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UNIFYING THE TREATMENT OF INDEFINITE AND SEMIDEFINITE PERTURBATIONS IN THE SUBSPACE PERTURBATION PROBLEM

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Abstract. The variation of spectral subspaces for linear self-adjoint operators under an additive bounded perturbation is considered. The objective is to estimate the norm of the difference of two spectral projections associated with isolated parts of the spectrum of the perturbed and unperturbed operators. Recent results for semidefinite and general, not necessarily semidefinite, perturbations are unified to statements that cover both types of perturbations and, at the same time, also allow for certain perturbations that were not covered before.

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