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**Asymptotic behaviour of the spectrum of elliptic boundary problems in a small vector parameter.** (Russian) [Zbl 0606.35062](#)

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The spectrum of boundary problems for a class of Douglis-Nirenberg systems depending on the small vector parameter  $h = (h_1, h_2, \dots, h_p)$ ,  $0 < p \leq m$  is studied. Dirichlet conditions and Neumann conditions are considered. The "quasiclassical" asymptotic behavior is obtained as a particular case for  $p = m$ ,  $h_1 = h_2 = \dots = h_m$ . The principal theorem is proved with a variational method. A formula is derived for the principal term of the asymptotic form of the spectrum distribution function in the case when the parameter approaches zero. Possible generalizations of the problems considered are noted.

Reviewer: O.Dumbrajs

**MSC:**

- [35P20](#) Asymptotic distributions of eigenvalues in context of PDEs
- [35J20](#) Variational methods for second-order elliptic equations
- [35J25](#) Boundary value problems for second-order elliptic equations

**Keywords:**

[Douglis-Nirenberg systems](#); [Dirichlet conditions](#); [Neumann conditions](#); [asymptotic behavior](#)