

A projected inexact Levenberg–Marquardt algorithm for completely positive matrix factorization

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In this talk we will present a projected Levenberg–Marquardt (LM) method for solving completely positive matrix factorization problems. We introduce an inexact LM direction which simplifies the calculations and reduces the computational cost. Global convergence results are established for the proposed method endowed with a non-monotone line search. A series of numerical experiments on different classes of the problem are carried out and indicate that the new algorithm outperforms well-established alternatives such as algorithms based on proximal gradient or alternating minimization methods.

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