

Eigenvalues of the Biharmonic operator with tension

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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.

Based on a joint work with P. Antunes and P. Freitas.