Numerical Algorithms (2019) 80: 303
https://doi.org/10.1007/s11075-018-0582-3

POSTFACE

Postface

G. Meurant[1]

Received: 3 August 2018 / Accepted: 3 August 2018 / Published online: 13 August 2018

This issue of Numerical Algorithms was almost completed when we received a submission by Walter Gander and Qiquan Shi titled "Matrix completion with ε-algorithm." Given a matrix A which is only partially known, one would like to compute the missing entries such that the completed A has a given rank r. This problem can be solved by an iterative algorithm. However, a singular value decomposition (SVD) has to be done at each iteration to find an approximation of rank r. This can be expensive if the iterative method converges slowly. To improve upon that the authors proposed to use ε-algorithms. It turns out that the matrix ε-algorithm is not well adapted to this problem but by considering only the missing entries the vector ε-algorithm works well and gives important savings in the number of SVDs.

Hence, we were thinking that this paper can be a nice complement to those in this issue. The authors also discuss the implementations of the ε-algorithms and they provide Matlab functions. Moreover, they apply their algorithm to picture reconstruction. So, this paper is a good illustration of the usefulness of the acceleration algorithms.

✉ G. Meurant

[1] Paris, France