

1068-28-268

Katherine Hare and **Benjamin Steinhurst***, 310 Malott Hall, Department of Mathematics, Cornell University, Ithaca, NY 14850, and **Alexander Teplyaev** and **Denglin Zhou**.

Disconnected Julia sets and gaps in the spectrum of Laplacians on symmetric post-critically finite fractals.

It is known that Laplacian operators on many fractals have gaps in their spectra. This fact precludes the possibility that a Weyl-type ratio can have a limit and is also a key ingredient in proving that the Fourier series on fractals can have better convergence results than in the classical setting. In this paper we prove that the gaps exist if the Julia set of the spectral decimation function is not connected. (Received January 19, 2011)