On the principal eigenvalue of the Schrodinger operator on a bounded domain

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Abstract:

I will present my recent result concerning continuity of the principal eigenvalue of Schrodinger operator $H = -\Delta + V$ on a bounded domain with respect to perturbations of the potential V in Lebesgue spaces. The result will be used to obtain a sufficient condition for the stability of H (i.e. positivity of the principal eigenvalue). Applications to stability analysis of stationary solutions of reaction-diffusion equations will be discussed as well.