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**Dennis Kriventsov\*** ([dennisk@cims.nyu.edu](mailto:dennisk@cims.nyu.edu)). *Regularity in spectral optimization problems.*

A classical problem in analysis is to relate information about the spectrum of the Laplacian of a domain to that domain's shape. One approach to this program is by studying sets which minimize some function of their Laplacian's eigenvalues, with, say, a volume constraint. I will explain how to study the local structure of the boundaries of these minimizers by interpreting the configuration as a vector-valued free boundary problem. This is based on joint work with Fanghua Lin. (Received March 07, 2017)