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PERTURBATION BOUNDS FOR MATRIX FUNCTIONS

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Abstract. In this article, we present some bounds for $|||f(A)-f(B)|||$, where f is a real function and is continuously differentiable on an open interval J, $|||\cdot|||$ is a unitarily invariant norm, and A,B are Hermitian matrices such that the eigenvalues of A and B are in $[\alpha,\beta]\subset J$. Also, we illustrate upper bounds for $\|f(A)-f(B)\|$ for special functions f and norms $\|\cdot\|$.

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