

ON GREEN FUNCTION AND DISTRIBUTION OF
EIGENVALUES OF THE SECOND ORDER
PARTIAL OPERATOR- DIFFERENTIAL
EQUATIONS OF ELLIPTIC TYPE IN HALF-SPACE

Abstract

Operator L generated by the expression

$$l(u) = - \sum_{i,j=1}^3 \frac{\partial}{\partial x_i} \left(a_{ij}(x) \frac{\partial u}{\partial x_j} \right) + Q(x) u$$

and the boundary condition

$$u(x_1, x_2, x_3)|_{x_3=0} = 0$$

is considered in the Hilbert space $L_2(E_3^+, H)$.

Under some assumptions relative to the coefficients $a_{ij}(x)$ and operator potential $Q(x)$ Green function is constructed, the discreteness of the spectrum is proved and the asymptotic formula for distribution function of eigenvalues of operator L is obtained.