

Some Applications of Algebraic System Solving

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ABSTRACT

Curiously enough, unlike what happens with linear system solving, algebraic (polynomial) system solving is not widely known among those mathematicians that are not familiar with computer algebra. But, as happens with linear system solving, a problem that can be expressed or modelled in such a way can therefore be resolved or decided. As a continuation of my keynote lecture at TIME'2004 (where a geometric interpretation of algebraic systems was given), an overview of some applications of algebraic system solving will be now given. They include a wide variety of fields such as graph colouring, mechanical theorem proving in Geometry, logic, decision taking in a railway interlocking, etc.