



Geometrical structure of Laplacian eigenfunctions

Denis S. Grebenkov, Binh-Thanh Nguyen

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We review the properties of eigenvalues and eigenfunctions of the Laplace operator in bounded Euclidean domains with Dirichlet, Neumann or Robin boundary condition. We keep the presentation at a level accessible to scientists from various disciplines ranging from mathematics to physics and computer sciences. The main focus is put onto multiple intricate relations between the shape of a domain and the geometrical structure of eigenfunctions.

Comments: 62 pages, 21 figures

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MSC classes: 35J05, 35Pxx, 49Rxx, 51Pxx

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