Existence and Uniqueness of Optimal Matrix Scalings

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- SIAM paper: snorm.pdf

- CDC paper: snorm_cdc.pdf

We show that the set of diagonal similarity scalings that minimize the scaled singular value of a matrix is nonempty and bounded if and only if the matrix that is being scaled is irreducible. For an irreducible matrix, we derive a sufficient condition for the uniqueness of the optimal scaling.