INEQUALITIES FOR EIGENVALUES OF COMPACTLY PERTURBED UNITARY OPERATORS

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Abstract. We consider the operator $A = U + K$, where $U$ is a unitary operator and $K$ is a compact one. An eigenvalue $\lambda$ of $A$ is said to be a non-unitary one, if $|\lambda| \neq 1$. We derive inequalities for sums of absolute values of the non-unitary eigenvalues. Applications of these inequalities to operator functions, spectrum perturbations and operator equations are also discussed.


Keywords and phrases: Hilbert space, eigenvalues, inequalities Schatten – von Neumann operators, resolvent, operator functions, spectrum perturbations, Sylvester operator equations.

REFERENCES

