

Abstract

We study the spectral properties of the compact non-negative self-adjoint operator $T = A^{-1} \circ \text{tr}^\Gamma$ acting in the anisotropic Sobolev space $H_2^{s,a}(\mathbb{R}^n)$ and give two-sided estimates for the asymptotic behaviour of its eigenvalues $\lambda_k(T)$, where A is a semi-elliptic differential operator of type

$$Au(x) = (-1)^{s_1} \frac{\partial^{2s_1} u(x)}{\partial x_1^{2s_1}} + \dots + (-1)^{s_n} \frac{\partial^{2s_n} u(x)}{\partial x_n^{2s_n}} + u(x),$$

and tr^Γ a special trace operator on an anisotropic d -set Γ .