

**Vysoké učení technické v Brně, Fakulta stavební,
Ústav matematiky a deskriptivní geometrie**

Vás zve na přednášky

**1) Mathematical aspects of the control over temperature
conditions in industrial greenhouses**

Čtvrtek 11. 11. 2021, 12:00

Abstract. We study the problem of the control over temperature conditions in industrial greenhouses. We consider a model based on a one-dimensional parabolic equation on a bounded interval with a quadratic cost functional, prove an existence and a uniqueness of a control function from a prescribed set, and study the structure of the set of accessible temperature functions. We prove the dense controllability and study the properties of minimizer. In addition, we obtain the necessary conditions for minimizer.

**2) On uniqueness of solutions to Emden - Fowler type
second-order equations with general power-law
nonlinearities**

Pondělí 15. 11. 2021, 12:00

Abstract. We consider Emden - Fowler type second-order differential equations with power-law nonlinearities with respect to an unknown function and its first derivative. Our purpose is to know whether this equation has a unique solution defined in a neighborhood of zero and satisfying the initial conditions. We discuss some problems connected with the uniqueness of solutions to higher-order equations.

v zasedací místnosti ústavu (2 patro Z205), ul. Žižkova 17.

**Přednášky přednese Prof. Irina Astashova, DrSc.,
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Přednášky jsou určeny všem zájemcům o problematiku a jsou podpořeny RP902119002/11121.

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