On Numbers of Negative Eigenvalues of some Products of Selfadjoint Operator

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Let $\mathcal{H}$ be a Hilbert space with a scalar product $(\cdot,\cdot)$. Let A and B be linear continuous selfadjoint operators with $\ker A = \{0\}$ and $\ker B = \{0\}$. The main aim of this talk is to show the following: if $\sigma(A) \cap (-\infty, 0)$ ($\sigma(B) \cap (-\infty, 0)$) consist of m (n) negative eigenvalues counting the multiplicity then $\sigma(AB) \cap (-\infty, 0)$ and $\sigma(BA) \cap (-\infty, 0)$ contains at least $|n-m|$ eigenvalues.

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