corresponding to the model has a solution. In this talk, we will describe cases in which this problem can be solved algorithmically using effective upper bounds.

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