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Guillaume Roy-Fortin* (gui@math.northwestern.edu), 2033 Sheridan Rd, Evanston, IL 60208. *Growth and nodal sets of Laplace eigenfunctions on manifolds.*

We will discuss a recent result that exhibits a relation between the average local growth of a Laplace eigenfunction on a smooth, compact, boundaryless Riemannian surface and the global size of its nodal set. More precisely, we provide a lower and an upper bound for the Hausdorff measure of the nodal set in terms of the expected value of the growth exponents of an eigenfunction on disks of radius comparable to the wavelength. Combined with Yau's conjecture, the result implies that the average local growth of an eigenfunction on such disks is bounded by constants in the semi-classical limit. We also will discuss results that link the size of the nodal set to the growth of solutions of planar Schrodinger equations with small potential. (Received July 16, 2015)