Computed eigenmodes of planar regions

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In recent years my students and I have developed algorithms for computing eigenmodes of the Laplace, Schrodinger and other operators, especially in planar regions. This talk will explore some of the results obtained from these computations. Themes touched upon will include localization, fractal domains, bound and continuous states, isospectral drums, and eigenvalue avoidance. This is joint work with Timo Betcke, Toby Driscoll, Lehel Banjai, Paul Syred, and Thomas Schmelzer.