Lothar-Collatz-Kolloquium für Angewandte Mathematik

Donnerstag, den 8. Januar 2015, um 17:15 Uhr, im Hörsaal 5

Prof. Dr. Daniel Kressner*
(EPF Lausanne, Institute of Mathematics)

Low rank techniques for data analysis and high-dimensional problems

Zusammenfassung/Abstract:

The last few years have seen a tremendous increase in the use of low-rank matrix and tensor approximation techniques for solving tasks in scientific computing and data analysis. These developments have resulted in new algorithms capable of solving linear algebra problems whose sheer size renders the use of traditional approaches infeasible. The aim of this talk is to give a survey of this exciting research direction and point out the many challenging questions that remain. This will be illustrated with several examples, including the solution of high-dimensional partial differential equations and tensor completion for fitting incomplete data.

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