Abstract

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"On the multiplicity of the second eigenvalue of the Laplacian in non simply connected domains–with some numerics–"

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We revisit an interesting example proposed by Maria Hoffmann-Ostenhof, Thomas Hoffmann-Ostenhof and Nikolai Nadirashvili of a bounded domain in $\mathbb{R}^2$ for which the second eigenvalue of the Dirichlet Laplacian has multiplicity 3. We also analyze carefully the first eigenvalues of the Laplacian in the case of the disk with two symmetric cracks placed on a smaller concentric disk in function of their size.