The Biharmonic operator with tension: eigenvalues' behavior and asymptotics

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Abstract: The eigenvalues of the Biharmonic operator Δ^2 have been extensively studied in the literature, and still today they remain a subject of study both for their interesting behaviour and for some important uses in applications. In this talk we will consider the Biharmonic operator with a lower order tension term $\Delta^2 + \alpha\Delta$, which recently gained interest in the mathematical community. We will recall some known results for this problem, and then we will discuss the dependence of the eigenvalues upon the parameter α, with a particular emphasis on the asymptotic expansions.
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