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Wielandt-Hoffman theorem

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Let A and B be <http://planetmath.org/NormalMatrix> normal matrices. Let their eigenvalues a_i and b_i be ordered such that $\sum_i |a_i - b_i|^2$ is minimized. Then we have the following inequality

$$\sum_i |a_i - b_i|^2 \leq \|A - B\|_F^2,$$

where $\|\cdot\|_F$ is the Frobenius matrix norm.