RIGOROUS MULTIPLICATIVE PERTURBATION BOUNDS FOR THE GENERALIZED CHOLESKY FACTORIZATION AND THE CHOLESKY–LIKE FACTORIZATION

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Abstract. The generalized Cholesky factorization and the Cholesky-like factorization are two generalizations of the classic Cholesky factorization. In this paper, the rigorous multiplicative perturbation bounds for the two factorizations are derived using the matrix equation and the refined matrix equation approaches. The corresponding first-order multiplicative perturbation bounds, as special cases, are also presented.

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