

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

Vás zve na přednášku **prof. Mihály Pituka**

**Conditional Lipschitz shadowing for ordinary differential equations**



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<https://math.uni-pannon.hu/~pitukm/index-en.html>

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

**Abstract.** We introduce the notion of conditional Lipschitz shadowing which does not aim to shadow every pseudo-orbit, but only those which belong to a certain prescribed set. We establish two types of sufficient conditions under which certain nonautonomous ordinary differential equations have such a property. The first criterion applies to a semilinear differential equation provided that its linear part is hyperbolic and the nonlinearity is small in a neighborhood of the prescribed set. The second criterion requires that the logarithmic norm of the derivative of the right-hand side with respect to the state variable is uniformly negative in a neighborhood of the prescribed set. The results are applicable to important classes of model equations including the logistic equation, whose conditional shadowing has recently been studied. Several examples are constructed showing that the obtained conditions are optimal.

**Přednáška je určena všem zájemcům o problematiku.** Uskuteční za podpory programu Excelence RP902315002 a PPSŘ RP122314001.

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