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h 48

$\square$

[illegible][illegible]

The first part of the paper is devoted to the study of the asymptotic behavior of the eigenvalues of the operator $\mathcal{H}_\varepsilon$ as $\varepsilon \rightarrow 0$. In this part, we use the asymptotic expansion of the eigenvalues of $\mathcal{H}_\varepsilon$ in powers of ε to show that the eigenvalues of $\mathcal{H}_\varepsilon$ converge to the eigenvalues of the operator $\mathcal{H}_0$ as $\varepsilon \rightarrow 0$. The second part of the paper is devoted to the study of the asymptotic behavior of the eigenfunctions of $\mathcal{H}_\varepsilon$ as $\varepsilon \rightarrow 0$. In this part, we use the asymptotic expansion of the eigenfunctions of $\mathcal{H}_\varepsilon$ in powers of ε to show that the eigenfunctions of $\mathcal{H}_\varepsilon$ converge to the eigenfunctions of the operator $\mathcal{H}_0$ as $\varepsilon \rightarrow 0$.

