The Asymptotic Formula For The Eigenvalues Of The Second Order Partial Differential Equation With Operator Coefficient

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In this study, it is shown that the spectrum is pure discrete and obtained the asymptotic expression for number eigenvalues of the operator generated with the differential expression

$$-\sum_{i=1}^{3} \frac{\partial}{\partial x_i} \left(p(x) \frac{\partial u}{\partial x_i} \right) + Q(x)u$$

and the boundary condition

$$u|_{x_3=0} = 0$$

in $E_3^+ = \{x = (x_1, x_2, x_3) : x_3 \geq 0\}$, a semi space of space E_3. Here $p(x)$ is a continuously differentiable positive scalar function, $Q(x)$ is a self-adjoint positive operator defined in separable Hilbert space for every $x \in E_3^+$ whose inverse is completely continuous.

Joint work with Mehmet Bayramoglu and Oya Baykal.