TEDU MATH SEMINARS

Singularity in Discontinuous Dynamics

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Abstract:

In differential equations singularity is one of the most interesting problems to investigate. Some of the singularities can be observed only for differential equations, but not for the difference ones.

We will discuss a new type of singularity, which is proper only for impulsive differential equations, and cannot be observed neither in continuous dynamics nor in discrete equations. In other words, there are no analogues of this so called singularity for other dynamical equations. Moreover, this type of singularity can be combined with the classical one.

In addition, it is the first time in the literature, chattering is investigated as a singular problem.

The results will provide new effective instruments for the research of exotic discontinuous phenomena.

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