ACCURACY AND STABILITY OF ALGORITHMS BASED ON HYPERBOLIC TRANSFORMATIONS

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Keywords: hyperbolic transformations, hyperbolic QR decomposition, hyperbolic singular value decomposition, rounding errors, stability of algorithms

Abstract

The application of hyperbolic Givens and Householder transformation matrices (see [1]) to different matrix factorizations namely, the hyperbolic QR algorithm and the algorithm for hyperbolic singular value decomposition will be described. An error analysis will be provided and the connection between the condition number of the matrix and the rounding errors will be discussed.

References

[1] D. Janovská, G. Opfer. A note on hyperbolic transformations, Numerical Linear Algebra with Applications *8* (2001), 127–146.

Acknowledgement: This research was supported by the grants GAČR 201/02/0595 and VZ CEZ: J19/98:223400007.