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Malcolm Gabbard* (malcolmg@gmail). *Computations on the Koch Snowflake with Boundary and Interior Energies.*

At the end of the 20th century studies had been conducted on the Koch Snowflake which had been motivated through work done by physicists on “fractal drum” experiments. These investigations focused on the eigenfunctions of the negative Dirichlet Laplacian generated on a planar domain with a fractal boundary, particularly with the condition that the boundary be set to zero. Here we study the eigenfunctions on the Koch Snowflake with a non-zero boundary condition and we consider a Laplacian defined on the boundary. This then gives us insight into the eigenvalues and visualization of the corresponding eigenfunctions on the Koch Snowflake. Initial observations indicate a kind of localization of the eigenfunctions on the fractal boundary. (Received September 25, 2018)