A NOTE ON DOWNDATING THE CHOLESKY FACTORIZATION

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Abstract

We analyse and compare three algorithms for "downdating" the Cholesky factorization of a positive definite matrix. Although the algorithms are closely related, their numerical properties differ. Two algorithms are stable in a certain "mixed" sense, while the other is unstable. In addition to comparing the numerical properties of the algorithms, we compare their computational complexity and their suitability for implementation on parallel or vector computers.

Comments

Only the Abstract is given here. The full paper appeared as [2]. For an application of downdating, see [1].

References

[1] A. W. Bojanczyk, R. P. Brent and F. R. de Hoog, "QR factorization of Toeplitz matrices", *Numerische Mathematik* 49 (1986), 81–94. MR 87k:65050. rpb092.

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1991 *Mathematics Subject Classification.* Primary 65F05; Secondary 65F30, 65G05, 65Y05.

Key words and phrases. Cholesky factorization, numerical stability, computational complexity, parallel computation, forward error analysis, backward error analysis, mixed stability, downdating, updating, rank-one correction, Sigma-unitary transformation, hyperbolic transformation, orthogonal transformation.

We thank Professor G. H. Golub and Dr. M. A. Saunders for their helpful comments on a draft of this paper.

rpb095a typeset using $\mathcal{AMS}$-LaTeX.