DEAs of Order Two

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Abstract: In the talk we consider DAEs of order 2 with consistent initial data. The first part of talk contents sufficient conditions for splitting the DAE into three subsystems: ODE of order 1 and an algebraic system. For the situation when the conditions are satisfied we propose numerical methods of solution. The results obtained can be easily generalized for DAEs of higher order.

In the second part of the talk, mathematical models for flexible mechanisms, which can be simulated by DAEs, are considered. Results of numerical experiments are given.

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