Einladung zum Oberseminar Wissenschaftliches Rechnen

Julius-Maximilians-Universität Würzburg
Lehrstuhl für Wissenschaftliches Rechnen IX

Prof. Dr. Hao Chen

School of Mathematical Sciences, Chongqing Normal University CN

Exponential integrators for two classes of differential matrix equations

Differential Riccati equations play a crucial role in optimal control and estimation theory.

The solution of differential Riccati equation is usually symmetric and positive semidefinite and exhibits low-rank structure. The Lindblad equation is a widely used quantum master equation to approximate the dynamical evolution of the open quantum systems. The solution of the Lindblad equation possesses positivity and trace preserving properties. Since the solution matrices of these differential matrix equations have certain mathematical properties, the numerical methods applied should be designed to preserve those properties, this is a crucial issue in long-term simulations.

In this talk, I will report our very recent results on structure preserving exponential schemes for the above two differential matrix equations.

The speaker will present his lecture online.
In case you also like to join online, please use the following link:
https://go.uniwue.de/oberseminar-borzi

Ort: Raum 30.02.003 (Mathematik West, 2.Stock) Zeit: Montag, 24.07.2023, 14:15 Uhr

Zu diesem Vortrag laden wir Sie herzlich ein.
You are cordially invited to this lecture.

gez. Prof. Dr. Alfio Borzì
gez. Prof. Dr. Frank Werner