An alternative proof of Pascu's theorem on hot spots

Michael Pang
University of Missouri-Columbia

Let Ω be a bounded $C^{1,\alpha}$ convex domain on the plane that has one axis of symmetry. Let ϕ be an eigenfunction corresponding to the smallest non-zero eigenvalue of the Neumann Laplacian on Ω. Suppose that ϕ is antisymmtric with respect to the axis of symmetry. M. Pascu recently proved that ϕ attains its maximum at the boundary of Ω. We give an alternative proof of Pascu theorem using elementary properties of reflected Brownian motions on planar domains.