DK Seminar

October 14, 2015, 13:30 - 15:00
Vienna University of Technology,
Freihaus, green area, 4th floor, 101C

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Recursive Low-Rank Truncation

The best approximation of a matrix by a low-rank matrix can be obtained by the singular value decomposition. For large-sized matrices this approach is too costly. Instead one may use a block decomposition. Approximating the smaller block matrices by low-rank matrices and agglomerating them into a new, coarser block decomposition, one obtains a recursive method. The required computation work is $O(rnm)$ where r is the desired rank and $n \times m$ is the size of the matrix. New estimates are presented for the errors $A - B$ and $M - A$, where A is the result of the recursive truncation applied to M, while B is the best approximation.