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Michael M. H. Pang* (pangm@missouri.edu), Dept of Mathematics, University of Missouri, Columbia, MO 65211. *Some results on domain perturbations of Dirichlet and Neumann Laplacians*. Preliminary report.

Let L be the Laplace operator defined on a bounded domain D with either Dirichlet or Neumann boundary conditions. If L is defined with Dirichlet boundary conditions, then it automatically has discrete spectrum. If L is defined with Neumann boundary conditions, we will assume that L has discrete spectrum. The numerical computation of the eigenvalues and eigenfunctions of L often requires that Ω be replaced by an approximating domain with polygonal or piecewise smooth boundary. In this talk we will present some recent results on the stability of the eigenvalues and eigenfunctions of L under domain perturbations, i.e., how do the eigenvalues and eigenfunctions of L change when the domain D is perturbed. (Received November 30, 2012)