Österreichische Mathematische Gesellschaft

ALPEN-ADRIA UNIVERSITÄT KLAGENFURT | WIEN GRAZ

Institut für Mathematik

Einladung zu einem Vortrag von

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zum Thema

A differential equation with a state-dependent delay

Ort: I.2.01 der Universität Klagenfurt

Zeit: Donnerstag, 27. September 2018, um 14:00 Uhr.

Kurzfassung:

We consider a differential equation modeling a simple computer network (a single user and a single server). The user sends data with a rate x(t) to the server for procession. As the rate x(t) can be larger than the capacity of the server, the incoming data to the server may have to wait in a queue. There is a discontinuous differential equation for the length of the queue. An implicit equation holds between the waiting time and the length of the queue. For the optimal rate a differential equation is formulated involving time delays depending on the waiting time. The system consists of three equations. In this talk we give a suitable framework to study the problem, and show that the solutions define a Lipschitz continuous semiflow. Then, in the developed framework, we show that there are slowly oscillating periodic solutions, which means that the given rate control can lead to oscillations around the optimal rate.

Das Institut für Mathematik freut sich auf Ihren Besuch.

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