

A NOTE ON THE SENSITIVITY ANALYSIS FOR THE SYMPLECTIC QR FACTORIZATION

HANYU LI AND PENG LV

Abstract. In this note, the rigorous perturbation bounds for R factor of the implicit Bunch form of the symplectic QR factorization under normwise perturbation are derived by using the block matrix-vector equation approach, the technique of Lyapunov majorant function, and the Banach fixed point principle. These bounds are tighter than the one in [Li *et al.* Linear Multilinear Algebra, **63**, (2015), 78–96] and can be regarded as the rigorous versions of the optimal first-order perturbation bounds in [Li *et al.* J. Franklin Inst., **353**, 5 (2016), 1186–1205].

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