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**Rayleigh-Ritz majorization error bounds of the mixed  
type**

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The absolute change in the Rayleigh quotient (RQ) for a Hermitian matrix with respect to vectors is bounded in terms of the norms of the residual vectors and the angle between vectors in [doi:10.1137/120884468]. We substitute multidimensional subspaces for the vectors and derive new bounds of absolute changes of eigenvalues of the matrix RQ in terms of singular values of residual matrices and principal angles between subspaces, using majorization. We show how our results relate to bounds for eigenvalues after discarding off-diagonal blocks or additive perturbations.

Reference: <http://arxiv.org/abs/1601.06146>